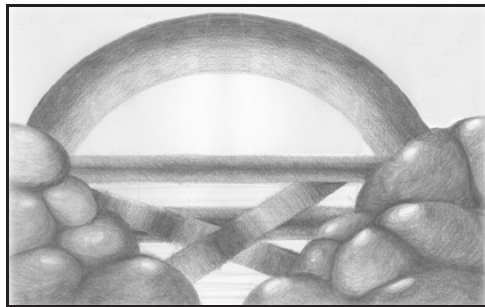


Nina Scott Frisch

To see the visually controlled: Seeing-drawing in formal and informal contexts

A qualitative comparative case study of teaching
and learning drawing processes from
Vega in Northern Norway



Thesis for the degree of Philosophiae Doctor

Trondheim, 2010

Norwegian University of Science and Technology
Faculty of Social Sciences and Technology Management
Department of Education

 NTNU

Norwegian University of
Science and Technology

NTNU

Norwegian University of Science and Technology

Thesis for the degree of Philosophiae Doctor

Faculty of Social Sciences and Technology Management
Department of Education

© Nina Scott Frisch

ISBN 978-82-471-2119-1 (printed ver.)

ISBN 978-82-471-2120-7 (electronic ver.)

ISSN 1503-8181

Doctoral theses at NTNU, 2010:79

Printed by NTNU-trykk

To Bjørn and Øyvind

Preface

The tensions and flows between formal and informal learning and teaching the seeing-drawing process (visually controlled drawing) is the focus of this inquiry. We as humans are individuals moving from contexts to contexts. We are part of the world; we are influenced by it and we form it. The deep-dive into the formal and informal world of visually controlled drawing, and then the comparison between these two arenas has helped me to see and describe how a good teacher works and how children think and act when wanting to learn to draw informally. They have a clear understanding about how learning to draw takes place – and they act accordingly. By comparing these two arenas, possible transfers have been identified as a result of the research process.

This research process started with professor in pedagogy at The Norwegian University of Science and Technology in Trondheim (NTNU), the late Sigrun Gudmundsdottir. She was the first person to take interest in my Ph.D. project as my mentor. She clearly articulated an enthusiasm for the project. She took her Ph.D. at Stanford University with professor Lee Shulman as mentor in subject teaching, being herself a teacher. She was also well up to date in the field of children's drawing development. She had a genuine interest in art education and she had a refined sense for the art & crafts. She is a vital part of this work; my gratitude to her is beyond words.

Sigrun included me in the activity theory group together with her Ph.D. students and her colleagues, professor in pedagogy Annlaug Flem and professor in pedagogy Ragnheidur Karlsdottir. Annlaug took over as mentor when Sigrun passed away and I am so grateful to her. I would also like to thank all the members of the group for the warm and including welcome they have given me. The competence of all the members in the group, their support and the theoretical studies and discussions we have had (and still have), are of greatest importance to my understanding of method, pedagogy and of sociocultural theory.

My main mentor through the last four years, professor in pedagogy at NTNU, May Britt Postholm has been crucial to the accomplishment of this project. Her critical challenges, suggestions, good advice, encouragement, immense theoretical knowledge, structure,

sensitivity and wisdom have been vital to this research process. I cannot thank her enough for the good feeling I have kept throughout the research process. She has balanced her trust in me and her mentoring so well. She has also contributed with her respect for and understanding of the teaching profession based on years of practice in public school. She is a highly respected theorist within the national and international academic arenas of sociocultural theory, qualitative method and pedagogy. I am so lucky to have had her competence to work with.

I would like to express my gratitude to the Department of education at NTNU for taking the time to evaluate my master's thesis in art education, and then admitting me into their Ph.D. program in pedagogy, and by this encouraging the research process even further. Later, the Department of education and the international office at NTNU granted me extra funding to help finance an unforgettable stay in San Francisco / UC Berkeley department of education as visiting scholar. My gratitude goes to professor Amanda Lashaw at Berkeley for including me in her intense and interesting Ph.D. course in sociocultural studies. I would also like to thank script supervisor at PIXAR Animation Studios, Susan Levin for showing me around the premises of animation creation in Emeryville, California. She showed me that pencil and paper still are vital basic drawing tools in one of the world's most successful computer animation studios (at the time they were working on the animation movie "Rat-tatouille").

I do not know how to thank my mentor in art & crafts, professor in art education, Liv Merete Nielsen at Oslo University College (HiO), Faculty of Art, Design and Drama. She has been there for me through my master's thesis as mentor and vital support, she has read article drafts and given encouraging comments, and she has followed me with her wisdom, time, sharp eye and competence, ensuring the quality of the art & crafts subject content in this thesis; with her sense for diversity and with her engagement for the art & crafts subject on the national political arena and on an international level; seeing the subject as part of an overall democratic project.

I am also very grateful to the board at HiO's Faculty of Art, Design and Drama for offering me a scholarship to fulfill this project. Even though another institution contributed, it was of greatest importance and a great encouragement to be offered this four year full time research grant. The Norwegian research network DesignDialog (DD), initiated by professor Liv Merete Nielsen, has also been, and still is an arena for vital discussions support and input. Through DD I was also granted economical support to attend "Fagdidaktik i bevægelse" (Nordic subject teaching conference NoFa) in Denmark in the spring of 2009 – the discussions after my presentation at this conference gave me valuable feedback.

Associate professor in art education Kari Carlsen at Telemark University College, initiator of the Reggio Emilia network in Norway, once long, long, long time ago, whispered in my ear as if it was a state secret: “Look into Vygotsky...” What good advice this was.

My warmest gratitude goes to professor in art education, Christine Marmée Thompson at Penn State University, USA, for her support and hard work; for taking the time to read through my result chapter at an early stage – giving me valuable comments to improve this work. She also took the time to discuss the use of the term *visual control* and gave me important theoretical references.

My gratitude also goes to professor emeritus in art education at Stanford University, Elliot Eisner, who took the time to read through a research sketch at an early stage in 2006, and gave me advice on how to secure the results of this qualitative study.

This project was made possible because I received a four year Ph.D. grant from my employer, Nesna University College in Northern Norway. I want to thank the research-review committee and the college board lead by rector Larsen, who gave me this chance to finish my research. They saw the project as useful and granted a Ph. D. scholarship in pedagogy to the field of pedagogy in the art & crafts. I am so grateful.

Throughout my time as a doctoral student, my colleagues at the art education department at Nesna University College, have “held the fort” of teaching. Assistant professor and head of department Mette Gårdvik, assistant professor Anne Mette Rosø and art education teacher Pauliina Heiskanen have all also contributed with their warm encouragement.

Million thanks to the librarians at Nesna University College. Without them I do not know what I would have done. They have found the tiniest and most hidden-away literary sources and sent them to me wherever I have been located to sit and write. A warm thank you to Olga Langset, senior administrative consultant at Nesna University College, for her interest and time. She has with her sharp eye and sense of logic and structure read through the manuscript and given me comments.

The most important part of this study has been the collaboration I have had with the field of practice. My deepest gratitude goes to the teacher observed and the head of the art school at Vega at the time (2004/2005), to the Vega public school administration, the students and their parents. Thank you for letting me into your world of teaching and learning visually controlled drawing. The teacher has shared with me generously his knowledge, enthusiasm, artistic skills and competence as a teacher. My gratitude also goes to the head of the art school at the time. She has contributed with reflections and discussions. The teacher observed and the

head of the Vega art school have read thoroughly the manuscript and given me valuable comments. I have through the research process, received indispensable help and encouragement from the participants. The children have generously given me their drawings, over 500 all together, now part of the drawing data base *The Vega files*.

The exemplary teachers in my own learning history need to be part of this acknowledgement, being in Bakhtin's understanding of dialogues from the past coloring the present and future. My neighbor from childhood, Karin Staveli, taught me the making of crafts, such as sewing and knitting in an exemplary manor. The teachers I have had over the years in drawing and painting, Nirmal Singh Dhunsi and Jostein Kirkerud have made it easy to recognize exemplary teaching in drawing.

There are other significant voices from the past in this Ph.D. thesis: Traces of my late mother's and grandmother's drawing skills and the good times we had together drawing and painting – of my American family of dedicated teachers in kindergarten, public school, free school, teachers' training college and university. I am especially grateful to my Aunt Kathy and Uncle Jon for being good role models as intellectuals. It has been releasing to get in touch with, and write in my mother's language, American English. Even though far from perfect academic English, the writing process has improved my fluency in American English (as well as in Norwegian). I also know that there are traces of my late father's hard work, sense of responsibility, and his dedication and love for his children in this thesis.

I will also take the opportunity to thank Marianne Ferm Fasting, my personal mentor in the big issues of life. She has been there with her wisdom and alternative views in dialogues about life, including professional issues.

During this process my family and in-laws has endured my need to focus. My brothers have shown their interest and support. My nieces Karoline, Julie and Oda have drawn me many beautiful drawings to tell me and show me how *they* do this.

Last, and close to home, I thank my husband Bjørn. He has been there for me with his competence in computer technology, and is the driving force behind the drawing database on the web, *The Vega files*. Without his steadiness, his calm, his sense of humor and loving encouragement this project would not see the light of day. Close to home is also our wonderful son Øyvind Grønnesby, now a software engineer for Yahoo!. He has discussed with his mother some of the aspects of the web page *The Vega files* and has endured his mother's engagement in this research process. During his childhood he has drawn the most beautiful pictures, all well

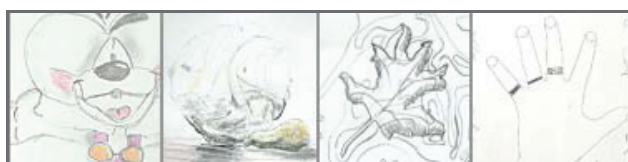
taken care of. The loving memory and documentation of his drawing processes as a child are a crucial part of the starting point for this work.

To all the persons involved in dialogues I regard as significant, past and present, who made this research process possible, thank you so much. I also acknowledge my own drive and work, as I also stand for these points of view. The text presented is my own. The people I acknowledge do not in any way have to agree with me. I take full responsibility for the choices made and the product presented in this thesis.

Nina Scott Frisch

Trondheim - April 2010

Content



Chapter 1 - Introduction	1
The inquiry in context	1
The term visual control - visually controlled	2
The discourse on visually controlled drawing in art education	4
Sociocultural theory	5
Grounding the VC drawing research	6
Research questions	9
The drawing database: The Vega files	10
The use of terms	11
The content of the report	13
Chapter 2 - Theory and method	15
Theoretical frame of reference	15
Theoretical paradigm: Constructivism	16
Sociocultural theory: Breeding and feeding the research questions	17
Sociocultural theory	18
Vygotsky on drawing	22
Vygotsky on creativity	23
Social arrangements: A space for teaching and learning	24
Means of assistance	29
Drawing genres	34
Transfers	35
Goals and strategies: Formal and informal education - definitions	37
Art education theory	39
The modernist era: Drawing development	39
Wilson and Wilson: Identifying The Modernist Narrative	40
Development of the child's pictorial imagery: A sociocultural model	41
Research relevant to VC drawing	46
Drawing strategies and drawing goals	48
Summary	59
Methodological approaches	61
Science theory	61
What are the features of qualitative methods as science?	62
Interpretation in research	62
The case study as a research approach	67
Context in the case-study approach	85
The choice of formal case: Exemplary teaching at Vega	89
The choice of informal case: Informal VC drawing processes at Vega	91
Qualitative comparative method	93

Handling the data	97
Analyzing the data	100
Comparative dimensions: Summary	106
Ethics	107
Ensuring the quality of the research process and the results	112
Summary: Reflections on methods and ethics	117
Summary: The research strategy	118
Chapter 3 - Presentation of results	127
The formal case of teaching visually controlled drawing	131
A description of social arrangements and context	131
Illustrations 1a and 1b: Drawing goals, drawing strategies, means of assistance and drawing genres	135
Illustrations 2a, 2b and 2c: Drawing strategy	141
Illustrations 3a, 3b, 3c, 3d, 3e, and 3f: Drawing strategies and means of assistance	143
Illustration 4: Means of assistance: Questioning and cognitive structuring	150
Illustrations 5a and 5b: Means of assistance: Instructing to use the drawing strategy exercise	151
Illustration 6: Means of assistance: Modeling, copying (herme), frustration control - transfers and the wildfire effect	153
Illustration 7: Means of assistance: Frustration control	162
Illustration 8: Means of assistance: Cooperative drawing	163
Illustration 9a, 9b and 9c: Creativity and transfers	165
The formal drawing database	171
Summary: The formal case	171
The informal case of visually controlled drawing	175
A description of social arrangements and contexts	175
Illustration 10: Drawing goals: Nice drawings look real	177
Illustration 11: Drawing strategies, creativity, and semi-VCs	179
Illustrations 12a and 12b: Drawing strategies	187
Illustrations 13a and 13b: Drawing strategies pouncing/tracing/mimicking/copying (herme)	192
Illustration 14: Repetitions, internalized observations, and recombinations	196
Illustration 15: Transfers and mimicking/copying (herme)	198
Illustrations 16a and 16b: Informal drawing in formal context, social arrangements as collective drawing - the wildfire effect	203
Illustration 17: Goals, drawing genre and means of assistance: Modeling, cooperative drawing and instructions	207
Illustration 18: Drawing genre, drawing strategy: Drawing 3D-models, drawing alone	211
The informal drawing database	213
The questionnaires	215
Summary: The informal case	218
Comparisons	223
The seven comparative dimensions	223
Comparative dimension: Drawing goals	223
Comparative dimension: Drawing strategies	225
Comparative dimension: Social arrangements	227
Comparative dimension: Means of assistance	228
Comparative dimension: Transfers	231
Comparative dimension: Creativity and recombinations	232
Comparative dimension: Drawing genres	234
Students'/children's views on similarities and differences	236
The teacher's views on similarities and differences	241
Peers' views on similarities and differences	243
Summary	244

Chapter 4 - Discussions and conclusions	249
Constructivism as paradigm	249
Methodological reflections	253
Limitations	256
Reflections on the findings	258
Modeling as part of children’s epistemology in drawing	260
Transferability: Controversial informal drawing strategies	262
The comparisons	263
The Modernist Narrative	264
Suppression of part of children’s epistemology: to copy (herme) and model	265
The issue of creativity	267
The “tweens” perspective	270
Initial imagery and the drawing crisis	273
Transferability: Recommendations for VC-drawing development	276
Further studies	278
References	283
Appendices	307
Content	307

Chapter 1 - Introduction

The inquiry in context

Seeing-drawing practices as pedagogy in formal and informal contexts are the focus of this text. These practices are seen as part of developing basic visual competence. But drawing covers many human agencies (Arnheim, 1974; Bamford, 2006; Ching, 1990/2006): To draw can be to tell a story, to teach, to learn, to explain, to create, to feel, to describe, to observe, to register, to explore, to connect, to communicate, to imagine, to develop, to recollect and to think. Researchers, mainly in the art education community and in the community of psychology have been intrigued throughout our recent history by human pictorial tracing. This thesis rests in various ways on pioneers such as Georg Kerschensteiner's, Helga Eng's, Victor Lowenfeld's, Lev Vygotsky's, Brent and Marjorie Wilsons', and Kristian Pedersen's contributions, among others. They are all seen as important theorists in the research field of drawing as human activity. They will be presented and referred to in this thesis.

Visual competence is becoming more and more important in our contemporary society as we rely on an increasing number of sources of information that are dependent on the receivers' visual skills; what is called visual literacy (Baca & Braden, 1990). We are talking here about the ability to read but also to make symbols. As literacy in general is understood as reading *and* writing (UNESCO, 2004: 12-13), visual literacy would then include the ability and skill of making pictures, communicating through a pictorial language (Nielsen, 2000; Nielsen, 2009: 89). In a drawing context this means to find meanings and to create and communicate meanings by making figural traces on a two-dimensional surface. Looking at pictures and finding meaning, and *creating* pictures or symbols to communicate meaning, requires involvement, skills and agency, for example, the production process of taking pictures and processing them electronically, filming, composing web-pages, painting, making collages, using various graphic techniques, and making drawings with various media, such as coal, pencils, pastels, felt pens and the like. In the Norwegian public school system,¹ learning skills

1. The term *public school* (in Norwegian: *offentlig skole*) is used in Norway to cover all publicly funded schooling from the 1st to 13th grades. Only schooling from the age of 6 to the age of 16 is compulsory. Young people from the age of 16 to 19 have the right to upper secondary education. The school at Vega used in this inquiry as the formal exemplary arena, is a 1-10th grade school, covering elementary and lower secondary school. To distinguish the Vega elementary and lower secondary school from the art school to be presented in Chapter 2, I will refer to the first as Vega public school and the later as Vega art school.

to become a visual-literate as a communicator, not just a receiver, is part of the compulsory art and crafts school subject.²

Another important part of the art and crafts subject is the making of objects. The functionalities of the constructed objects should be those intended by the students but at the same time the subject requires the students to think about the aesthetics of the forms of the objects. If the students are to visualize their ideas of functional objects, they must be able to produce a credible drawing on paper of the object they want to make, and from there they can develop the object's aesthetic qualities. To develop and exchange ideas and discuss what they are making, the students need good drawing skills so they can communicate their intentions precisely. The drawing of objects as common knowledge is not an "old-fashioned" skill that belongs to the past, but rather a necessary skill for the future, a tool in product development, such as designs in architecture, object making, and the electronic and digital industry, and it is a tool for communicating everyday ideas. It can also be a skill for expressing feelings, ideas, and concepts in art.

The term visual control - visually controlled

This inquiry has narrowed down the field of research to focus on one of the skills, and, for many, one of the basic skills in art and crafts: that of drawing, and, more specifically, that of drawing the seen; how it is taught and how it is learned. To elaborate on this focus, I needed a term to make visible and recognizable the acts of seeing and drawing for investigation purposes as a possible collaborative concept (Engeström, 2004).³ According to Engeström a collaborative concept is embedded in a prospect; it is a concept pointing forward to the underlying goal, the activity, this concept covers. The common-sense and everyday term "visual control" was found in a recipe for micro-waving "lutefisk" (a Norwegian fish delicacy)

2. In Norwegian, the subject is called "kunst og håndverk" which is a direct translation of the American English concept "art and crafts". Being visually literate requires skills that are regarded as basic knowledge by the Ministry of Education and Research, which is one of the reasons why art and crafts is one of the larger compulsory school subjects, to be more precise, the fifth largest according to the national curriculum Knowledge Promotion 2006 (Utdanning og forskningsdepartementet, 2006; Utdanningsdirektoratet, 2006) (in Norwegian: *Læreplan for Kunnskapsløftet 2006*, hereafter abbreviated to LK-06). Art and crafts was the fourth largest subject in the curriculum for the ten-year compulsory school of 1997 (L97, Det kongelige kirke-, utdannings- og forskningsdepartement, 1996) (in Norwegian: *Læreplanverket for 10 årig grunnskole 1997*, hereafter abbreviated to L97), which was the curriculum in force at the time of the main inquiry (in 2004/2005).

3. Engeström (2004) makes in this paper an analysis of the development of collaborative concepts together with participants in a research project in the field of health care. Here I use his term in a wider context, I see my research as part of an ongoing dialogue with the field of practice, and my research as part of collaborative-concept development.

several years ago. It was used then as a term to cover the process of watching over the fish as it cooked, to know when it was ready for serving. The visually controlled process here was the necessity of visually controlling the fish through the oven's glass window; the process of using eyesight in the moment to decide what to do. Using eyesight was crucial to the outcome of the product.

The *visually controlled* (hereafter also abbreviated to VC)⁴ drawing processes, or using visual control when drawing, is introduced in this inquiry as part of a sociocultural theoretical understanding of teaching and learning drawing. The visually controlled drawing processes are understood in this text as the drawing acts directly controlled or guided by having a model available to look at, and using this model to make the drawing. The drawing is made by visually controlling or visually checking the drawing up against the model in a direct ongoing seeing-drawing process to master the visually perceived model as a drawing.⁵

Observation drawing and the still-life

The term visually controlled drawing is used as an overall term for the seeing-drawing process. The formal arena presented here has two main traditions when using visually controlled drawing: Observation drawing, often used in relation to the natural science themes in cooperation with art classes, for example drawing in close detail flowers, plants, trees, birds, animals or parts (or the whole) of the human body, or in descriptive drawing used in for example design and architecture (Cooper, 2001); and the still-life, associated with the training of the craftsmanship of depicting objects as real as possible within art and crafts (Bryson, 1990). Both of these formal traditions, or genres, are seen as visually controlled drawing.

VC drawing - drawing systems in different drawing discourses

Seen both from a child's perspective and from a formal educational perspective, this thesis is rooted in an understanding of drawing as functional for different context-related purposes, what Atkinson (1991) labels drawing discourses. Atkinson provides a brilliant analysis of children's use of different drawing systems (a way of making traces in which the child has

4. The term visual control was first used to describe a verb - as part of the verb: To work on gaining visual control (as a process), or to have visual control (as a goal) - but was later changed into having a function as an adjective; to describe seeing-drawing processes and the product of this process: The visually controlled drawing process and the visually controlled drawing (describing the drawing).

5. The term "visual control" has also been used in instructional memory-drawing DVDs to cover the act of looking at the drawing while one is drawing, for example, a torso based on memory; a drawing without the model present (Archambault, 2009). This understanding of the term is not in use in this inquiry.

developed a confidence in handling for various purposes, Atkinson, 1991: 68) within different drawing discourses; the actual function of the drawing in context. For example, he refers to an “object discourse” or an “action discourse” when emphasizing the main impetuses for children’s drawing-making (Atkinson, 1991: 64-70). I see informal visually controlled drawing as various drawing systems within various drawing discourses, and I also see formal visually controlled drawing as drawing systems within formal drawing discourses. I recognize and value the function of other drawing systems as part of other drawing discourses. They are equally valuable and functional. A drawing as a narrative, as an imaginative/fantasy drawing, and as a memory-based drawing, are in this paper all seen as made without a model present.⁶ The visually controlled drawing processes are seen as sign-makings taken from a pool of many acknowledged impetuses, approaches and motives in a child’s eclectic drawing repertoire (Atkinson, 1991).

The discourse on visually controlled drawing in art education

According to Fineberg (1997) the art education field and the field of art making have reciprocally influenced each other. In an art education context, there has been a tendency to praise modernism as visual expression, holding on to a non-figurative, symbolic or simplified “child-like” figural form as visual language (Fineberg, 1997; Nielsen, 2000; Wilson, 2004). In the art world, with the ready-made and concept- art movements (including pop-art), dadaism and surrealism as exceptions (Glambek, 1990), these features seen as traces of individuality are valued commercially and praised professionally. Victor Lowenfeld, one of the main discourse-holders in art education in the last decade (King, 1991), expresses this view as follows:

Never give the work of one child as an example to another! Never let a child copy anything. (Lowenfeld, 1957: 15)

I have heard many teachers and parents say, “But my children love coloring books.” This is quite true. Children in general, however, do not discriminate between things good for them and things detrimental. That they love things is not always an indication that those things are good for them. Most children prefer sweets to vegetables, and without doubt would always prefer them. This, however, does not mean that we should adjust their diets to sweets. (Lowenfeld, 1957: 18-19)

Several researchers within the art education community (Kindler & Darras, 1997; Pariser & van den Berg, 1997; Pariser, 1995; Pariser, 1999; Wilson & Wilson, 1977; 1982a; Wilson,

6. This is not always the case, as the inquiry will reveal, but this polarization is applied to further distinguish and describe VC drawing.

1985; 2004) claim that the art-making field has also influenced the field of art education as to what is seen as valuable trace-making during childhood. The simplified, naïve, and presumed individual expressive drawing has been, and still is valued above tracemaking as social and visual expression. I claim that the ideas in the quotations above, even though from the late fifties, are still prevalent as a tacit underlying notion or value-scale, and can be compared, in my opinion, to the tacit underlying notion of competition in American schools, as suggested by Goldman and McDermott (1987). I will therefore look more closely into what is regarded as the overlooked; drawing as visual and social form-making.

Sociocultural theory

The focus on socio-visual, as opposed to individual-expressional drawing processes is why this inquiry has been embedded in sociocultural theory, using it as a looking glass for investigating the formal and informal field of VC drawing as teaching and learning. The Finnish professor in pedagogy specializing in art & crafts education, Linnea Lindfors, was one of my main references when conducting an earlier research project on drawing as pedagogy, later to become my Master's thesis (Frisch, 1994). I found her use of Eriksson's (1985) model for describing the different theoretical levels of research interesting, from the meta-theoretical level of science theory and learning theory, what Kuhn (1962) would label the theoretical level of the paradigms, down to the level close to practice (Postholm, 2005: 20). Lindfors' understanding of the tight link between the meta-theoretical level and the level of teaching and learning practice, has helped me to describe how I use theory from the meta-theoretical and theoretical level to analyze and develop theory on the practical pedagogical level (Eriksson, 1985: 9; Frisch, 1994: 87; Lindfors, 1992: 2). The text below is developed as research in an overarching paradigm of understanding the world, science and learning theory, where I place constructivism and sociocultural theory. Formal and informal drawing practices constitutes the field for the theoretical analysis.

I then assume that "the more competent other" (Vygotsky, 1978), such as a skilled exemplary teacher, a student peer who knows and can help, a textbook in art and crafts, a TV-program, a DVD, a web-site or a computer program, is a necessity if students/children are to learn how to master the skill of for example using perspective in their drawings, how to construct a specific figure or how to make shadows in what Vygotsky (1978) calls the zone of proximal development (ZPD, for a list of abbreviations used in this thesis - see Appendix 1), or the zone where, according to Vygotsky, learning takes place. My curiosity in the formal arena

is focused on how the more competent other, represented by an exemplary teacher, performs when teaching the visual and motoric skill of visually controlled drawing.

Wilson and Wilsons' (1977; 1980; 1982b; 1985) research consisted of analyzing children's informal drawings and drawing processes. They have shown how and to what extent children learn to draw from other children and from an image culture oriented towards children. Their extensive research and the theoretical grounding for their research is comprised in Wilson (2004). The Wilsons view the acts of learning to draw as social in process and cultural in content by focusing on the mediating aspect of drawing; that is communication using a socially and culturally developed visual language. It is therefore appropriate to base the research on a sociocultural theoretical framework which includes and rests on Wilson and Wilsons' research. This inquiry assumes that we learn in formal and informal arenas, and that children have an informal, children-learned competency in VC drawing. My curiosity in the informal arena is focused on looking for and at this competency and describe it.

Grounding the VC drawing research

From 1991 to 1994 I conducted the above-mentioned inquiry, based on questionnaires sent to 53 art teachers at the Norwegian junior high school level (or lower secondary) in the Norwegian town Trondheim (with students from 13 to 16 years of age), focusing on the teaching of drawing of objects. The inquiry strongly suggests that there is a connection between the quality of teaching drawing in compulsory school at this level and the teacher's formal competence in drawing (Frisch, 1994), and that a majority of the teachers felt a need to learn more about the drawing of objects in their profession as art teachers. Visually controlled drawing as a theme to be taught in compulsory school has been part of the last four national curricula in art and crafts in Norway (from 1974-2006) with various justifications. But the level of competence among art and crafts teachers in Norway is still low (SSB, 2007) and as the inquiry will reveal, teaching visually controlled drawing is a skill and a craft the teacher has to master. The expressed need for more training in drawing skills as part of my findings from 1994 is likely to still be prevalent.

Apart from this main conclusion, 43% of the teachers answered that they would introduce the teaching of drawing of objects between the age of nine to twelve, 20% had no specific opinion and 30% said the junior high school level was the appropriate time to introduce this part of the education curriculum (7% did not answer the question). Hence the

largest group of the art and crafts teachers in junior high school saw object drawing as a skill to teach that was justified as a school activity in elementary school.

My research focuses on children in elementary school, from nine to twelve years of age. Statistics show that children and early youth are from eleven to thirteen when the frequency of drawing in a school context declines markedly. Girls draw more than boys in this age-group, but the frequency in making drawings declines in both genders (Nielsen, 2000: 45-47). Therefore it is especially interesting to shed light on pedagogical experiences in drawing within this age-group. The developmental theorists Lowenfeld and Brittain (Lowenfeld, 1947/1957; Lowenfeld & Brittain, 1979) have focused on the self-criticizing tendencies in this age-group as a major reason for this decline in pictorial production. Chapman (1978) and Nielsen (2000) follow this up by focusing on the lack of adequate teaching and learning as a plausible reason for the gap between the children's skills in drawing and their own expectations of how the result should look. The students' visual assessments in judging what their drawings look like, comparing with the object drawn or with other drawings, is part of their self-criticism. In other words, it is strongly suggested that it is crucial at this age to be able to draw what one sees. This view challenges the art education community and has guided the following research goals.

Research goals

Comparison and contrast is a research method that is used to see better and articulate what is and is not "out there" in the actual field of research (Erickson, 1986; Green, Dixon & Zaharlick, 2003: 214; Ragin, 1987; Warner, 1971). In this study it is also interesting to the practice field of art education to contrast the formal and informal field of visually controlled drawing to see where they differ and where there are similarities. My research has three major goals with comparison as a main focus:

1. To document, describe, analyze, and theorize formal drawing processes used by an exemplary teacher when teaching visually controlled drawing.
2. To document, describe, analyze, and theorize informal visually controlled learning drawing processes used by children in out-of-formal teaching contexts.
3. To compare the analysis of the teacher's professional teaching of visually controlled drawing to the analysis of children's informal visually controlled learning drawing processes for further art education purposes.

When looking at the formal VC drawing processes, I am emphasizing the teaching which also includes learning, and when looking at the informal VC drawing processes I emphasize learning which also includes teaching. When documenting exemplary teaching (Goal 1), the teacher-initiated dialogue and actions in the student's ZPD have to be examined. Two criteria that can describe the good or the highly qualified teacher have been developed through extensive studies of research on education by Stanford education-science professors Darling-Hammond and Youngs (2002), and Darling-Hammond, Chung and Frelow (2002). These are: 1) He or she is well educated (knows and is dedicated to his or her subject), or to use Vygotsky's words, is a more competent other and 2) he or she has ideals in teaching. Wood, Bruner and Ross (1976) also introduce the ability to merge the "two theories"; that is, merge the subject field with the knowledge of the child. Day, Eisner, Stake, Wilson and Wilson (1984) also give us a third indicator; the results of the art teaching, the drawings, as a product of exemplary teaching. In visually controlled drawing this would be: Do the students' drawings look like the model? Do they look like good drawings according to what is expected at the age level represented in the study? The reader of the inquiry can make this assessment by viewing the exhibit on the database *The Vega files* (for more on the drawing database, see page 10 and www.scottfrisch.org) under "formal drawings". The indicators listed above are my criteria for the choice of teacher and site; teaching and learning VC drawing at Vega in Northern Norway.

In Goal 2, by using the term *visually controlled* I focus on the process of studying and drawing a model, a picture, or an object; on various ways of making this representation of a model look "alike" in out-of-formal teaching, informally. I explain an informal visually controlled drawing process as being able to draw with a pencil-like tool on paper what one sees, according to one's development potential.

When it comes to the third goal (Goal 3), I will identify and compare the teacher's visually controlled drawing teaching with the children's informal visually controlled teaching/learning drawing processes. I want to see if the teacher is in touch with parts of the child's learning culture in VC drawing. I assume in this study that children learn when they are taught through conscious and unconscious acts of teaching, formally and informally. Informally, children can learn VC drawing without being taught, through various self-initiated processes. In the formal case, my focus is on the teacher's teaching, in the informal case my focus is on the children's learning, that also will include informal teaching.

It is crucial to the study that my starting point is exemplary teaching; otherwise there would be obvious corrections to be made when comparing the formal teaching processes to the children's informal drawing processes. With this starting point I can analyze and document from two arenas: 1. Exemplary VC drawing teaching in the formal arena and 2. Children's own informal VC drawing teaching/learning processes. There are several teachers in Norway who can provide data on exemplary teaching. The formal case in this study has been chosen because the criteria for exemplary teaching referred to are met in the formal arena and because with this project I want to make exemplary teaching experiences visible. Both my cases, the formal and informal, are situated within the boundaries of the Vega Islands in rural Northern Norway, mainly within the time frame of the 2004/2005 academic year. The formal student body and the informal children are the same persons. "Students" is used in reference to the formal arena, "children" is used in reference to the informal arena. They have experienced both arenas that the inquiry focuses on and can help me verify my comparisons as participants in both of the compared arenas. To find data that can contribute to the community of art education, I need to focus on my specific area of research with the help of adequate research questions. These are presented below.

Research questions

To structure my research in the data collection process I have formulated three overriding research questions to give direction to this qualitative case study:

- *How does an exemplary teacher teach visually controlled drawing in a formal context to nine- to twelve-year-old students?*
- *How do nine- to twelve-year-old children learn visually controlled drawing in informal contexts?*
- *What are the similarities and differences between these formal and informal visually controlled drawing processes?*

Furthermore, I have formulated some specific sub-questions that will help me shed light on the area of research. To inquire about "The What", "The Where", "The with whom" and "The Why" substantiated, and underpinned the contextual description of "The How" in focus. These sub-questions are:

- What kind of ideas or strategy does the teacher base his teaching of drawing on?
- What does he want to achieve with his teaching and why?
- How do teachers and students interact?

- What materials and techniques does the teacher use?
- How and to what extent do children draw outside of their art and crafts classes?
- How and to what extent are children models and teaching resources for each other?
- How do children in this age-group explain their strategies when they structure their drawing process?
- Who are their models?
- Do children look at three-dimensional objects when drawing?
- Do children in this age-group use other pictures when drawing, and what kind of pictures do they use?
- When, where, and with whom do they draw?
- Why do they draw?
- What kind of materials and techniques do they use?

By collecting data guided by these research questions and sub-questions, I have documentational material that can be used as data in the theoretical analysis and comparison. A foundation for the comparison of exemplary formal teaching contrasted with children's informal learning, that will include informal teaching (also further referred to as informal teaching/learning), is in place and can become the grounds for further theoretical elaboration. Finally, by using this report as a thinking tool, readers can perceive the described processes and comparisons as possible parallel recognizable experiences and adapt them to their own situations, undertaking a naturalistic generalization (Stake & Trumbull, 1982).

The drawing database: The Vega files

The drawing database presented on the internet, *The Vega files* (Frisch, 2009 - www.scottfrisch.org), further referred to as *The Vega files*, is intended to be used as a reference, or an open source. The database can be used as an open source for transparency and possible recognizability. It consists of all the drawings gathered during the inquiry. The drawings are clustered in files as they were made in class, and as they were used as data sources when interviewing the children, and are as such "in context". The formal and informal drawings are just one part of the documentational resources (Erickson, 1986) used as a basis for the data presented in this report.

The web-pages also provide guidelines on how to search in the database and list the meaning behind the abbreviations used when coding the drawings (see in the menu: "guide"). The references to the database in the presented text are found, but the database is constantly

worked on. As a presentation of documentational material it is far from exhausted when it comes to possible new interpretations and new analyses, and as such, it must be seen as a reference in constant progress.

The use of terms

The understanding of the term drawing

Drawing is seen as the human act of making meaningful traces on a two-dimensional surface. In this study it is for the most drawing on paper with pencil-like tracing devices that defines this activity. Lowenfeld (1947/1957) use the term *representational drawing* when the drawing can be recognized by others as a symbol of an object or a phenomenon in the world. Wilson and Wilson (1977) use the term *configurational signs* for representational drawing, emphasizing the configurational, adapted form-making of humans in the act of drawing. Chen (1985) uses representational drawing as I use visually controlled drawing. *Icon* (Panofsky, 1955/1983), *equivalent* (Goodnow, 1977), and *simile* (Darras, 2000) are also terms used for the human-made traces of representation on a two-dimensional surface. In this thesis “drawing”, “equivalent” and “configurational sign” and are used as equal terms.

Simile is here used to cover the result of a visually controlled drawing process or processes motivated by wanting to make a look-alike, because embedded in the term is a notion of the definition as described above; the act of trying to make a look-alike or a similar form of the drawn object. The term *memory drawing* is a common concept used in drawing teaching, also used here as a drawing made on the basis of memory, *not* having had the direct seeing-drawing-after-a-model process as part of the memorization of the equivalent. The term *scheme* is also used as a product of memory drawing process (Lowenfeld & Brittain, 1979).

Freehand drawing (Freeman, 1980) is also a common term used in the craft of drawing, which can include VC drawing, but not necessarily. The term encompasses the wide range of drawings made by hand. *Life drawing* and *drawing from observation* or *observed drawing* (Ching, 1990/2006; Ching, 1998; Dahl, 2009) are also terms used in a drawing teaching context to cover what is seen as formal visually controlled drawing processes.

Drawing as physical gesture

Bearing in mind the modernist influence in art education (Lowenfeld, 1947/1957; Lowenfeld & Brittain, 1979), I am looking more closely at the overlooked; drawing as visual and social

form-making. The intentions and agencies of teaching VC drawing and of the informal VC drawer are in focus. The developmental *and* gestural/physical side of drawing (Atkinson, 1991; Lowenfeld, 1947/1957; Lowenfeld & Brittain, 1979; Gustavsson, 2000; Illum, 2006), also referred to in this thesis as the motoric side of drawing, is in focus as presumed skills to teach and to be learned while in the formal and informal VC drawing processes. I am focusing on the visually controlled drawing processes, where the visual sense used by the drawer(s) *and* by the receiver(s) is a crucial part of the drawing as process and product in context. This does not undermine the importance of mastering the gestures or techniques in drawing, but these are seen as sub-ordinate to the specific and unique visual aspect of imagery (here drawing) as mediation and communication.

The understanding of the terms context, setting and arena

In this inquiry, *context* encompasses the boundaries created by social relations and human intentions, and is embedded in geographical and material settings as a web or fabric, as referred to and thoroughly discussed by Cole (1996: 130-137). It is not only “that which surrounds”, but that which incorporates the dynamics of interpersonal relations, human agency and humans’ use of various artifacts. This inquiry focuses on teaching/learning processes in drawing. A sociocultural view on teaching/learning emphasizes the intermental plane, the plane between people or the interpersonal plane, (Daniels, 1996; Rogoff, 1984; Vygotsky, 1978) as crucial for learning processes⁷ and an understanding of context in this inquiry will therefore also encompass and emphasize the interpersonal plane, or what Rogoff labels *social context* (Rogoff, 1984). Formal drawing is taught in class but informal drawings can also be made and learned in class among peers, as is seen in this inquiry; they are made in an informal context in a formal setting. Informal drawings can also be made in informal settings at home, in youth clubs, on walls, on pencil cases or on furniture and the like.⁸ In this case study the context, not the setting, defines the formal and informal cases to be described and compared.

When I look at activities in drawing within specific geographical boundaries and specific time boundaries, I am still confronted by a diversity of sociocultural processes as part of these boundaries. Geographical and material situatedness is understood as a *setting*, while the inclusion of social relations and the intentions of the activities manifested define the

7. Developing higher mental functions and the use of second-order systems; historically and culturally developed artifacts, see page 18 in Chapter 2 for more on Vygotsky.

8. For theoretical definitions of formal and informal, see Chapter 2 page 37.

context. The word *arena* (Lave & Wenger, 1991) is used as equivalent to the word context; including social relations and human agencies.

The understanding of the terms similar/similarity(ies) and different/difference(s)

The use of the term *different/difference(s)* indicates what it implies as a common-sense term; there are major features that are different in the described processes. When I use the term *similar/similarity(ies)*, I do not imply that the processes in question are “the same as” but that there are many familiar features in the processes described and compared, or that there is a core in the processes described that has the same impetus, or has, in part, the same agency (a human activity in context with an intended goal or a purpose (Holland, Lachicotte Jr., Skinner & Cain, 1998)).

The content of the report

In Chapter two I describe the theoretical point of departure for the inquiry and the analytical tool, sociocultural theory, which will clarify my point of view and basic assumptions on the understanding of teaching and learning when entering the research process. The methods used thus derive from my theoretical standpoint and theoretical choices. I pragmatically describe what I have done, that is the methodological approach and the justifications for my data collection methods and techniques. In Chapter three I describe the contexts in both cases and present the results of the analyses and comparisons. The answers to the research questions in formal and informal education contexts, seen with the chosen theoretical framework, are given by clustering the data in seven comparative dimensions (Warner, 1971) relevant to both cases. Terms or concepts covering the findings, such as collective drawing, the wildfire effect, cooperative drawing, and internalized observation, are thoroughly explained and exemplified. In Chapter four I discuss the research strategy chosen and what effect this has had on the results. I also discuss issues that can be seen as controversial in the findings, for example the use of what I have chosen to call cooperative drawing (drawing on each other’s drawing to help make a simile) in both cases, an understanding of creativity as it is revealed in the findings, and the question of transferability between the formal and informal contexts. Furthermore, I suggest future studies and make suggestions as to how to use the results.

In this dissertation I operate in “the space between” the field of art education and the field of pedagogy. Everyday life in school includes the content knowledge of all subjects with their different educational approaches; the overall choices within the field of pedagogy. This is

the “space” where school is experienced by students and teachers. One major justification for this inquiry is to undertake research in the school subject of art and crafts that focuses on pedagogical content knowledge (Shulman, 1986). I have an understanding of pedagogy as a field of knowledge and practice that is closely linked in an obligatory practice with the subjects in the school arena (Ramberg, 2008).

Another justification for this in-between positioning is to make visible the close link between the sociocultural point of view in pedagogy as theory and the field of practice as art education. An underlying assumption is that concept development should be rooted in the chosen paradigm. This is, in my opinion, one of Lowenfeld’s successes; to closely link his theory by concept usage to Piaget’s theory of development found in the field of pedagogy (Pariser, 1995; Piaget, 1973).

The limitation of this thesis is then the loss of intricate theoretical discussions on the isolated academic field of pedagogy. The gain is the potential value of the results for the field of art education in teacher training; perhaps and hopefully influencing the subject of art and crafts as teaching and learning practice in elementary school.

The interlocutors I have pictured for this thesis and this dialogue, are colleagues in the national and international art education community. I see my research results as part of the previous and on-going building of art education theory within the overarching sociocultural understanding of human pictorial tracing. I hope scholars will accept the challenge to use, criticize, and develop the knowledge and findings presented here.

Chapter 2 - Theory and method

Theoretical frame of reference

Introduction

This part of the report introduces theory and research that has supported the analyses of visually controlled drawing processes in the formal and informal arenas. A sociocultural analysis is grounded in sociocultural concepts derived from explanatory theoretical models emphasizing the sociocultural aspects of being and of learning and teaching.

In this comparative sociocultural analysis of, on the one hand, the exemplary teacher's teaching of visually controlled drawing in the formal arena and, on the other hand, children's peer teaching and learning visually controlled drawing in the informal arena, I will begin with the broad paradigm of basic understandings of the world in pedagogy and continue down to the theory levels that focus on subject- and content-oriented close-up teaching/learning processes in VC drawing (Lindfors, 1992; Postholm, 2005).

I emphasize the link between sociocultural learning theory and the sociocultural view point in art education research, here specifically looking at VC-drawing practices. This link is highlighted in the forthcoming chapter because *The Modernist Narrative* (Wilson, 2004) to be presented specifically in this chapter (see page 40), has succeeded in creating a close conceptual link between Piaget's stage-theory (Piaget, 1973: 23-24, 95) and the Lowenfeld's schemata theory (Lowenfeld, 1957). An alternative sociocultural interpretation of children's learning drawing processes needs the same strength of being grounded in pedagogy.

A useful range of concepts has been taken from various researchers when undertaking the analysis; from the profession-oriented academic discipline of pedagogy to the more drawing-practice oriented discipline of draughtsmanship, and from art education research. Other concepts have been developed during the research process to identify major features in the data material. How these came about is described in the next main sequence of this chapter. The concepts are clustered into comparative dimensions (Warner, 1971) rooted in theory presented in the text below that have in turn made it possible to compare processes in both cases. The comparative dimensions found are 1) drawing goals, 2) drawing strategies, 3) social arrangements, 4) means of assistance, 5) transfers, 6) creativity/recombinations and 7) drawing genres. Theory to underpin these categories is presented. Together, these concepts, or this

sociocultural “grammar”, are presented as part of the results by using illustrations from the data, mainly dialogues and drawings in the next chapter.

The overall theoretical references and concepts presented in this sequence have helped to shed light on the compiled data and to make transparent the theoretical point of departure for the inquiry.

Theoretical paradigm: Constructivism

Today we have categorized major models of understanding in science and placed these understandings on the overriding level of theories, called paradigms (Kuhn, 1962/2002) or theories on level one (Postholm, 2005: 20-21). According to Postholm, there are three major paradigms for understanding the world, the ontology, that are relevant to education research. Cognitivism is placed on the one side and positivism on the other, with different “shades” of constructivism as a third paradigm in between these opposites. Sociocultural theory can be placed in the paradigm of constructivism (Guba & Lincoln, 1994), but closer to what Packer and Goicoechea (2000) define as non-dualistic theories; seeing “mind” as part of the “world” as opposed to the dualistic theories that see mind and world as separate (Hanks, 1991: 15; Packer & Goicoechea, 2000). Piaget’s (1973) schemata theory, closely followed by Lowenfeld’s developmental schemes (1947/1957) in the field of art education theory, are examples of theoretical glasses with a weaker emphasis on the unity between “mind” and “world” within the constructivist paradigm. The main assumptions in these theories of what Prawat (1996) labels modern constructivism, when looking at drawing and teaching/learning processes, are based on the biological development of brain functions, although today’s modern constructivists give culture the role of creating variations in expressions within the main frames provided by biology (Golomb, 1992). This path within the paradigm of constructivism labeled modern constructivism, differs from post- modern constructivism as to where sociocultural theory is placed (Prawat, 1996), and this theoretical frame of reference will be presented in the forthcoming text.

The space in between: art education theory

As mentioned above, this analysis is rooted in constructivism as paradigm, and more specifically I have chosen sociocultural theory as a point of departure to look at the close-up drawing processes in the classroom and among peer youngsters. Hence, I want to be able to see the ontology in practice and as a researcher I want to be able to see aspects of practice as being

derived from a world-view or ontology. I am also aiming at constructing a description and an analysis, hopefully creating recognizability for the actors in the field of art education by making this analysis a hybrid of pedagogy and art education theory and practice.

To illustrate the content of art education theory and practice, I am imagining a model that covers the main sources of knowledge, merging in different ways and with different emphasis when examining teaching/learning processes in art and crafts. The disciplines of knowledge on humans, the human sciences, are on one side, while on the other side we find the professional disciplines and trades, the mastering of matter, where knowing the physical laws of matter and materials are included. In the middle we find art education theory. Hence, art education theory, also labeled art pedagogy or child-art pedagogy (Matthews, 2004: 265), is the space where we can place a researcher's curiosity for visually controlled teaching and learning drawing processes.

Sociocultural theory: Breeding and feeding the research questions

The use of the chosen theoretical glasses is one of several ways of looking at drawing processes. The results of the research process can be assessed by its audience according to the point of view this inquiry is based on. My point of departure is also that there are many possible truths. The theoretical ground for this investigation, sociocultural theory, “breeds and feeds” the research questions in the sense that the ontology, the chosen basic world view, “breeds” or raises questions that emphasize social and cultural aspects of the research field in question, and “feeds” the research question by helping to analyze and explain these issues.

The core contribution derived from sociocultural theory, in my opinion, is the understanding of the mediating aspects of drawing processes. Other analytical concepts within sociocultural theory, such as activities in “the zone of proximal development” and “the more competent other” (Vygotsky, 1978), fall into place and explain basic processes that can contribute further to the pool of knowledge in art education. These concepts will be elaborated on further in this chapter.

My experience and knowledge as a researcher and as art educator have led me to believe that sociocultural theory could be a useful tool to help me understand more about the essence of drawing processes as pedagogy; the overarching aim of this analysis. Making a difference, what teaching can be and learning is, requires a social space for possible change (Lave & Wenger, 1991). Sociocultural theory focuses on what happens in this space, and is

therefore, in my opinion, a functional theoretical choice for this inquiry. The “father” of sociocultural theory in education was the Russian/Soviet theorist Lev Vygotsky.

Sociocultural theory

One of the most important contributors to what we today call post- modern constructivism; as part of the constructivist paradigm in pedagogy, or the “third way”, was Lev Vygotsky (1896-1934). This third way is the explanatory space for human development and learning between positivism and cognitivism, referred to by Kozulin in Vygotsky’s work *Thought and Language* as “constructive principles of higher functions”, explained as developing and taking into use signs and tools, the core understanding of “higher functions”. Vygotsky’s interdisciplinary theoretical contributions within the paradigm of constructivism can be detected not only in pedagogy, but also in philosophy, sociology, psychology, semiotics, anthropology and art interpretation (Holland, Lachicotte, Skinner & Cain, 1998; Kozulin, 1997: xxii – xxvii; Strandberg, 2006).

Vygotsky lived his adult life in breathtaking times that included the October revolution in Russia/the Soviet Union. Vygotsky managed to publish the results of his extensive research within different disciplines, always racing against time and illness (Skodvin, 2004: 8; Strandberg, 2006; Vygotskaya, 1995). For the most part he worked with Spinoza, Hegel, Durkheim, Engels, Freud, and Marx as theoretical/philosophical references, writing his works in a mental dialogue with the major intellectuals of his time, above all the influential Swiss modern constructivist Jean Piaget (Vygotskij, 2004: 33-66). During the 30s, Vygotsky’s works were banned in the Soviet Union for being “bourgeois speculations”. In the late seventies and early eighties the American intellectuals Michael Cole and James Wertsch secured Vygotsky’s theoretical legacy by translating his main works into English. Parts of his works are today present in many teacher training curricula the world over. His concepts of inner speech, semiotic mediation, and the zone of proximal development are close to being part of a common-sense understanding as to what pedagogy is in the Western world today (Kozulin, 1997: liv-lvi).

Mediation, tools, signs, and artifacts

Even though there are several shades of sociocultural theory, from the more action-oriented activity theory to more language-focused theoretical traditions (Cole, 1996; Kozulin, 1997: xliiii-lvi), the essence of sociocultural theory is that individuals and their historical and social

contexts are inseparable. One can not be understood without the other. Man is shaped by his social and cultural past and present, at the same time man is creating and changing his social and cultural world (Vygotskij, 1995). The development of knowledge is a social, cultural, and historical phenomenon, and a main feature of development of mankind is the use of tools and signs (Vygotsky, 1978; Vygotskij, 1995), what are called higher psychological functions or mediated activity.

The Vygotskian concepts presented by Cole (1996) explain the term culture as the synthesis of all tools and signs that are labeled as artifacts (Cole, 1996) available to a group of people. The term “signs” includes verbal language and pictorial language. The term artifact is explained as the aspect of human existence activated when man is interacting with his physical and social environment. All human activities that use artifacts are mediated or indirect (Vygotsky, 1978: 54, see Figures 1-3 below), later called mediated actions by Wertsch (1998). If we look at drawing from this perspective, the pencil and paper are historically and culturally developed tools or artifacts that are used by humans in the mediated action of drawing, interacting with the social and physical world.

The word artifact is a general concept for signs (signalization) and tools. Our interaction with the world is mediated through artifacts. Vygotsky (1978) elaborates on (1) the common features of signs and tools, (2) their differences, and (3) how they are linked together. As mentioned above, they have the mediating function in common, they are both aspects of the material world that people use when interacting with their physical and social environment (1), see Figure 1.

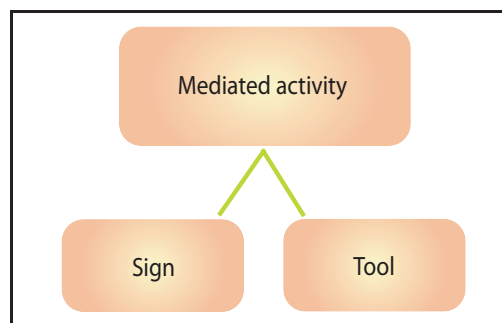


Figure 1: Mediated activity (Vygotsky, 1978: 54; Vygotsky, 1926/2005: 62)

To be distinctive, Vygotsky explains the difference as follows (2):

A most essential difference between sign and tool, and the basis for the real divergence of the two lines, is the different way that they orient human behavior. The tool's function is to serve as the conductor of human influence on the object of activity; it is externally oriented; it must lead to changes in objects. It is a means by which human external activity is aimed at mastering and triumphing over nature. The sign, on the other hand, changes nothing in the object of a psychological operation. It is a means of internal activity aimed at mastering oneself; the sign is internally oriented. (Vygotsky, 1978: 55)

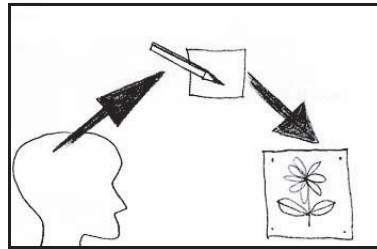


Figure 2: Tools as externally oriented, inspired by Vygotsky (1926/2005: 62)

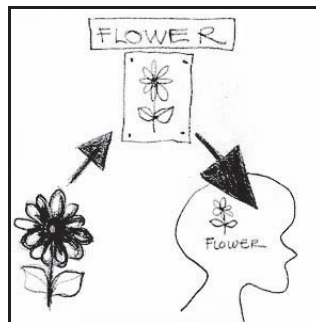


Figure 3: Signs as internally oriented, inspired by Vygotsky (1926/2005: 62)

The distinction between signs and tools is still the subject of theoretical discussions.⁹ As I see it, according to Vygotsky, and as quoted above, drawings could be both signs and tools (see Figures 2 and 3). Drawings can be part of the child's internal and external activity. The making of a drawing can be a sign to help the child master his or her internal narratives, made with tools. So the signs are made with tools. But a drawing itself can also be a tool; a drawing can be part of the agency of making a designed piece of furniture, a house, clothing and the like. The drawing is part of a process that changes external objects. So in a sense, the difference between a sign and a tool is not their materiality but their function in our social space; their orientation. A dress design or pattern is a tool for mastering the behavior of making a dress, in the sense that the drawing of a dress is externally oriented to guide the agent in the mastering

9. Skodvin (2004) refers to Vygotsky's emphasis on this distinction (blurred by Cole's (1996) use of artifacts) as an expression of the times this theory was written in. He points to the use of signs and tools simultaneously as distinctively human.

of this external activity (including the sketch or pattern of the dress, and being able to make the dress). One could also say that the dress design or pattern is internally oriented to help the sewer to make the dress.

The distinction between tools and signs can be the subject of discussion and interpretation. Another example is the wheel; it can be used as a tool for moving goods and people from one place to another in the external world, but it can also be a sign, hanging outside a roadhouse, to signal that there is a tavern here where travelers (often using wheels) can rest and get a cup of coffee. The wheel has become an internally oriented sign. Just as is the case with a drawing, the wheel can be a tool and a sign, it can be part of a process aiming to change the external world, and it can be an artifact which has the aim of signaling something, then being internally oriented.

The third condition Vygotsky examines is how signs and tools are linked together (3). Signs and tools *together* make humans master and alter nature, and at the same time the altered nature through signs and tools, alters humans (Vygotsky, 1978; Vygotskij, 1995). Thus, a child makes a drawing, and this act of drawing alternates the surface of the paper through the use of such tools as pencils. If the drawing is made visible in the child's environment, it becomes part of the child's physical world and can reflect back to the child. The finished drawings as a material product can "play back" to the child, reflecting her cultural pictorial heritage, what she has seen, what she knows, or she can obtain feedback from others who are looking at the drawing. These sources of information can initiate the creation of new drawings, they can be a tool to help the child make something; they can reflect back on the possibility for new action or new insight. Signs can help make new tools, and tools can help develop new signs.

If we look at children's development in drawing through sociocultural glasses with mediation as a focus, the drawings are often signs on paper communicated as symbolic meanings or representations. They can be categorized as semiotic mediation (the mediated activity of meaningful symbols or signs) and become what Wilson and Wilson (1977) call configurational signs, what Goodnow (1977) calls equivalents, or what Darras (2000) calls a simile. A drawing of a cloud is a configurational sign, an equivalent or a simile of a cloud. When using the term semiotic mediation as a basic understanding of what drawing is, signs are analyzed according to their main intentions when created by the subject (Hopperstad, 2002). This is how the art historian Panofsky (1955/1983) uses the concepts of icon and iconography; he emphasizes the meaning and intentions behind visual representation.

“To mediate” is defined in the dictionary as “to act as a go-between” (Hornby, Gatenby & Wakefield, 1963: 611) or to put it in sociocultural terminology; to work or communicate through artifacts. If we look at equivalents, configurational signs, or similes made as mediating signs since the early days of humankind, we can understand them as “go-betweens” to be understood by “the other/others” (Hopperstad, 2002; Matthews, 2004). Hence, mediation in this inquiry is understood as communication of meaning from one person to “the other” that forces us to master an understandable common visual language. The subject making the visual signs has to ensure that his or her purpose or drive to communicate is understood by others in his or her context. This does not, however, imply that there is no individual-psychological dimension in the making of signs or similes, such as drawings, as this is also an aspect of visual expression. This inquiry aims to show the interpersonal, social aspects of visual expressions; that is the making of signs or similes as sociocultural processes.

Play, symbolism, and drawing

Vygotsky (1978: 105 – 119, Vygotskij, 1995) explains drawing as part of the child’s play activity. The child’s drive as an active learner when drawing is well described in Matthew’s (2004: 281) interpretation of Vygotsky as the self-generative character of play. In the earliest attempts to draw, the act of drawing is a fixation of gesture (Kellogg, 1970; Kerschensteiner, 1905; Vygotsky, 1978: 108; Lowenfeld, 1947/1957). In the development of play, the child starts to “make believe”, giving an object or a sign the role of becoming a symbol of something else. This is the basic function of play; the child has developed symbolism while playing. The development of this function is the basis for acquiring the ability to use symbolism in general, according to Vygotsky (1978). Drawings or pictorial representation of any kind are the beginning of conceptualizing or imagining a symbol as representative of something else, such as configurational signs or similes on paper symbolizing real objects. In time letters will symbolize sounds in language that will construct words that represent real objects. Hence, play develops a system of symbolism or what Vygotsky calls second-order symbolism (Vygotsky, 1978: 110). Drawing skills among nine- to twelve-year-olds can be categorized as the making of second-order symbols.

Vygotsky on drawing

Vygotsky saw drawing as one of the earliest mediated activities in humans’ development and was updated within research made at the time on children’s drawing development. In his

writings published in *Fantasi og kreativitet i barndomen* (in English *Imagination and creativity during childhood*), he refers to systematic and thorough research undertaken at the time to map children's drawing development, such as investigations and publications by Leukens, Barnes, Kerschensteiner, Ricci, and Sully (Vygoskij, 1995: 87-108). All of these early pioneer researchers in the field of drawing development saw childhood as valuable in itself, and because of this relatively new focus at the time, they were looking for ways of identifying and describing the characteristics of childhood. The stages in human drawing development were at the time a sign of seeing childhood as important and worthy of research, which was a new way of seeing the early stages of human beings. It is in this context that Vygotsky refers, among others, to Kerschensteiner's research on children's drawing development published in 1905 (Vygoskij, 1995: 88-95, for more on Kerschensteiner, see page 47 in this chapter).

Vygotsky refers to Kerschensteiner's fourth stage of drawing development, from 11 years and into the teenage years, as the time in human development when drawing activity diminishes, *except* when the children have been given education (and/or have a particular talent) in drawing at home or in school. Then the opposite can happen; if education in drawing is part of the child's context, their drawing ability can make a qualitative artistic leap (Vygoskij, 1995: 95). At this age the children are focused on how the drawing looks (Vygoskij, 1995: 94), and want to learn to control the world, including the skills of visual representation. I see Kerschensteiner's findings explained and interpreted by Vygotsky in the early 1900s as an understanding of stages of development in drawing that can be challenged when education is given. This is an interesting reference when looking at visually controlled drawing among nine- to twelve-year-olds today.

Vygotsky on creativity

Vygotsky's (Vygoskij, 1995) understanding and interpretation of creativity and imagination (in Norwegian and Swedish *fantasi*) is expressed in a small publication originally written in the late twenties/early thirties and derived from Vygotsky's Ph.D. thesis published in 1925 (Lindqvist, 1995: 8). He places these terms in his sociocultural and historical-dialectical theory of human development based on two phenomenon that are seen as interlaced; (1) the ability to reproduce and remember and (2) creative activity. Creative activity is being able to combine and recombine already known skills and knowledge in new ways to meet new challenges. The

use of the term recombination related to creativity is understood as the acts of combining in an ongoing process.

Creativity is a human feature, and is part of all humans' potential. The ability to be creative requires the use of imagination, or to picture possible solutions before they are operationalized (Juell & Norskog, 2006). According to Vygotsky the ability to reproduce and remember is a basis for the ability to combine and recombine. To be able to model and learn skills and knowledge already developed by others, is then a prerequisite for being able to create new artifacts.

Visually controlled drawing is also reproduction or modeling of the seen made by others or of three-dimensional models. The concept of modeling is therefore interesting in a sociocultural analysis because, according to Vygotsky (Vygotskij, 1995: 11-37), it is closely interwoven with creativity as human activity. Visually controlled drawing is human activity in context. There can be inventive and creative solutions to how to reproduce and make a look-alike or a simile, that is to find new drawing strategies. There can also be creative solutions to how to visually express thoughts and feelings using visually controlled drawing in combinations and recombinations. This will require the skill of learning how to make the visually controlled drawing, to remember it, or to internalize it, and use it in combinations with other signs or similes in a new drawing in new situations or contexts.

Social arrangements: A space for teaching and learning

Vygotsky's theory on human development has inspired a whole world to do research on the significance of social relations and interactions in children's development. Vygotsky argued against defined developmental stages being the limits for learning, he claimed that on the contrary, learning encourages, drives, and stimulates intellectual and biological development. The child's capacity for learning is not only determined by genetics and biology, but also by its capacity to use experiences in communication and cooperation with others (Skodvin in the introduction to the Norwegian version of Vygotsky's *Thought and language*, Vygotskij, 2004: 15). According to Vygotsky, the organizing of the class and the arrangement of the group in formal and informal educational VC drawing contexts would have an impact on what and how VC drawing is learned. Defining social space is then, according to Vygotsky, highly significant for the understanding of formal and informal teaching and learning.

The inter-mental and intra-mental plane

According to Vygotsky (1978), learning takes place in a social context where language and dialogue play an important role in the learning process. *First* we have experiences in an external social setting, in cooperation with other people, on the inter-mental plane. Through various processes and reconstructions we then internalize individually these experiences on the intra-mental plane. The definition of internalization is the phenomenon of internal reconstruction of an external operation (Vygotsky, 1978: 56).

If we use the act of drawing as an example of internalization, a small child can start her process of acquiring drawing as a mediating activity in her repertoire of actions by randomly making traces in, for example, some apple sauce on her dinner plate. In our Western culture the movement of tracing is then often guided by parents or preschool teachers towards finger painting or drawing with crayons on paper. Through the response the child receives from her mother/father/carer when drawing or painting, the drawing activity becomes a gesture making signs for “the other”. It becomes a true gesture when it is understood by the other. Vygotsky (1978: 110) illustrates this process by referring to the evolution of the child’s pointing gestures. The child’s stretching towards something becomes a true gesture when it is seen and understood by others and responded to. So to be understood visually, the child relies mainly on external direct visual impulses and tactile experiences to make drawings that are recognizable in social space. Visual impulses play a major role as stimuli to be able to make an understandable configurational sign or simile. We could say that the child’s making of similes is often based on the internalization of visual experience, the externally observed.

Drawing similes is a motoric-visual process that incorporates observation. The observation process includes being mentally present in context with all senses, including seeing, and trying to make sense of what is going on (perceiving). Observation interacts with the motoric mastering of tools, like pencil and paper. So learning to make similes of observed objects or other similes (having another simile as a model) can be conceptualized as the internalization of visual observation: The observation and internalization of the figure to be drawn that can also include the observation and perception of how it is drawn.

The term *internalized observation* is presented here to cover the process described below, before the presentation of results, because it was identified early in the data-collection process on a more or less intuitive level (Wilson & Gudmundsdottir, 1987) as possibly useful, and was later tested as a theoretical concept in the data analysis.

Internalization of observation or internalized observation

The data collection process preliminary to writing this theoretical-framing sequence has helped me to develop an insight that “gave birth” to the common-sense term “internalized observation” as a theoretical analytical concept. This concept can be confused with what is labeled “memory drawing” as a common-sense concept. These two concepts can cover the same drawing processes as seen “on site”. “Memory drawing” draws attention to the memory, memorizing, while “internalized observation” includes the internalizing of the externally observed. In this inquiry I have found it fruitful to use the term internalized observation as a theoretical concept describing visually controlled drawing processes where the presence of a model has been an essential part of the process. If the simile is then internalized, this simile is a product labeled internalized observation. The simile is then internalized and can be drawn accurately “by heart” without a model being present; still being a product of visually controlled drawing. A memory drawing can be described as the product of drawing process where memory and narration without a model present is the source of the drawing. There has been no possibility for or wish to visually control the drawing against a two-dimensional or a three-dimensional mode at any time. The memory drawing has never been developed as form in a *direct* “seeing-drawing” process with a model.

The zone of proximal development (ZPD)

Learning, according to Vygotsky (1978), is to internalize experiences from the inter-mental plane to the intra-mental plane, and there are several factors that are crucial for internalizing experiences from the external social contexts. One of these factors involves the various types of support given and/or taken in what he calls the zone of proximal development (ZPD). The ZPD is explained as the area or difference between the zone of actual development (ZAD) and the zone of potential development (ZOPD) which is as far as the child can reach at a given time with support. According to Vygotsky (1978), the learning process begins in the child’s ZAD where she functions without support. The learning takes place in the ZPD or the zone between the ZAD and ZOPD.

Bruner (1966) and Flem (2000) explains Vygotsky’s ZPD as a dynamic sensitive area where the child’s proficiency or skills develop together with support, where learning happens. Teaching, according to Vygotsky, can be the support given in the learners’ ZPD from another more competent person, but it can also be technical support, books and so on.

Intersubjectivity

Wertsch (1985; 1998) takes Vygotsky's theory further by introducing the expression intersubjectivity in the ZPD. In the process of evolving into a new ZAD, the more competent other, the formal or informal teacher and the learner have to gain intersubjectivity, a kind of mutual understanding of the situation, before solving the problem. Attaining intersubjectivity with the learners is then, according to Wertsch, a presupposition for teaching and learning. Another presupposition is, according to Vygotsky (1978), the presence of asymmetric competence in the ZPD (Strandberg, 2006); there has to be a more competent other in this sensitive zone; a person or a source that represents and communicates more knowledge or skills than the learner has at the moment. The teacher's teaching in a formal arena is then part of the students' learning process, serving as a more competent other.

Bridging

The theoretical construct of "bridging" can also be related to the teacher's act of teaching in search of intersubjectivity. This concept is used to describe what teachers are doing when they search for various forms of knowledge representation among the students which they can relate to the matter they are teaching. They can then build on the students' knowledge, in a sense "meeting the students at home", and help develop their knowledge from there (Wilson & Gudmundsdottir, 1987). This can be related to the process the teacher activates when trying to find intersubjectivity with the students when teaching drawing. It can also be an interesting concept when working on the issues of transferability from the informal arena to the formal arena of teaching and learning visually controlled drawing processes (for more on transfers, see page 36 in this chapter).

Pedagogical content knowledge

The concept of pedagogical content knowledge was used by Shulman (1986) when he wanted to describe the knowledge teachers developed and used when teaching their subjects. Shulman makes a distinction between knowledge of the subject matter (content knowledge) and knowledge of how to teach the subject matter, and calls this second way of knowing pedagogical content knowledge. Pedagogical content knowledge presupposes and goes beyond content knowledge to cover the processes of knowing how to present the subject matter in teaching. Working with this concept, Wilson and Gudmundsdottir (1987: 50) refer to the

“Hows” and “Whats”; how to present the topic, what to choose to present from a large and complex topic, what kind of materials to use, how to sequence the material, and what to expect from the students. It is also important to point out that Shulman (1986) and Wilson and Gudmundsdottir (1987) emphasize the importance of the teacher knowing and being genuinely interested in the subject being taught. Cataloguing important aspects of the accumulated pedagogical content knowledge of the observed art teacher, i.e. how he transforms the subject matter (visually controlled drawing) when teaching children, will be one of my focal points in the analysis and when defining exemplary teaching in VC drawing. These experiences and choices, this pedagogical content knowledge, will be manifested in interaction with the students throughout their ZPDs in the subject being taught.

The flow

Mihaly Csikszentmihalyi, professor of psychology, is a major contributor of theory in the research field of positive psychology, looking at positive traits in people’s lives and how to strengthen these. In his major cross-cultural research project on what makes humans happy, Csikszentmihalyi (2002: 74-75) describes a specific space between anxiety and boredom which he calls the flow channel, or being in the flow. Being in the flow is described as being challenged, interested, engaged, creative, and excited. Comparing the quality of the activities taking place in this space with Vygotsky’s ZPD, we find some recognizable aspects, such as the level of complexity being a manageable challenge that can be reached through such efforts as assistance and instruction. When finally managing this level of complexity we will eventually become bored, according to Csikszentmihalyi, and reach for new levels of complexity. We could then say in this rough comparison that Csikszentmihalyi’s “boredom” has some of the same characteristics as Vygotsky’s ZAD, such as the mastering of a skill. Csikszentmihalyi believes that humans push towards activities in the flow because these activities are experienced as enjoyable, and for them to be enjoyable, they have to be attainable, in other words not too difficult, but also, not too easy. As humans we want to push to learn new skills, and this is a basic necessity for mastering life, according to Csikszentmihalyi (2002: 74 – 75). Evolution has made this an enjoyable and desirable level of activity. We can also look at this the other way around; by seeking this desirable and enjoyable level of activity that gives us a feeling of temporary happiness, we ensure further evolution by learning to master new activities.

His research is seen as useful in a professional teaching context (Korthagen, 2004), and I can also see how his term “the flow” is part of both formal and informal drawing teaching/ learning contexts, as described by the art educator Betty Edwards (1987). Kindler, Pariser, van den Berg, Liu, and Dias (2002) echo Csikszentmihalyi’s theory in their inquiries into children’s aesthetic judgment. For example, eight-year-old children judge drawings made by 14-year-olds as the most beautiful when compared, for example, with professional artists’ drawings. Kindler et al. (2002) offer a possible explanation for this; the most beautiful or desirable drawings are those that have a competence level just above the child’s own drawing skills at the time. In other words, the desired beautiful drawings can be made by the child when it has time, assistance, and practice, or to put it another way, the drawing skills are attainable in the flow channel. To work in the flow, the child needs support and practice that will make the reaching of these goals a reality.

Scaffolding

Scaffolding is a metaphor for support systems given by the teacher in the child’s ZPD. Scaffolds are used in the building trades to enable workers to move from one level of a building to another. According to Wood, Bruner, and Ross (1976), who introduced this metaphor, the task worked on can be completed because of the scaffold, and the scaffold or the support, can be moved to new areas where work is needed. In the context of a teaching/ learning situation, scaffolding means offering physical and mental support systems so that the learner can work on tasks to acquire new knowledge and skills.

Means of assistance

When applying the concept of scaffolding as teachers, there are several strategies that can be used to help the child to succeed on his or her own in a new ZAD where competence is internalized. Tharp and Gallimore (1988) describe six means of assistance or teaching performances as scaffolds in the ZPD. They are as follows: 1) modeling, 2) contingency management, 3) feedback, 4) instruction, 5) questioning and 6) cognitive structuring. Tharp and Gallimore’s project was to develop a theory of teaching inspired by a number of theoretical sources grounded in constructivism as the paradigm; from cognitive neo-behaviorism to information theory and linguistic analysis. As theorists, they are blatantly picking from a range of theories available that are seen as functional in pedagogy-theory development.

Tharp and Gallimore echo anthropological and sociological studies of teaching/learning processes in non-technological societies in their description of the first means of assistance, modeling. They refer to the absence of verbal explanations when children in native American tribes learn pottery from adults simply by observing (Blair & Blair, 1986: 92) or when they socialize into general adult behavior by “learning through looking” (Cazden & John, 1971). This process is referred to as observational learning (Bandura, 1977: 41; Scribner & Cole, 1972: 555; Tharp & Gallimore, 1988: 45-47). Learning based on observation is also confirmed by recent findings in Reitan’s (2007) research on the Inupiaq women’s teaching of sewing skills in Alaska. Reitan (2007: 223-229) develops her findings into an interesting and deeper discussion on learning, in a dialogue that draws on John Dewey’s “learning-by-doing”; introducing the concept “learning-by-watching”. Hence, the “knowing – how” is often based on the observation of practices, also called modeling (Tharp & Gallimore, 1988).

Modeling provides the opportunity to imitate and copy. This method or means of assistance, basically rooted in the learner’s use of visual perception in my study, has been used within the subject of art for centuries. According to Wilson and Wilson (1977; 1982b), this is the strategy children often use without actively being taught to draw. Children imitate drawing behavior and copy the similes made by others. So there is “modeling” meaning copying an image, and there is “modeling” meaning learning by looking at an image being made, or copying drawing behavior. Both meanings are relevant to this inquiry.

It is also interesting to consider the emphasis Tharp and Gallimore (1988: 48) place on the transferability of modeled behavior to other contexts because this mode of learning relies on the visual internalization of the major components of externally observed complex behavior. If the major components of the internalized process are recognized in other settings, it is possible to repeat the process, according to Tharp and Gallimore.

Contingency management is the art of managing eventualities, or unforeseen happenings, in the process of teaching to help the students focus on the given path of learning. This then means managing student behavior so they remain in the desired learning process. To manage behavior we must reward and punish, according to Tharp and Gallimore. They stress that the main focus is on creating a positive learning atmosphere through verbal interaction. The use of punishment is often mainly manifested by not paying attention to or overlooking unwanted behavior. Contingency management is a precondition for other means of assistance in developing skills such as drawing; it does not in itself initiate content learning (Tharp & Gallimore, 1988: 52-53).

Feedback is a concept covering different kinds of responses according to a given standard. The task of drawing an object or a given figure provides the drawer with the visually based assessment of comparing the drawing to the object or the model being drawn. We could classify this as feedback incorporated in the process of VC drawing, which can involve correcting or confirming drawing techniques or drawing behavior. There is a possible self-regulating aspect in the feedback given by the self-assessed performance of an activity when the “answer” is given by a visual model to be drawn.

But feedback as a means of assistance comprises the interpersonal responses given to the drawer by others. There is a dialogical aspect; the support through feedback given by a more competent other who can visualize the possible result, and knows what it takes to make the configuration of the object to be drawn. In Tharp and Gallimore’s (1988: 54-56) understanding of feedback, there has to be an answer or a comparable standard, a solution to strive for. Feedback is given to the student with the possible answer in mind.

Instruction involves language as an important component in teaching. A dialogue that involves instruction (what to do and how to do it) could be an important part of a learner’s drawing process. Giving instructions as a means of teaching assumes the acknowledgement of the importance of the more competent other when moving in the students’ ZPD, as opposed to a teaching code that expects students to learn on their own. In the modernist era (for a description see page 39) of art education over the last 50 years, the self-developing student with the non-interfering, non-instructing teacher has been dominant in art classes and has been seen as exemplary; it was therefore interesting to see how the phenomenon instruction occurs in the actual drawing processes in both cases.

Questioning as a means of assisting the students through their ZPDs is also a dialogic linguistic teaching initiative. The assessment question is used by the teacher to map the students’ ZAD, and it leads the students into their ZPDs. The assistance question initiates processes, experiences, and answers that the students could not have found on their own; the assistance question is then asked by the more competent other who knows the answer.

Cognitive structuring is defined as two different structures. The first structure involves detailed explaining, giving the students detailed and specific structures. In drawing, with the chosen set of terms, this structure could explain how specific objects and pictures are formed on paper, for example the making of light and shadow. The second cognitive structure is in the learning process itself, for example, when the school teacher gives a holistic, open, and general description of the core task, giving the students the major structures of, for example, the laws

of light and shadow in physics. It gives the students the possibility of creating their own understandings of what is within the given structures when appropriating these general structures while drawing a still-life. Tharp and Gallimore (1988) call this process of finding out guided reinvention. When using this means of assistance, the teacher has to have a clear understanding of what is to be reinvented if he or she is to guide this more open, associative process.

All the six means of assistance are often intertwined in the field of teaching practice, occurring in various combinations and simultaneously (Tharp & Gallimore, 1988: 47). A good mix of all the three last-mentioned linguistic means of assistance (questioning, instructing, structuring) would be part of the characteristics of what Tharp and Gallimore (1988: 57) regard as a lively and cooperative teacher–learner verbal interaction. In my opinion, we could therefore classify this mix of linguistic means and a functional use of all the means of assistance as part of what we can describe as exemplary teaching.

Means of assistance and informal teaching and learning

Means of assistance as described by Tharp and Gallimore (1988) is an intended interpersonal teaching initiative, and is seen as part of the formal teaching profession. In this comparative inquiry, means of assistance is seen as interpersonal teaching activity acting not only as initiatives in the formal teaching profession, but also being part of the teaching/learning in general, which will include teaching/learning in the informal arena. We can label these informal teaching/learning activities as informal scaffolds in informal ZPDs using informal means of assistance. By definition these are the same core processes as in formal teaching/learning activities, but they are situated in informal contexts with “teachers” being non-professional peers or relatives.

The scaffolding process of Wood, Bruner, and Ross

Wood, Bruner, and Ross mentioned above, wrote one of the classics of education science in 1976, making the term scaffolding part of learning theory; describing what they defined as scaffolding. The study their publication is based on looks at the interaction between children of 3-5 years (the tutees) and their tutors while building pyramids out of wooden blocks; the tutors then knowing how to make the pyramid. They identify six characteristics of the scaffolding process in their study of how children are helped to achieve the goal of ending up with a built pyramid. They emphasize that these six functions of the tutor while helping, supporting, or

scaffolding the child are relevant and significant for instruction in general. These functions are 1) recruitment (or motivation, my comment), 2) reduction in degrees of freedom (narrowing the task to comprehensible smaller operations, my comment), 3) direction maintenance (focus, my comment), 4) marking critical features (interpreting the discrepancies between the goal and the tutee's performance so that the goal can be achieved by the tutee, my comment), 5) frustration control and 6) demonstration. Some of these six functions overlap the previous presentation of Tharp and Gallimore's means of assistance, for example demonstration being close to Tharp and Gallimore's modeling, direction maintenance and frustration control being close to Tharp and Gallimore's contingency management, with one specific difference; Tharp and Gallimore *define* a strategy for Wood, Bruner, and Ross's direction maintenance and frustration control by mainly rewarding (or punishing) the student.

Another difference between Wood, Bruner and Ross and Tharp and Gallimore, is their emphasis on the dialogical two-way process that goes on between tutor and tutee. They emphasize that it is not only the knowledge of the task but also the tutor's knowledge about the tutee; his or her sensitivity towards what information the tutee provides about how he or she performs the task that generates the actual scaffolding. This merging of the two knowledges, or the two theories, is what makes good scaffolding according to Wood, Bruner, and Ross:

The effective tutor must have at least two theoretical models to which he must attend. One is the theory of the task or problem and how it may be completed. The other is a theory of the performance characteristics of his tutee. Without both of these, he can neither generate feedback nor devise situations in which his feedback will be more appropriate for *this* tutee in *this* task at *this* point in task mastery. The actual pattern of effective instruction, then will be both *task* and *tutee* dependent, the requirements of the tutorial being *generated* by the interaction of the tutor's two theories. (Wood, Bruner & Ross, 1976: 97)

This is also consistent with Darling-Hammond and Youngs' (2002) criteria found when investigating what identifies the highly qualified teacher: 1) knowing the task within the subject to be taught (the basis for the first theory referred to above by Wood, Bruner & Ross), but also 2) knowing about learning and human development, as is the substance of the art of pedagogy (the basis for the second theory referred to above by Wood, Bruner & Ross). In this inquiry the subject being taught formally is visually controlled drawing, but succeeding in teaching visually controlled drawing according to Wood, Bruner, and Ross also requires knowledge about the student in context, and the ability to communicate using these "two theories", as the quotation above implies.

Drawing genres

A genre is formed as an artifact with an intention in context over time, as Bakhtin (1986: 60) points out in the quote below when writing about speech genres. When Bakhtin (1981, 1986) places language or speech in a historical, social, and physical context he claims that any utterance is related to the community's utterances in a specific context. Depending on the context, these utterances are part of what Bakhtin calls speech genres, for example an academic speech genre as opposed to everyday speech genres within specific social and cultural contexts.

Language is realized in the form of individual concrete utterances (oral or written) by participants in the various areas of human activity. These utterances reflect the specific conditions and goals of each such area not only through their content (thematic) and linguistic style, that is, the selection of the lexical, phraseological, and grammatical resources of the language, but above all through their compositional structure. All three of these aspects - thematic content, style, and compositional structure - are inseparably linked to the whole of the utterance and are equally determined by the specific nature of the particular sphere of communication. Each separate utterance is individual, of course, but each sphere in which language is used develops its own *relatively stable types* of these utterances. These we may call *speech genres*. (Bakhtin, 1986: 60)

In any utterance there will be traces of earlier utterances and sources of future utterances in the social sphere, and drawing can be seen as such an utterance (Wilson, Hurwitz & Wilson, 1987). If Bakhtin's theory is transferred to the world of pictorial languages, a drawing will incorporate configurational signs or similes from the community, placed within specific drawing genres. Wolf and Perry (1988) conceptualize similar phenomena as visual genres, here I will use the term drawing genres to cover different drawn visual languages and dialogues in context that often have themes (topics), styles (the looks) and compositional structures (how it is made or constructed) in common (Bakhtin, 1986: 60. For more on possible drawing genres, see Simmons (1992) referred to in this chapter, page 57).

Genre as a concept then carries the meaning of characterizing different types of accepted and common styles of communication within a community or a context (such as an academic speech genre). Genres as a relevant term in art education in public compulsory school has not been thoroughly discussed and explored. The understanding of a VC drawing genre can link what is going on in school to functions in a larger community or in society. On the informal arena the understanding of a drawing genre can relate to the cultural world of children - or aimed at children, as part of society. If we look at drawings as genres, there will be genres of drawings developed in different historical and contemporary contexts, such as the still-life genre(s) and the observation drawing genre(s) in formal contexts, and the possible line

model drawing (Smith, 1983; 1985) of icons such as cartoon figures found in the genre(s) of visual popular culture in informal contexts.

In the drawn picture there are traces of past configurational signs or similes, those of the present, and the source of future configurational signs or similes (Bakhtin, 1981; Wilson, Hurwitz & Wilson, 1987). Bakhtin (1986) then also claims that any utterance, being dialogical, comes in part from the child and in part from others. In other words, in this inquiry, I can say that the drawing belongs to both the child and the others, according to Bakhtin, because they are created in a larger context of visual expression. There are different drawing genres, or visual genres (Wolf & Perry, 1988) according to the context the child is in, and according to what the child wishes to express.

Transfers

Situated learning

The importance of context is also emphasized in Lave and Wenger's (1991) contribution to sociocultural theory. They state in their sociocultural understanding of learning that it is an activity situated in specific social and cultural contexts or sites:

It implied emphasis on comprehensive understanding involving the whole person rather than "receiving" a body of factual knowledge about the world; on activity in and with the world; and on the view that agent, activity, and the world mutually constitute each other. (Lave & Wenger, 1991: 33)

In other words, according to Lave and Wenger, mind and context are inseparable and learning is deeply contextual, rooted in and with the world. The activities of humans, here students'/ children's VC drawing processes, are situated in the social and physical contexts in which they occur. Lave and Wenger label this the *arena* for learning, including the social relations as part of the situatedness. I examine two major situations, the formal teaching situation in public school and the informal drawing processes (including informal teaching and learning) often situated among peers and family at home, but also found among peers situated in school.

The situatedness of learning is analytically interesting. Lave and Wenger (1991: 22) suggest that each situation provides matrixes for learning in a social setting that are socially negotiable and renegotiable experiences from situation to situation. The transferability of learning is also part of seeing the individual as a whole person with a pool of diverse experiences. These experiences from other contexts are a person's contribution in the dialogical negotiating process occurring from one learning situation to the next.

Lave and Wenger (1991: 42) maintain that the division of power in learning situations has to be considered; when the negotiating dialogue is silenced, it can affect the actual learning potential or what is actually learned. When there is inequality, the structural hierarchy can be what is actually taught and learned, not necessarily the intended subject content. Therefore the negotiating dialogue is often part of the teaching/learning situation, for example by bridging, seeking intersubjectivity as part of the manifestation of the teacher's pedagogical content knowledge (Shulman, 1986; Wilson & Gudmundsdottir, 1987).

Situated learning as an understanding of learning in context emphasizes the question of meaning, the "Why", or the motivation for learning. Lave and Wenger (1991: 122) address this basic drive to participate in learning in any situated activity and explain it as ... "motivated by the growing utility value of participation" (in learning, my comment). So usefulness in context is an important driving force for learning, according to Lave and Wenger.

The subject or the content of what is being taught in the formal arena is part of a social political agreement manifested in documents such as a national curriculum. The movement from pedagogy as theory to pedagogy as practice involves content; the actual skills or the actual knowledge to be internalized. My cases take place in two major settings, one is the art attic as part of the public school building, where the students are being taught how to draw by observing, *and* where they voluntarily learn how to draw informally from other peers. The school as setting is also the place for informal drawing in free periods in other classrooms (more on this in Chapter 3). The second are the informal settings, in the children's homes where the teaching/learning practices are often performed as voluntary processes by peers or family. In both the formal and informal contexts the children are working with the craftsmanship of learning to make visually controlled drawings.

Greeno on transfers

The cognitive theorist Greeno (1989: 285-318) looks at the situatedness of learning from a cognitive point of view, criticizing the epistemology of cognitivism for not addressing this well-documented and obvious side of learning. Greeno's main concern is of a practical nature, focused on the problem of transfer; that is, how we as teachers can arrange for the students' to transfer knowledge often acquired in an informal object-oriented arena where there is an immediate need to solve challenges, to classroom teaching situations where children learn the symbolic notations and structures often disconnected from their possible practical use. His suggestion for successful transfers from one arena to the other is by simulating the "real"

situation the problem could occur in, and finding different ways of creating links of recognizability between formal and informal teaching/learning situations. According to Greeno, transfer of knowledge can be made possible by using descriptions of situations that remind the child/student of a “real” situation. The previously introduced act of professional teaching, the bridging process (Wilson & Gudmundsdottir, 1987), can be part of the encouragement of transfers of skills and knowledge from one context to the next, and can awaken valuable resources in the learner. In this study I want to see if there are transfers of visually controlled teaching/learning drawing processes from formal to informal contexts, and from informal to formal contexts, and if so, how can these possible transfers be described?

Goals and strategies: Formal and informal education - definitions

A review of earlier research on the characteristics of formal and informal education made by the psychologists Sylvia Scribner and Michael Cole echoes Lave and Wenger (1991) and shows that the content of what is learned in formal and informal contexts is guided by the goals set in context, and these can vary from arena to arena (Scribner & Cole, 1972: 555-556), as does the way things are learned. Formal education is defined by Scribner and Cole as:

...any process of cultural transmission that is (i) organized deliberately to fulfill the specific purpose of transmission, (ii) extracted from the manifold of daily life, placed in a special setting and carried out according to specific routines, and (iii) made the responsibility of the larger social group. (Scribner & Cole, 1972: 555)

Hence, formal education, or formal teaching/learning is placed in institutions where society’s intention is to educate or transmit subject content and social values according to certain specific goals rooted in any given community, often found written in this society’s general curriculum. Theory describing formal teaching/learning strategies is thoroughly elaborated on in this chapter (see for example sequence on Tharp & Gallimore’s means of assistance, page 29), and some of these described formal strategies can be found in informal arenas. I am also concentrating here on encompassing sources of knowledge linked specifically to teaching/learning in informal contexts, what Scribner and Cole (1972) call informal education and informal learning.

Informal education is characterized by the feature of not using an activity just to educate, according to Scribner and Cole (1972: 554-555). Scribner and Cole (1972: 555-557) refer to anthropological studies (Cazden & John, 1971; Cohen, 1971; Mead, 1964) when they summarize the features of informal learning: The relevant characteristics in these contexts are

1) the transmission of information is often person-related, the learner's connection with the informal teacher is important, 2) informal education merges emotional and intellectual domains, 3) it involves processes connected to building the actors' identities, 4) it is often done in collaboration, and as mentioned earlier 5) it is often learned according to "learning by looking", mimesis or modeling.

Research on informal learning: rationality and goal orientation

Rogoff and Lave (1984) edited and published research undertaken on informal teaching/learning in their book *Everyday cognition: Its development in social context*. The observations and descriptions found here to be relevant to the informal case in this inquiry are connected to the rational performances recognized to be part of the informal arena when having a goal to reach for:

In everyday situations thought is in the service of action. Rather than employing formal approaches to solving problems, people devise satisfactory opportunistic solutions. Everyday thinking, in other words, is not illogical or sloppy but instead is sensible and effective in handling the practical problem. (Rogoff, 1984: 7)

When looking at strategies and goal orientation in the informal arena of visually controlled drawing, these findings can be of use, determining whether there are informal strategies and goal orientations that in the formal arena are seen as opportunistic solutions, maybe not even allowed to be used formally. Scribner (1984: 13) labels these processes goal-directed actions and Rogoff (1984: 4) emphasizes their context boundedness if they are to be understood, and thereby seen as valuable:

A broader view of context requires that task characteristics and cognitive performance be considered in light of the goal of the activity and the interpersonal and cultural context in which the activity is embedded. (Rogoff, 1984: 4)

Scribner and Cole (1972: 558) also have an interesting view on formal and informal teaching/learning and how these two phenomena can be related. They are intrigued by the fact that we very often find traces of informal teaching/learning interacting with formal teaching/learning in school. The processes whereby subjects are explained and demonstrated by the teacher are often derived from the teacher's own background and interests first acquired in informal contexts. This is often likely to be the case in a practical subject such as art and crafts. As several theorists point out, the main difference between formal and informal teaching/learning is often the absence of cognitive emphasis in the informal arena (Bruner, 1966; 1969; Scribner & Cole, 1972). As art and crafts is mainly a practical subject, there are processes in this subject

where the formally/informally taught/learned content can merge. Art and crafts education theory, also often just referred to as art education theory, is nourished on knowledge and skills acquired in the formal educational arena and the informal educational arena. This inquiry, as mentioned, is focused on comparing visually controlled teaching/learning drawing processes from both of these arenas, and this requires us to take a closer look at art education theory.

Art education theory

As in other fields of social science, the main differences in art education theory are rooted in paradigms of understanding the world, the ontology, followed by the theories on the generation of knowledge, the epistemology. The theoretical presentation so far has mainly dealt with formal and informal teaching/learning processes in general, and has been anchored in the theoretical framing for the inquiry, sociocultural theory within the paradigm of post-modern constructivism. This section will link the overarching theoretical frame of reference to the field of art education theory, in other words, what is presented below is the pool of theory and research regarded as functional for this study that underpins a sociocultural point of view on drawing practices in formal and informal arenas.

The modernist era: Drawing development

In our recent Western art education history, the academic community of art education has emphasized that children's drawings are individual expressions, not seeing their drawings as a way of socializing into a common pictorial culture, a common pictorial language (Digranes, 2009; Eisner & Day, 2004). Victor Lowenfeld analyzed and sorted thousands of children's drawings to see if he could find characteristic features that could be used to describe the development of pictorial features among children. These features were well conceptualized and categorized in stages of development; the schemata theory (Lowenfeld, 1947/1957; Lowenfeld & Brittain, 1979). Victor Lowenfeld's research was ground breaking when it was introduced, and had an immense influence on the thinking of teachers in the United States and Europe. In retrospect one can see that the data were not categorized to show different social influences. One can also see that their theoretical framework guided his choice of research methods. He collected a large quantity of drawings without gathering contextual data. Wilson and Wilson (1977), however, complemented and contradicted Lowenfeld and Brittain's research by using contextual drawing analysis in their ground breaking article *An iconoclastic*

view of the imagery sources in the drawing of young people. The result of Wilson and Wilson's research showed that many of the learning processes in drawing are based on social interaction; that is, children often learn to draw by looking directly at other children's pictures, and pictures significant to them in a contemporary image culture.

Wilson and Wilson: Identifying The Modernist Narrative

The discourse on genetic epistemological theory in the field of art education, mainly represented by Eng (1926/1959), Lowenfeld (1947/1957), Lowenfeld and Brittain (1979), and followed by Golomb (1992), has strong roots in Western thinking and art education practice (Pariser, 1995). Wilson (2004) calls this The Modernist Narrative or the Grand Narrative in art education (the first will be used further). I would even be inclined to claim that the influence of genetic epistemological theory can be labeled the discourse on drawing development that has been prevalent for the last 50 years. Foucault's (1978/1990: 17-35) term "discourse" might justify the impact this explanatory model of child development in drawing, the schemata theory, still has today. The consequences of the modernist epistemology has been to let children find out how to express themselves visually with a clear strategy of non-involvement or a "hands-off" pedagogy as the most fruitful approach for children's acquisition of a pictorial language, and by that, pictorial expression. With this strategy, seen from a sociocultural perspective, the children may have missed many opportunities to work visually within their ZPDs in a formal arena.

Foucault (1978/1990) describes a discourse as constructed "truth" or a narrative in power, while a narrative can be one of many possible stories. This means that we should hope for many stories or narratives from different contexts with different outcomes in the future. Researchers in the art education field have documented that we are still not there, even though there is movement grounded in extensive recent research (Eisner & Day, 2004; Kindler, Pariser, van den Berg, Liu & Dias, 2002; Kindler, 2004a; Pariser & van den Berg, 1997; Pariser, 1999; Wilson, 2004).

It is appropriate to ask "Why?" Perhaps the answer lies in the fact that powerful institutions in society are still advocating the schemata theory. In my opinion, it is an easy model to grasp and to some extent there is periodical empirical confirmation of its main structures that can make it acceptable to believe the entire discourse. Another explanation for this consistency might be the fact that the average age of art educators in colleges is high; they are teaching their beliefs in old theories from the fifties and sixties without updating

themselves on current research. It can also be explained as being seen as less demanding and easier to teach in a “hands-off” teaching/learning discourse. The vocabulary Lowenfeld (1957) developed was closely linked to Piaget’s (1973: 23-24) stage theory. This well established ideological *and* verbal link between modernism in pedagogy and modernism in art education (Pariser, 1995), can possibly also explain the strong impact of The Modernist Narrative in art education.

Today the universal biological discourse of drawing development is highly disputed (Eisner & Day, 2004). Critics explain the manifestation of the biological model as a combination of culturally determined expectations and as responses to these expectations. Subordinate to what Wilson (2004) calls The Modernist Narrative, we can find a significant narrative or discourse on visually controlled drawing as something that is uncreative, reproductive, and restraining for children’s development of visual representation (Lowenfeld (1947/1957); Lowenfeld & Brittain (1979), see quotes in the introduction, page 4).

Development of the child’s pictorial imagery: A sociocultural model

My analysis is based on the findings of Wilson and Wilson (1977; 1980; 1982b; 1985) and Wilson (2003; 2004), as referred to above, also elaborated on by Kindler and Darras (1997) and Kindler (2004a; 2004b). Due to their social and contextual emphasis when looking at art making and artistic development, it has been useful to follow up on this theoretical contribution to art education to help find answers to the research questions and place these findings within the wider framework of the sociocultural theory presented earlier.

Kindler and Darras (1997: 24) have used their extensive research material to elaborate on a theory of artistic development, forming a new map or model of artistic development, and as far as I know, this is the only recent, alternative holistic model made since the schemata model introduced by Lowenfeld (1947/1957). The immediate relevance of this creative model for my inquiry is first of all their focus on drawing as mediation, second is the development of new concepts relevant in a VC drawing context, such as initial imagery, generic tendency, and isomorphic tendency. I will present the entire model because its justifications represent a way of thinking about artistic development (including drawing development) that in my opinion is highly relevant to young children’s mediation when drawing in formal and informal contexts. But also in this regard, I see that the model has its limitations and these are discussed in Chapter 4.

Kindler and Darras (1997: 21) maintain that the driving force in all pictorial imagery is mediation. In other words, we are using culturally developed tools and signs to interact with the world; to communicate meaning. Mediation is achieved through various media, including visual media, in our social space. The construction of knowledge on picture making is based on the assumption of the general development of humans as being driven by the attraction for rules, regularity, predictability, and order, on the one hand, and the need to reject these regularities by making new discoveries, on the other hand. As humans we are able to see and make exceptions through divergent thinking and action, and by elaborating further on these exceptions. With time, these findings can become part of our convergent rule-based agency. The repulsion-attraction tension (rejecting regularity by pursuing new discoveries - on the other hand, being attracted to regularity) results in qualitative non-linear shifts in humans' development; these shifts are epiphanies. According Kindler and Darras, the development of picture-making can be grounded in this repulsion-attraction tension and can be seen as familiar to Vygotsky's view on reproduction and creativity as the two basic drives in all human development (Vygotskij, 1995).

An alternative model

Kindler and Darras (1997) present five levels of artistic development in early childhood labeled iconicity 1-5. These levels in early childhood development show the biological point of departure the child has within each iconicity level, but give sociocultural influence the responsibility of developing the child from one iconicity level to the next. The model therefore incorporates the sociocultural conditions for the child's picture-making as a driving force in his or her artistic development. The importance of interaction when making pictures (seen as semiotic activity) and the multi-mediation of a pictorial narrative is emphasized; graphic production often is only one of the mediating means in a situation where graphic development occurs; the verbal narrative is often part of the mediation.

After going through iconicity levels 1-5, the child reaches the stage of initial imagery. The phenomena behind the concept of initial imagery are often found in the nine to twelve age-group but Kindler and Darras (1997: 35) do not use these terms as if they were age determined. On the contrary, they are very specific about not wanting to lose the flexibility of the model, showing that a woman of 82 years of age made drawings that could be characterized as initial imagery.

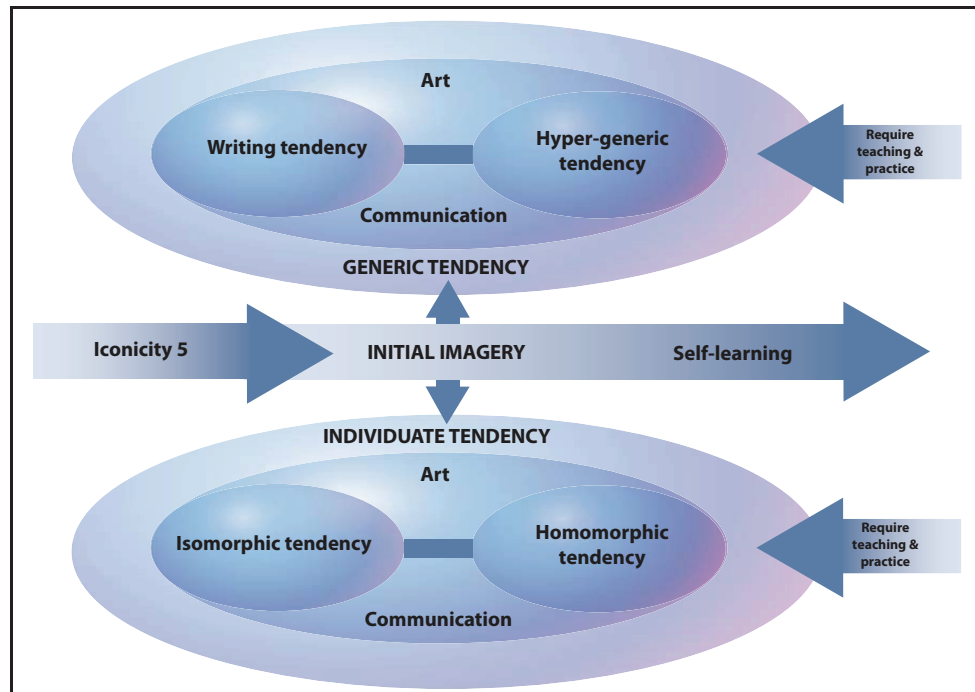


Figure 4: Development of pictorial imagery in adolescence and adulthood (Kindler & Darras, 1997: 38)

Initial imagery and isomorphic tendency

When children have arrived at iconicity 5, that is the level of the making of initial imagery, they can remain there through self-learning, according to Kindler and Darras (see Figure 4 above). The level of development materializes in the ability to make initial imagery, according to Kindler and Darras (1997: 35); it is the point where humans have a sufficient repertoire of skills in making images to satisfy their basic needs for pictorial representation. They explain initial imagery as a generic system of representation. The children then regard themselves as having a “good enough” common pictorial understanding. They often see themselves as recipients and not initiators on this common ground of visual communication. The ethos or discourse of the unique biologically determined gifted artist together with a lack of purposeful guided learning and practice leads, according to Kindler and Darras (1997: 37-42), to a stagnation in picture making, also known as the drawing crisis, prevailing over the making of initial imagery. For the child to develop from initial imagery it would need to be supplied with skills and knowledge that can develop and be defined in Kindler and Darras’ different

categories, writing tendencies, hyper-generic tendencies, isomorphic tendencies and homomorphic tendencies - presented in the model above (see Figure 4) and explained below.

To acquire skills that exceed the making of initial imagery, the child or young person can move up to “writing tendency”, close to the simple representation of pictorial production found in iconicity 5. Here we find pictorial representation that can either be labeled writing, art, or both, such as prehistoric cave paintings, Egyptian hieroglyphics, traffic signs, logos and the like. The common feature of signs in this category is a visually simplified resemblance between the object and the sign, where the interpretations and meanings are understood by the community. Writing tendencies are skills developed within the zone of proximal development (ZPD).

The hyper-generic tendency of pictorial production is explained by the ambition to create the perfect generic common visual ideal, such as the attempts made in ancient Greece to develop a formula for ideal proportions in the human body, represented by what we today call classical art. The laws of perfect hyper-generic representation are taught and practiced within the ZPD. Visually controlled drawing can find its place within the label of hyper-generic tendency.

According to Kindler and Darras (1997: 39), initial imagery can also develop towards individual tendencies within the ZPD. This territory consists of the isomorphic tendency and the homomorphic tendency. The later concept covers work where the artist’s emotions are valued and expressed without considering visual realism. The driving force is not the generic but the particular and the unique. Here we find, for example, the personal pictorial narrative, figurative or abstract, or both, such as the works of some expressionist artists or lay people. And the isomorphic tendency is defined as:

The ambition to seek correspondence between the real world and its pictorial representation leads to preoccupation with visual similarity and experimentation with various perspective systems as means to achieve the illusion to accurately account for three-dimensional objects within the constraints of a two-dimensional picture plane. (Kindler & Darras, 1997: 40)

This description of pictorial mediation includes VC drawings, realistic paintings, digital or ordinary photographs, but can also include sounds and gestures, often found in the multimedia world of representation in interactive computer games, music videos, and filmmaking. It can include highly elaborated strips and cartoons such as “Sandman” and animated films.

According to Kindler and Darras, these visual languages all develop in the zone of proximal development, which means that to be able to mediate through these pictorial languages, one must be taught how by a more competent other (see Figure 4, arrow on the

right, “require teaching and practice”). These four tendencies described by Kindler and Darras have many of the same functions and features as genres (see Bakhtin’s description of speech genres, page 34) and as Simmon’s (1992) approaches (see page 57).

The rules and routines characterizing initial imagery are recognizable in drawings made by children and young people in the nine to twelve age-group. Darras (2000) echoes Lave and Wenger (1991) and Bakhtin (1986) in identifying initial imagery as contextual and seeing it as a mix of voices in a dialogue with others:

For an individual, the production of signs is limited by the rules and routines of his or her semiotic system and repertoire (here the initial imagery). It is also limited by the context pressures and by interlocutory conditions. For the child, or the “lay” adult who draws, the receiver of the drawing as well as the context in which the production takes place are considered and incorporated in the drawing. Even when he or she plays alone with an imaginary partner, the child takes into account his or her hypothetical reactions. The initial imagery is part of a pluri-media network. Words, gestures, postures and mimics work at the same time to build the signs involved in the conversation and relationship. (Darras, 2000: 31)

In other words, Darras is talking about mediation, here pictorial conversations with others, where a sense of belonging, confirming and building relationships, present or not, can be one of the aims of the drawing-making. The children and adolescents are communicating with their environment, and are limited and challenged by context.

Thus, even if the informal VC drawings are what Darras (2000: 21) calls a “simile” copied from popular culture, they are often mediating something else, such as togetherness in interest, identity, and friendship, observed from an early age, in younger children’s drawing processes from kindergarten/preschool to older children’s drawing processes in informal contexts. In the making of similes from popular culture in these informal contexts, the mediated image can be constructed and narrated through multi-media, with talk, gestures, sounds, and verbal and visual instructions (Frisch, 2005; 2006; 2008; Lidén, 2000; Matthews, 2004; Thompson, 2002).

I will also bear Kindler and Darras’ holistic understanding in mind when I analyze the teaching in the formal arena. This multi-media aspect of teaching formal VC drawing can be seen when looking at the teacher’s graphic choices (choice of content), incorporating also his semiotic choices when interacting with the students; the way he uses verbal language, gestures, and means of assistance to develop the students’ drawing skills in their ZPDs; in other words, the manifestation of the teacher’s pedagogical content knowledge in visually controlled drawing (Shulman, 1986).

Research relevant to VC drawing

Wilson and Wilson seeing drawing as social pictorial culture

The history of research into children's drawing processes through sociocultural glasses begins with professors in art education Brent Wilson and Marjorie Wilson's (1977) ground breaking analysis of drawing processes in context. This brief but rich seven-page article in the journal *Art Education* was a turning point in the mainstream post-war understanding of children's drawing processes as expressions from within, framed by biologically determined intellectual limitations. Their research based on interviews of 147 high school and college students - with their drawings from childhood and onwards as a focus for the interviews - often simultaneously redrawing - shed light on the social aspect of the configurational signs children make; learning from each others' making of images and by configuring culturally significant icons often found in a children and youth oriented popular culture into drawings. The Wilsons' research has also focused on proving that some of the children's configurational signs or similes that have been explained by biologically determined intellectual limitations actually are socially and culturally determined traces, such as the breakout and disappearance of the biologically explained two-eyed profile (Wilson & Wilson, 1982b). The Wilsons looked through a substantial quantity of drawings collected by such pioneers as the German educator Georg Kerschensteiner (1905), the Austrian/American researcher Victor Lowenfeld (1947/1957) and the American preschool teacher and researcher Rhoda Kellogg (1970), and compared these databases of drawings with drawings collected cross-culturally in the early eighties, using simple pictorial registration and bean-counting as methods. Their findings show quite clearly the disappearance of the biologically explained phenomenon referred to by Lowenfeld, as late as in 1975 (Lowenfeld & Brittain, 1979). Hence, children's making of a two-eyed profile cannot be biologically determined; it must have been a cultural phenomenon, according to the Wilsons.

Collaborative drawing and graphic dialogue

Wilson (2007) uses the term collaborative drawing when he describes what is taking place when he and his grandchildren draw freely together, developing a graphic story in a graphic dialogue (Wilson & Wilson, 1982a); which is a concept used by the Wilsons to cover the process of drawing on the same drawing while developing a story. These concepts mirror the

possible dialogical aspect of drawing together as a positive experience for the child, and cover a drawing practice opposed to the hands-off Modernist Narrative.

Smith, Kerschensteiner, and Eng on visually controlled drawing

Smith (1983) discusses the findings presented in Kerschensteiner's (1905) study *Die entwicklung der zeichnerischen begabung* by analyzing the Norwegian pioneer Eng's (1959, first published in 1926, Smith (1983) refers to the English 1931 edition) interpretation of Kerschensteiner's findings. Eng's interpretations are important because they were later used as references, together with Kerschensteiner's findings, among others, (Michael & Morris, 1986) by Lowenfeld (1947/1957) in his research on children's drawing development. Kerschensteiner (1905: 15-36) undertook a study in German schools among children of various ages, asking them to draw a model in a profile turned to the left. A total of 360 of the 1124 pupils drew the head in full face, 22 drew the model with the head turned to the right and the rest of the children did what they were told and what they saw, and drew the model in profile from the left (Kerschensteiner, 1905: 34). Smith converts these figures into percentages; 66% of the children drew what they saw in front of them, the model in profile turned left. But Eng was probably so fascinated by the fact that one third of the children had non-observant behavior (Eng, 1926/1959; Smith, 1983) that she unwittingly discredited the observational basis for children making the simile of the model.

As Smith states; it is hard to believe that this convincing percentage of children drawing from observation was overlooked by Eng. Eng (1926/1959: 100-101) and others developed and posited the schemata theory as determinant for children's drawing processes. According to Eng, this phenomenon (the children drawing schemes determined by age/biological development and memory) is dominant until the age of nine and is present up until the age of 12. The conclusion at the time, from the thirties and stretching to the late seventies, has been that children could not and should not draw from observation (Smith, 1983). This conclusion is one of my references to what I have called the subordinate discourse of Wilson's (2004) Modernist Narrative in art education (see page 41).

Smith (1983; 1985) has also conducted inquiries in art classes with children seven to nine years of age. The children were given several options in art classes, one of them being VC drawing. Only on eight of 45 occasions did children choose not to draw from observation. Smith concludes by emphasizing the importance of the teacher's choice of model, and how the drawings ended up richer in detail than what is labeled "memory drawing". VC drawing, in

other words, can trigger and challenge children's curiosity for details on objects they are interested in.

Eng (1926/1959: 100-125) emphasized the flatness of children's drawings up until the age of 12. Smith (1983) has also observed this phenomenon, and describes how nine-year-old children solve the representation of room through shortening and overlapping, showing that the contours or shapes of the three-dimensional object are accurately drawn, but the light and shadow aspects of representing volume and depth are not present in her examples. She draws the conclusion that this is a skill and a technique (requiring the ability to make shades and the perception and knowledge of the physical laws of light and shadow) that has to be taught and practiced (Smith, 1983: 25). So the techniques for making the light and shadow aspect of representing volume and depth are seen by Smith (1983) as skills belonging in the child's ZPD. Smith echoes Kindler and Darras's (1997) statement that skills belonging within the concepts of isomorphic tendencies have to be taught and practiced to be internalized.

Drawing strategies and drawing goals

Chen's research on model drawing

Chen (1985) summarizes research done on model drawing focused on the effect the model has on children's representational (visually controlled) drawing mainly under three drawing conditions (see 1), 2), and 3) below). She refers to experimental studies (out of context performances and tests) with children/young people/adults from six to 20 years of age divided into five age-groups with 230 persons in each group. They are given the task of drawing geometrical three dimensional objects such as cubes and cylinders from 1) real-life solid three-dimensional objects, 2) from a photograph and 3) from a line drawing of the same object.

Her study shows that if children and adults, regardless of age, were asked to copy a photograph of a three-dimensional object, their drawings were usually more advanced than when drawing from a real-life model (more advanced here is to look more like the model). And the drawings using a line-drawing model were more advanced than the drawings where photographs were used as a model. Her study also suggests that children and adults do not always use the same pattern, or drawing strategy, when drawing from real-life (a three-dimensional object) than when drawing after a two-dimensional model.

She also made comparisons of memory drawings of cubes with drawings made with two-dimensional models; line-model drawings and photographs of cubes. Not surprisingly, the

two-dimensional visually controlled drawing was more similar to the model than the memory-controlled drawing. Even though results from clinical experimental research, these are findings that can be related to my inquiry, taking into account that the formal and informal context bounded goals and drawing strategies when working with visually controlled drawing, can possibly be linked to the use of the type of models.

Coates' research and reflections on visually controlled drawing

Coates (1984) writes an academic review of arguments for including VC drawing in the English national art curriculum, arguing that by not giving children in school these visual challenges there is a danger of impoverishing the young child's powers of imagination due to the lack of adequate visual stimulation and information. This contention was later supported by Pedersen's (1999) research (see below). Coates also emphasizes that this kind of visual information can only be acquired from observing and recording the real world. VC drawing is also a means for helping children perceive the world aesthetically by focusing on how things look; encouraging children to pay attention to visual qualities. The ability to draw from observation can also be regarded as an essential skill in a successful process of exploring other subjects, such as geography, history, mathematics, and natural science (Coates, 1984).

Coates (1984: 199-202) has also examined the dialogue between teacher and student as a mean of enhancing children's visual perception. He grouped the teacher's recorded utterances into five categories: social, motivational, descriptive, practical and aesthetic. While the two first categories are well represented in all teaching strategies, his findings show that to succeed as a teacher in VC drawing, the teacher must be able to use such descriptive statements as verbalizing what is seen (the model), practical statements (how to use the tools of drawing), and aesthetic statements (how to improve the drawing visually). In this inquiry, these categories of utterances are seen as related to Tharp and Gallimore's (1988) verbal means of assistance, specific to the teaching of art and crafts.

Köhler's findings - Pedersen's pictorial socialization and findings on creativity

In Scandinavia, Köhler's (1981) research focused mainly on content when collecting 1000 drawings from 600 children, defined as drawings made without interference from adults - what we can call children-initiated drawings or drawings made in informal contexts with peers. He asked the questions: What do the boys and girls draw? Who do they identify with and what visual language do they use? His conclusions supported some of Wilson and Wilson's (1977)

findings: pictures made by children often come from other pictures; they use pictures seen as significant from their visual cultural world as models.

But K hler viewed the cultural traces of children as plagiarism, their content being clich s from gender determined visual popular culture idealizing, beautifying, and escaping reality. The only good thing about children's trace-makings in informal contexts, according to K hler (1981: 13), was the children's willingness to learn to draw by using modeling and repeatedly drawing the similes until they mastered the drawing of these to perfection. This unintended finding is important for the pedagogy of art in formal and informal arenas.

Pedersen (1999, see page 299-312 in his thesis for an English summary) studied the boy Bo's formal and informal drawing processes from the age of two to sixteen and published his analysis in a doctoral theses. Supported by the earlier presented research done by Coates (1984) and Smith (1983), this study show how traces of visually controlled drawing can be described by the level of accuracy and details in the drawing.

As method, Pedersen also used the drawings collected over the years as a source to help his own, Bo's parents and Bo's memory while recollecting and recording the contexts the drawings were made in. Apart from confirming Wilson and Wilson's and K hler's findings (the use of other pictures to make pictures), he also introduced the concept of children's pictorial socialization (in Danish *b rns billedm essige socialisation*). He shows that the use of other culturally determined pictorial sources does not necessarily mean that the children are mechanically reproducing these, but that they also actively use these internalized similes to make their own compositions or drawings according to what they want to mediate. In other words, his inquiry shows that children adapt what is learned by transferring knowledge in drawing from one context to another and can use this acquired knowledge in individual expressions or in creative combinations and recombinations (Vygotskij, 1995). The child's ability to transfer skills and knowledge in drawing across contexts and situated tasks, and the creativeness in their own use of internalized similes acquired in VC drawing processes (internalized observations) is one of Pedersen's important findings.

Thompson on informal peer teaching/learning: Modeling and giving help to draw

Thompson (2002) gives an accurate and rich description of processes of peer learning from her observations in the preschool/kindergarten arena, where informal drawing processes are easier to detect than in a primary school setting. The children in this age-group are often less self-conscious when being observed, and children-initiated informal drawing processes have been

justified as pedagogy situated within these boundaries. Her descriptive narrative shows how children in preschools take it for granted that modeling has to be part of passing on the ability to construct an image from one peer to the next. Thompson confirms that modeling as a teaching/learning strategy is part of the preschool child's world, part of the child's learning culture, and part of the child's perspective when he or she wants to learn to draw. Thompson (2002: 133) also describes how the successful drawing of Ninja Turtles (cartoon figures and toys from popular culture) is assessed by the children according to how much the drawing resembles the original. She also interprets the preschool child's drawing processes as a search for inclusion in the group and connection with the other children. This copying process is regarded as the highest form of flattery:

Copying another child's drawing seems to be considered the highest form of flattery, accepted as a legitimate way of entering an activity in progress and declaring common cause with another child. (Thompson, 2002: 135)

Drawing for others on their drawing, when this seems functional, is also a well used teaching strategy among peers in preschool/kindergarten, as is the acceptance of the need to practice and perfect their learned skills in a critical, concentrated, intense process together with others. (Thompson, 2002: 136). In this inquiry, I will use the term *cooperative drawing* as a reference to this act of drawing on others' images as help in developing a simile, a "look-alike".

The Norwegian sociologist Lidén (2000) echoes some of Thompson's descriptions, and shows that these peer learning processes do not stop when the children move on to primary school, they continue to occur in the children's informal spaces. She undertook a major research project on urban contemporary childhood, looking at how children and young people in urban Norwegian communities today have moved in space and time from unattended outdoor activities most of the day to indoor supervised activities. They are in public arenas most of the time; first at school then indoors in the after-school daycare centers (in Norway called SFO). She also looked at how informal drawing practices merged with social interaction in a peer children's culture situated in after-school centers. One of her sources of information was the observation of a group of girls making a shoe fashion catalogue, role playing that they were designers, developing their story by changing their voices when working out a layout for the final product. The girls in the observed group also confirmed each other by making the same drawings in this self-governed space. The agency of developing a shoe catalogue became part of their serious play in practicing social functions. Making drawings of shoes was an

integrated part of the situation where the girls at the same time were shaping each others drawings and roles in the informal play situation.

Freeman and the beautiful

Freeman (2004: 360 – 365) supports Thompson's observations from preschool/kindergarten on recognition and repetition and discusses the determinants of a common sense notion of what beauty is. In a philosophical review referring to Plato's book no. 10, Republic (Plato, 1964), three areas are considered when looking at all art work: 1) the expertise in representation (the quality of the simile as a picture), 2) the manufacture (the quality of the craftsmanship) and 3) the usage. He backs up this philosophical reference through research showing a high correlation between what one finds meaningful and interesting (the usage) and the notion of what is beautiful. He also concludes, after conducting and referring to experiments where he confronted people with pictures and after challenging them to assess these pictures, that recognizability is often important when classifying pictures as beautiful.

For young people, beauty is regarded as a property of the picture, not the viewer's interpretation, according to Freeman and Sanger's (1995) findings. A picture of something ugly, like a car wreck, can not be a beautiful picture, even though it is a good representation. Kindler and Darras (1998) asked seven to fourteen year olds from Canada and France what a good drawing was. Their findings support Freeman's findings and show that the label "good pictures" is given to the ones showing what the child experiences as beautiful.

Freeman and Sanger's (1995) cross-cultural study shows that there is a shift in this view of the beautiful around the age of 11 to 14, from linking this attribute of the theme of the picture to the skills and enthusiasm of the narration by the artist (the quality of the craftsmanship). Children in this age-group mainly look at how the craftsmanship of pictorial representation is done when describing what a good drawing is. They change their explanations of what is beautiful from a picture-referent focus to a picture-artist-referent focus (Freeman & Sanger, 1995), not necessarily considering the viewer-picture relation as comprehensible or important. The subjective perspective, that is what personal feelings and personal history of the viewer add to the encounter between pictures and people, is not seen as part of the basis for judgments.

To conclude, from a child's perspective, according to Freeman (2004), and Freeman and Sanger (1995) a good drawing is well crafted and often depicts what is experienced as beautiful. These attributes are, according to the referred studies as experienced by the

common-sense aesthetic reasoning of children and young people: 1) object-oriented - they belong to the picture as themes, and later, 2) belonging to the artist as craftsmanship. Thus, admiring a picture is admiring the theme of the picture and later also admiring the craftsmanship and artistry put into the making of the picture.

Freeman's contribution grounds the understanding of *a drawing goal* in my study of both the informal and formal arena of VC drawing. Freeman points out that the educational challenge lies in considering the knowledge about these common-sense notions of beauty as a goal and a possible way of developing children's pictorial communication. Freeman then implies that educators can make these conditions part of curriculum planning in art education (Freeman, 2004: 374). This applies not only to the themes drawn but also to learning drawing strategies, techniques, and craftsmanship.

Goodnow's search for culture

Goodnow's curiosity about the very basic visual traces of what we can define as culture is described in a small but groundbreaking book (Goodnow, 1977).¹⁰ This book is part of a series of publications aiming at popularizing research on children's development and making the results accessible to a vast audience interested in human development. She asks such questions as: What is nature and what is culture in the process of trace-making? Under what conditions are drawings (or what she calls equivalentents) constructed, how and why?

By mainly observing preschool children she introduces a notation system that can be used to visually follow the sequence in which an image is made (see Figure 5 below).

10. This book is part of a series edited by theorists in the sociocultural tradition, Jerome Bruner, Michael Cole and Barbara Lloyd.

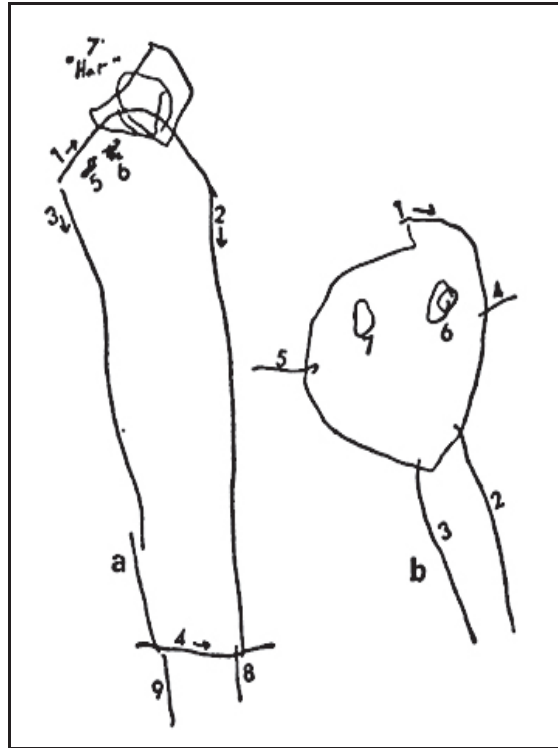


Figure 5: The notation system shows how one child's sequence changed over two weeks (Goodnow, 1977: 23), copyrights: Jacqueline Goodnow

She compares the direction of drawings made by young children before learning to write with the direction they use when drawing after being socialized into sign-making at school (making letters). She shows that the direction of the construction of drawings as narratives is often adjusted to the culturally determined progression of letters across the page as learned in the community, in school. In our culture this means left to right. Hence, the construction of the story or the drawing as narrative often follows the same direction as we read texts on a page. Handedness was the only variable challenging the direction learned in the community. Left-handed people, the “southpaws”, were more inclined to draw from right to left, comprising anywhere from five to ten percent of any population (Goodnow, 1977: 83-111).

She summarizes her findings into five main points: 1) Children economize when using graphic units. They repeat the graphic unit over and over and can adapt it for a diversity of mediating purposes. The same shape can have different meanings in different contexts. 2) Children are conservative when they make changes in the graphic unit. Often changes first occur on attributes, where they leave the core figure the same, for example changing clothing

or hairstyle on a human figure but leaving the construction of the body the same. There is, in other words, a reluctance to change the equivalent. Hence, there are always elements of repetitiveness in the process of succeeding in the making of an equivalent. 3) The parts of a drawing are related to each other and the drawing is constructed according to these relations. 4) Parts do not only relate to each other, they are constructed in specific sequences that are repeated. 5) Children's drawings are not only their own. These equivalents are made by a subject, an individual, but are also a product of the society of which the individual is a part. So similes are also not only sociocultural products as themes, but also products of the way they are made, as exemplified in the "left – to right" pictorial narration (Goodnow, 1977: 151-154). Goodnow is echoing Bakhtin (1986) here, showing that the drawing-making as process and visual utterance is rooted in the child and in the community.

Freeman's research on drawing strategies

Freeman's (1980) investigation of the drawing strategies children use (and on research done related to this focus), where his main concern was on what he labels freehand drawing (including both research on memory drawing and VC drawing), has made a major contribution to the knowledge pool in art education. He has introduced concepts or categories that can explain the term drawing strategy and that are functional in the art education community when the aim is to discuss and elaborate on specific phenomena that can occur when teaching visually controlled drawing. In Freeman's analysis of strategies of visual representation he provides a basis for understanding some of the phenomena that occur when children draw.

A strategy can be seen as the way the drawer thinks and acts consciously or reflexively when freehand drawing, but also when representing similes on paper using a model. The task of translating a three-dimensional object into a two-dimensional plane challenges the child to: 1) analyze the structure of the scene (as in a still-life) and 2) develop the constructive abilities that are needed to structure the picture according to what is viewed in the scene (Freeman, 1980: 210-225). Referring to Dubery and Willats (1972), he introduces five terms that can be used to describe the categories of the depiction of space. The orthographic projection (the object is flat and frontal without depth), the horizontal oblique projection (the object is seen from the front and the side), the vertical oblique projection (the object is seen from the front and the top), the oblique projection (the object is seen from the side, horizontally, and from the top) and linear perspective (to see the object from the viewer's fixed viewpoint ranging the size of the object according to lines from this fixed point of view). The oblique projection is the

most used among children and lay people when making initial imagery (Dubery & Willats, 1972; Kindler & Darras, 1997).

Another strategy much used in the nine to twelve age-group is the implementation of hidden line elimination (HLE) or overlapping. This is a successful representation of partial occlusion in the scene (like one apple partly hidden behind another). What is hidden in the scene is not shown in the picture, as opposed to transparency or interposition where one can see through objects with the boundary lines crossing each other; a strategy sometimes used by younger children (Freeman, 1980: 216). Segregation (the object behind is drawn as a whole apart from each other) is also often seen in drawings made by children.

Drawing objects and placing these objects in space gives the child new challenges. The concept of drawing systems is the set of rules and practices for projecting crucial aspects of the scene to the picture plane. There is then often a need for alignment cues: How to measure objects in relation to each other, how to use lines and perspective to place objects in a room on a surface or how to use shadow and light to place objects on a surface, and how to construct the drawing, to name a few. If specific drawing systems are used across contexts, they are the child's drawing strategy of representation at a given time, according to Freeman. Some specific strategies or techniques from the art world and the world of draughtsmanship are relevant when analyzing children's informal visually controlled teaching/learning drawing processes and the teaching of VC drawing. The term "strategies" is used by Freeman (1980) (and Chen, 1985) about the solutions used by humans when depicting objects in depth, room, and volume.

I am not using Freeman's categories to their full extent, even though they are presented, but his understanding of the term "strategies" is elaborated into the category *drawing strategies* in this inquiry to cover the unity of actions and thinking that are essential in formal VC drawing and in informal VC drawing processes to draw a two-dimensional simile of a two- or three-dimensional model.

The term drawing strategy then means the teacher's and child's more or less conscious planning and implementation of *how* to learn to make the drawing, the simile - *and* how the drawing process is structured - that is how the drawing is constructed. The simile could be repeated when the child has internalized the drawing and he or she can repeat it with or without looking at something or someone. The VC drawing process is then seen as an internalized observation. The VC drawing strategies the children use outside a teaching context are identified as part of their own teaching/learning drawing culture.

Simmons four modes of approaches in drawing

The modes of approaches, or specific ways of structuring, described below are placed and used in specific formal contexts for specific purposes and can therefore also be seen as part of a possible identification of various drawing genres (Bakhtin, 1986). Simmons's modes of approaches (Simmons, 1992) then can help define genres of drawing the seen, while at the same time describing functional strategies developed in context for how to make these different genres of VC drawings. This can enable me to describe similar and different methods/strategies (the how), and at the same time acknowledge and be aware of the context as part of the mediating driving force (that is, why a drawing is made) (Stokrocki, 2004).

At the same time I want to be able to see the various drawing strategies across the boundaries of context, alike or unlike each other. Hence, in a sense, one has to acknowledge context and identify the features of specific contexts to be able to see beyond contexts, or to see traces of transfers (see "Transfers" on page 35). Philosophical reflections (looking for the essence of things) can be one way of seeing drawing practices as mediation for different purposes in society, and through this, emphasizing the meaning of drawing (or the need to draw, why drawing) in different contexts. Simmons (1992: 110-119) presents four modes or approaches to drawing from art education history. She reflects on the philosophical aspects of each approach, looking for the essence or the underlying principles crucial to the teaching of each. Her different strategies, or modes of approach in teaching/learning to draw are labeled as follows: 1) the analytical approach, 2) the observational approach, 3) the experimental approach and 4) the graphic approach.

1) The analytical approach structures the observed object into basic archetype forms, such as squares, rectangles, triangles, or circles and traces these forms and relations between forms on paper as a scaffold for constructing the figure or the object. Geometry, working by putting parts together and rules of ideal proportions and abstractions, is the starting point of a drawing made in the analytical mode, progressively working on elaborating the details of the drawing. Implementing the universal laws of light and shadow from the science of physics could most likely also be part of the description of the analytical approach. The underlying philosophy is that by finding the ideal and universal, the unique details can gradually be worked into the drawing. The essence of this approach or strategy is also found in the community of classical art making, such as the still-life.

2) The observational approach emphasizes visual accuracy, contour drawing focusing on looking at the object. A representative for this approach, mode, or strategy is Betty

Edwards. She introduces “tricks” like negative space, up-side down drawing, and blind contour to “liberate” the brain from previous schemes of the object to be drawn to be able to draw accurately what is actually perceived (Edwards, 1987). Ruskin (1857/1971) is also an advocate for this approach. Hence, visual perception is trained to capture reality. This approach satisfies the need to map and understand how nature and things are formed and constructed. So apart from drawing the observed as a means for sharing observations with others, the mediating act of drawing can in itself bring knowledge to the drawer. The fields of natural sciences, design and architecture for example, rely on observation drawing as one means of collecting data and sharing ideas and knowledge. This approach is also the basis for observing nature in science.

3) Experimental drawing can also be labeled as intuitive drawing. Nicolaïdes (1941/1990) and Leonardo da Vinci (1956) are two advocates for this method of capturing the object seen, according to Simmons; by using sketches, drawn without analytical planning or thinking, (as would be the case in the analytical approach), involving not only seeing, but tactile sensation, imagination, and an open investigative search for inner construction before the form on paper will be grasped as correct. Active experimentation from the subject as a means for acquiring knowledge of the object then works both ways, the subject defines the objects, but the object also frames the subject’s experience, feelings, and knowledge about the object being drawn.

There is substantial documentation of how strategies of drawing a simile historically have been taught in a formal arena since the Renaissance with Alberti’s and Brunelleschi’s notations on how to give the illusion of three dimensions on a two-dimensional surface by using the laws of linear perspective (referred to in Leonardo da Vinci, 1956). Da Vinci worked from the hypothesis that no surface, no contours of anything three dimensional, for example the human body, could be properly depicted without having inquired and understood the construction of what was underneath. (da Vinci, 1956: 67). The processes behind Leonardo da Vinci’s many beautiful studies of the human bodily functions are examples of this inquisitive and innovative approach in the drawing of the seen (see for example pp. 102-119, and p. 146 and p. 149 in Zöllner, 2003).

Experimenting and searching by sketching over and over again, in the twilight between the subject’s experience and the shape of the object, failing and eventually succeeding, is the way to draw the “good” form of an object, according to Nicolaïdes (1941/1990). This specific method of visually controlled drawing, which encourages subjective impulses to interplay in

the drawing, is another example of experimental representational drawing supplied by Simmons (1992). According to Simmons, the method of using quick sketches in a seeing-drawing process can serve as tools for developing good designs. The essence of this approach as functional mediation can be situated in the community of art making, architecture, and design (Simmons, 1992: 116).

4) The graphic approach addresses the connection between language (or semiotics) and visual signs. Therefore, part of the teaching strategy would be to give the students a graphic vocabulary learned by heart that can be used as a visual language in different contexts. Chinese and Japanese brush painters practicing to perfection icons or similes for mountains, trees, flowers, dragons, monkeys, and birds, all similes loaded with sociocultural meaning beyond their representation, are examples of this approach. The essence of this approach would be to see the observed pictorial icons or similes as signs loaded with meaning. This graphic approach is functional when the mediation of the meaning of these signs is what we want. The public arena for this approach in our Western world today would be situated in the world of advertising, sign making and popular culture. The graphic approach, even though presented by Simmons as formal can also be a useful concept when looking at the informal drawing processes. When we look at these four approaches, they can be relevant to this analysis of VC drawing teaching/learning practices in both formal and informal contexts.

Summary

The teaching/learning concepts presented, have been grounded in and explained by the overarching frame of theoretical references on the ontological and epistemological level, such as Vygotsky's (1978; Vygotskij, 2004) emphasis on social space; the first arena for being and for human development in the ZPD, underpinning the importance of focusing on the social arrangements around teaching/learning VC drawing. Vygotsky's (Vygotskij, 1995) understanding of creativity is also of an epistemological nature. Wood, Bruner, and Ross's scaffolds (1976), Tharp and Gallimore's (1988) various means of assistance, Greeno's (1989) views and theories on situatedness and transfers, and Bakhtin's (1986) speech genres, inspiring the term drawing genres, are concepts relevant to the field of pedagogy in general.

The next theoretical references presented are then found closer to the field of formal and informal teaching/learning practice, defining and describing formal and informal teaching/learning (Scribner & Cole, 1972) and presenting research from these two arenas specifically related to VC drawing - with a specific focus on the strategy "learning by looking". Concepts

relevant to the teaching/learning of visually controlled drawing in the formal arena, and the teaching/learning processes among peers in the informal arena are then introduced. Analytical concepts such as the Wilson's graphic dialogue (2007), Kindler & Darras' (1997) initial imagery and isomorphic tendencies, Goodnow's (1977) sequence, Thompson (2002) and Lidén's (2000) studies of informal VC drawing among children from kindergarten to primary school with the detection of the use cooperative drawing, Coates' (1984) categories of supportive utterances in drawing classes, Freeman's (1980; 2004) studies together with Scribner & Cole (1972), inspiring the definition of drawing strategies and drawing goals, and Simmon's (1992) modes of drawing have all been theoretically significant when being in the process of going back and forth, between data and theory, to answer the research questions.

Most of the theory and research presented here is used in the analysis, but some will only be used as references, which means that they are studies substantiating the given point of view and theoretical basis for the inquiry undertaken (for example Köhler's research, see p. page 49). These references will not necessarily be used in the analysis but are presented here as underlying support for the coming analysis and comparison in Chapter 3.

In Chapter 3 a case of exemplary VC drawing teaching in the formal arena will be presented, including how the teacher communicates through means of assistance (Tharp & Gallimore, 1988) and his choices of specific-subject related content, labeled pedagogical content knowledge by Shulman (1986), also incorporating Wilson and Gudmundsdottir's (1987) bridging process. A case of visually controlled drawing processes among peers in the informal arena will be identified by describing and conceptualizing the teaching/learning processes found there. I am referring here to such phenomena as modeling in general as an informal learning strategy in drawing (here part of the definition of a drawing strategy), thoroughly documented by Scribner and Cole (1972) and Tharp & Gallimore (1988) also described as part of informal teaching/education. Specifically related to the informal case is also the modeling of peers' drawings and cultural images (Wilson & Wilson, 1977), the economy of learning; helping each other to learn to draw specific figures by modeling drawing behavior, drawing on each others' drawings and the use of sequence in the informal arena (Goodnow, 1977; Thompson, 2002).

My experiences as an amateur artist, an art teacher in primary school and an art education teacher in teachers' training college combined with my knowledge of sociocultural theory before beginning the research process guided the use of some of the theoretical references presented. But many of these references were found in process and were looked up

during the data analysis process after seeing phenomena in the data, in dialogue with the data, so to speak. The references presented have together with the data been the sources of inspiration for new concepts such as internalized observation and cooperative drawing. In Chapter 3, I have grouped such new concepts together with concepts from other theorists covering findings revealed during my analysis. How these categories came about will be described in the next main sequence of Chapter 2, “Methodological approaches”. These functional groups of concepts are covered by the seven main comparative dimensions (Warner, 1971), and are to be presented as part of the method for analyzing and comparing the formal and informal case. As the reader will see, these comparative dimensions are rooted in the theoretical references already presented. The methods chosen as fruitful to answer the research questions bedded within the theoretical grounds presented above will be explained and justified in the forthcoming text.

Methodological approaches

Science theory

Introduction

Theory guides scientific methods (Denzin & Lincoln, 1994/2005: 24; Erickson, 1986), in the sense that a basic understanding of the world, a theoretical paradigm and a choice of research focus gives direction to research processes. To simplify, one could say that content and purpose guide methods (Merriam, 1998). According to this understanding, method derives from a theoretical stand (Denzin & Lincoln, 1994/2005; Erickson, 1986). As an art education teacher, I see that qualitative research resembles in many ways artistic processes. In both areas of creation and production we can talk about learning to master some tools and techniques to communicate recognition and perhaps even new insight. I have used a modified qualitative comparative case-study approach to analyze, understand, present, and compare teaching and learning in visually controlled drawing from two contexts; the formal and the informal arena.

This sequence presents the research approach used; the qualitative case study approach defined as the method often involving multiple sources of data, defined boundaries, and a search for the insider’s perspective (Merriam, 1998). I will explain how the approach has been adapted to this specific comparative study, and most importantly, I will try to justify this choice of method as efficient for my three goals: to present an exemplary case of VC drawing

teaching, to present visually controlled informal learning (including teaching) drawing processes, and to compare these two arenas of drawing seen as socio-visual teaching and learning.

What are the features of qualitative methods as science?

One can not discuss the nature of science without discussing the nature of scientific methodology, that is, how we gain more scientific knowledge. The substance of science¹¹ and scientific methodology are therefore closely linked. What is science and what is a scientific approach? This question has been disputed in various research communities. Since Malinowski (1961) reported from his longitude observation conducted on his expedition to Papua New Guinea in the beginning of the last century, the “I”, or the researcher, trying to capture the participant’s perspective and interpret what is going on, has progressively been accepted as a scientific research approach (Denzin & Lincoln, 1994/2005; Erickson, 1986; Postholm, 2005). The awareness of the subjective, interpretive aspect in *all* research has increased over the years. Through critical debates within the various research fields, the topics being researched have been analyzed, and different possible perspectives and choices than the one presented have been proposed. These critical discussions have contributed to rendering the subjective factor visible in research processes. It is likely that we can find elements of the researcher’s subjectivity in all research performed by humans, from the choice of topic and what you choose to emphasize within a topic, to the interpretation of what to count, read, see, or hear. The subject’s interpretation of the field of research is then an important part of the scientific product. This is what is called the hermeneutic principle (Kalleberg, 2005: 412).

Interpretation in research

Theory is often the conscious and outspoken basis for analysis or interpretation in qualitative research, as is the development of theory by interpreting data. In the science of interpretation, apart from the choice of theory, the researcher’s subjectivity, the “I”, is a vital tool in the research process, according to Punch (1994: 84). Peshkin also (1988: 268) reflects on his own research process and his own subjectivity in his article *Virtuous subjectivity: In the participant-observer’s I’s* when he refers to a major investigation into three schools in a small American town, looking at their policies, what they teach, and each school’s impact on the

11. The word science is used in the sense of the Norwegian term *vitenskap* (Berulfsen & Berulfsen, 1989: 386).

local community. Peshkin discusses how difficult it was to be two “selves”, and borrows Freilich’s (1977) concepts; being one part human-participant observer and one part research-participant observer. He argues that it is difficult to be analytical about this division of the observer’s (or researcher’s) self. In the referred research process he acknowledged his personal dispositions, or his subjectivity. He clearly states how hard it was for him to look positively on the private Christian fundamentalist school in this small town. Being Jewish, he found the intolerance towards Jews that was taught there offensive. He reflects on how this affected his report and tries to formulate alternative values that could change how this particular school is depicted. At the same time he defends his subjectivity, his “self” or his “I”, in the formulation of the research report.

He goes as far as to say that it is virtuous. A research process as a way of looking at or viewing a situation or phenomenon is never value-free. He distinguishes between distortion of facts and personal dispositions and values, arguing that personal dispositions and values shape, that is give form to an investigation, while passion and prejudice distort facts and are therefore a threat to an honest value-based investigation. His main defense for outspoken subjectivity is:

The virtue of subjectivity is that it concentrates and focuses attention; and it produces an “it”. Since in doing so subjectivity has also narrowed down my perception and awareness, I need to discover what interpretations I slight or ignore in the course of exploring the ones I favour. (Peshkin, 1988: 278)

Thus he argues that his subjectivity is functional, it enhances the focus and produces an “it”, that is thoughts and interpretations as a text or a research report. He concludes by stating that by removing his subjectivity he does not become value-free, he only becomes an empty-headed researcher. But he also emphasizes the importance of self-awareness of what has shaped his research process, and to be explicit and transparent by presenting this self-awareness as part of the research report. This point of view is also emphasized by Punch (1994: 86) when he reflects on the particulars that shape the politics of research where the researcher’s personality is an important component. To conclude I will quote Peshkin (2000) when he states that interpretation, or the “I”, is with us all the way:

Interpretation has to do with the confluence of questions, images, and ideas that are the starting point of my inquiry, or the conceptualisation of my study.

Interpretation has to do with where I choose to look to see that something is going on with regards to my conceptualization or the situating of my study.

Interpretation has to do with the judgment of what to collect that provides documentation for what I think is going on, or the instantiating of my study and the further focusing of its field of inquiry.

Interpretation has to do with what to select for writing that establishes or affirms what I have identified that has gone on, or the composing of the elements of my research story.

Finally, interpretation has to do with a perspectival accounting for what I have learned.

(Peshkin, 2000: 9)

The “I” as a resource in research: one video and four analyses

To illustrate Peshkin’s point (Peshkin, 1991; Peshkin, 2000), the awareness of the subject forming the text, I am presenting an experiment done in the US by theorists from the field of pedagogy. In the fall of 1985, U.S. Secretary of Education William Bennett taught juniors at Banneker High School, Washington D.C., about an historic event in US history called the Federalist Paper no. 10. The Federalist Paper no. 10 is a letter or essay published in New York newspapers in 1787/1788 that argues for the ratification of the American Constitution. Resistance against formulations in this proposal was especially prominent in New York.

As an experiment, the Secretary of Education’s lesson was videotaped and given to four researchers to analyze from four different perspectives, using four different systems of analysis. The published results show how differently this event was seen by these four researchers. These papers were then discussed by Delamont (1986) and finally commented on by the teacher himself, the Secretary of Education William Bennett (1986) (the case is introduced by Morine-Dersheimer, 1986; and the papers are Eisner, 1986; Peterson, Kromrey, Miccerri & Smith, 1986; Shuy, 1986; Rosenshine, 1986). The published results are all accurate and of high quality from a scientific point of view. They all use the same data material, the videotape of the class. They each apply a clearly presented tool of analysis, all different, so one can follow each researcher’s thoughts in dialogue with the data through the analyses. The range of approaches has been carefully selected to display diversity. William Bennett (1986) stated with a sense of humor after reading the different analyses that in the end, the proof does not lie in the recipe but in the pudding. In other words, analytical tools are only analytical tools on paper if they do not help the field of practice. If they can not be implemented in practice they are just recipes, or words on a piece of paper. It is only by doing that one can relate to what works and what does not work, which was what he wanted to prove by taking the challenge of teaching American history and letting national television record it.

To conclude, I have presented/referred to the scientific experiment of viewing the same data material in four very different ways – all expressing part of what is going on. This kind of experiment, placing observers with different theoretical orientations in the same spot, is also referred to by Erickson (1986: 120), to show how different points of views, or “Is”, here the

choice of theoretical analytical perspectives, reflect what Peshkin calls the “it”, the content of the text produced.

The “I” in a sociocultural perspective

To elaborate on the researcher’s perception as a tool (Punch, 1994: 84), I have previously presented my “I”, the theoretical foundations, and I will reflect on what implications my “I” will have, and has had, on my research. I regard theory as a social construction, a tool developed socially by humankind to understand the world. The paradigm for viewing the world and how it develops is classified as post- modern constructivism presented earlier in this chapter. From a sociocultural perspective, what happens in social space between people, the “we”, is part of the “I”. As the “I” interacts with the “we”, the “I” can also construct and change the “we” (the inter-intra - intra-inter process as ongoing, Vygotsky, 1978; Vygotskij, 1995).

Gadamer (1960/1989) argues that we have “two-way meetings” between the researcher, the “I”, and the culturally produced text. Here I use the word text in its widest sense, as the data material collected by the researcher. Gadamer states that we “color” what we see so that the interplay or the movement between the interpreter and what is interpreted is circular, reciprocal, or mutual. The subject, the “I”, is not seen as an isolated element, looking at the object of research as a detached “objective” element.

This reciprocal coloring forms the product, the research report, but by trying to be consciously aware and outspoken about our subjectivity as researchers, we can analyze this coloring process and at least in some sense this will “objectify” the findings, according to Gadamer (1989). With the support of Freud’s theory on the subconscious, we can say that by being explicit about the “unconscious”, or in our context the tacit thoughts such as a basic major perspective or a basic theory, we could say that “the subjective factor” loses some of its power to influence if these pre-understandings or theories are clearly presented (Erickson, 1986; Miles & Huberman, 1994: 17; Postholm, 2005: 18). These procedures sharpen the awareness and consciousness of the researcher and the audience to whom he or she wants to presents his or her research.

The presence of theory, the researcher’s, or the “I”’s choice of perspective and interpretation is basic to the hermeneutic experience and often related to a qualitative research approach, the “I” is seen as a resource. By this I mean regarding the researcher’s tamed

subjectivity (Peshkin, 1991: 293) *and* the researched subject's views and feeling as data that also will have impact on the research results.

The participants' perspective

The grasping of the perspective of the agents in the field of research by formulating goals for the research process that include capturing the participant's perspective or the participant's "I" is the other main feature of qualitative research as science (Denzin & Lincoln, 2005; Postholm, 2005). This means being inductive in some way by being open to what is to be learned from the field or the text.

There could be a possible tension between these two "I"s, the researcher's and the participants'. There is an underlying aspect of respect for the field researched on embedded in qualitative research as an approach that can secure a dialogue between researcher and the researched, such as member checking (Creswell, 1998) to avoid interpretations that seem invasive or wrong to the participants.

The aim of this study is basically to look at formal and informal visually controlled drawing processes in context from a sociocultural perspective, and then compare these processes. In the data collection process I have focused on observing the teacher's actions and dialogues with his students in teaching processes in class, and I have tried to capture the child's perspective (or the insider's perspective in the informal case) through observation and interviews and by collecting children's informal drawings made in informal contexts. Hence, the data collection itself is a choice of data sources guided by my basic theoretical views and my personal values, or in the words of Peshkin, my "I", or my interpretation is at work when choosing "what to collect that provides documentation for what I think is going on" (Peshkin, 2000). I am presenting a report that summarizes "what lesson has been learned", which according to Peshkin is colored by my "I" or my interpretations.

The starting point of my inquiry is based on concepts within the sociocultural theoretical frame, this is my "I" and is hopefully part of my personal dispositions and values, and not prejudices and passions (Peshkin, 1988). But the bottom line will be: Does the choice of theory make sense to the field of practice? Is it a fruitful choice that will enable me to answer my research questions? Peshkin (2000: 9) concludes that there are no crucial tests or theories; we can not prove things to be right or wrong. He states that the only test is how useful and interesting your way of looking at a phenomenon is to your audience. The judges in my

study will be researchers, especially researchers in art education, students in teacher training, and teachers in the field of practice.

The case study as a research approach

Characteristics of case studies

The case-study approach is one of the most used research methods within the tradition of qualitative research (Creswell, 1998; Postholm, 2005; Stake, 1995; Yin, 1988), there are therefore several theoretical references to this approach. I will discuss the case study as method with reference to various theoretical sources on this approach and show how I can place my study within these various definitions. My aims are to present the analysis of an exemplary teacher's teaching practice in visually controlled drawing and an analysis of nine- to twelve-year-old children's informal teaching/learning in visually controlled drawing for the sake of comparing these two arenas. In other words, I will look at my field of research through different interpretations of what a case study is, and in doing so, I will try to justify my choice of method as a plausible means for answering my research questions. In research method theory I have found three different and also overlapping ways of using "the case": 1) Defining a case or cases, 2) defining a case study and 3) defining the case study approach.

The case: Boundaries in time and place

The word "case", according to Gudmundsdottir (1998b), is often used to cover an event, an example of something, or an issue. Hence, a case study can be a study of one or several events, issues or examples. Wilson and Gudmundsdottir (1987: 42) explain and define the case study as a research approach to be used when one is studying processes that are limited or bounded in time and place. In other words, we are talking about the inquiry of a natural course of an event or several happenings that have a beginning and an end. Hannula, Suoranta & Vadén (2005), Merriam (1998) and Ragin (1992) also describe cases in this way, such as: "...boundaries around places and time periods define cases" (Ragin, 1992: 5).

The case study: Transferability and representativeness

A case study is defined by Gerring (2004: 342) as an intensive study of a unit for the purpose of understanding a larger class of (similar) units; features in one unit can represent features of many other similar units. This aspect of representativeness in the choice of case and in

conducting a case study is, according to Gerring, crucial. To be able to answer the question “What is this a case of?” is, according to Wilson and Gudmundsdottir (1987), essential if we are to generalize the study. They refer to Shulman by stating that when the researcher chooses a place to study, a setting, he or she should already have in mind the claims for the research product to be in some sense representational within its field:

To claim that one is conducting a case study requires that an answer be provided to the question, “What is this a case of?” Not every description is a case study. It may be a description of a singular individual or event. To claim that something is a case study is to assert that it is a member of a family of individuals or events of which it is in some sense representative. (Shulman, 1981: 9)

Gerring, Wilson and Gudmundsdottir, and Shulman, all experienced researchers, state that as researchers we must know our field to be able to choose a representative case or cases. To be able to say that a case study is taking place, the case or cases has to be in some sense representative according to Shulman (1981). We must also know relevant theory connected to the specific field under investigation to choose a relevant case or cases. Thus, assessing the choice of the cases according to the purpose of the study is part of the trustworthiness of this inquiry as representative for an exemplary VC drawing teaching case and a case of informal visually controlled drawing.

A rich contextual description is one of the features of the case study, and this rich description can also be a foundation that helps the reader to understand the study. We are then talking about what Stake calls naturalistic generalization. He explains this term as follows:

Naturalistic generalizations are conclusions arrived at through personal engagement in life's affairs or by vicarious experience so well constructed that the persons feel it has happened to themselves. (Stake, 1995: 85)

Stake (1995) is referring to the researcher’s ability to describe, explain, and communicate the case study so the interested readers can recognize the described. It creates a ground for a generalization that has as its overarching goal the creation of recognition, identification, and comprehension, according to Stake. If the reader of the report can conclude by saying “yes, that's how it is,” the reader is generalizing from the study to him or herself, that is to his or her own experience. The case study has then the potential of being experienced as a representative case.

My choice of cases is based on the purpose of the study and my own experience as a drawer, and as an art teacher for many years, but also on my experience of what a good drawing teacher is as an art student, and as an amateur artist especially interested in drawing. My knowledge of earlier studies undertaken within the academic community especially

focused on exemplary teaching and children’s informal learning processes in drawing have also been useful and contributed to my choice of cases.

The case and the case study: A variety of emphasis

The case study approach involves the study of cases. Ragin and Becker (1992) have written and edited a comprehensive collection of articles, where the authors discuss and examine the case study from various angles, and where they point out how difficult it is to precisely understand the term case study. One way of possibly helping to clarify this issue is to use Ragin’s model presented in Ragin and Becker (1992):

Understanding of cases	Case conceptions: Specific	General
As empirical units	1. Cases are found (The case (or cases) is described within its boundaries around places and time periods, the context is important. This category will include studies of singular events, my summary).	2. Cases are objects (The case (or cases) is the object of inquiry and seen as representative of similar cases. They can be used to inquire about a specific phenomenon in various cases, my summary)
As theoretical constructs	3. Cases are made (The case (or cases) is used and presented to develop theory, my summary)	4. Cases are conventions The case (or cases) is an academic construct, made by the academic community to illustrate theory, my summary)

Figure 6: : Ragin’s model and concepts of the varieties in motivation for choosing the case-study approach (Ragin & Becker, 1992: 9). A similar model is also shown in Andersen (1997: 127)

To summarize the model presented above, we see that Ragin discriminates between the levels of case study categories (as empirical units and as theoretical constructs) by using the motivation for the study as explanatory for the different case concepts. A “real life case” is found to be understood and to develop theory (1 and 2), or a chosen theory is comprehended and illustrated through a case that also could be a fictive case (3 and 4). If we take this model as a starting point, we can see that other theorists have explained the case study as combinations and variations of the four concepts presented in the model above that again create other terms.

The term “collective case study” (Stake, 1995) is a concept that covers the use of several cases to shed light on a phenomenon. This means that the researcher uses an adequate sample of cases to represent the issue to be studied, and that among the cases there are

variations that reveal “the broader picture”. Another aim could be to look for similarities. Ragin’s concept no. 2 can be recognized here.

“Intrinsic case” is a term used by Stake (1995) and Merriam (1988; 1998) to describe the unique, marginal, and interesting case that could be covered by Ragin’s concept no. 1. The “Instrumental case” (Stake, 1995) encompasses the concept of choosing the case or cases to illustrate the theme of the study, which means that the case or cases are chosen to augment the understanding of the phenomenon being studied *and* are chosen as instruments for other purposes; here we can recognize Ragin’s concept no. 3. The term “Composite cases” (Gudmundsdottir, 2003) comprises fictional, invented cases composed for use in an academic debate to develop theory, and here we can find similarities to Ragin’s concept no. 4.

Andersen (1997) uses the terms non-theoretical (my translation) and theoretical case studies. The core of the non-theoretical case study is, according to Andersen, that you as a researcher seek an understanding or an explanation of the phenomenon in the case itself, which means that you do not choose this approach to confirm or develop existing theory. The understanding of the term “intrinsic” case can be recognized, as can Ragin’s concept no. 1. The intrinsic case is chosen because it is in itself interesting. The participants’ contributions are a major part of the study. Participatory observation is often a means to become part of and understand from inside the complex systems under investigation. The researcher then lets the case talk through him or her. Andersen (1997) challenges this possible non-theoretical case-study approach, as he maintains that the researcher will always focus on certain parts of the case and in that sense have a conscious or unconscious value-oriented theoretical or political agenda. The “pure” non-theoretical case study is an illusion according to Andersen (1997: 86).

The theoretical case-study is a study that aims to collect and analyze data with theory development as a goal, including interpreting and analyzing data by using theory. Through these processes the researcher is able to deepen the understanding of the chosen theoretical framework and possibly develop this chosen theoretical framework. The researcher is thus clearly aware of his or her theoretical point of departure. Theory and the cases are chosen because of the purpose of the study and the results can then be assessed from this theoretical point of view.

The case study used to develop theory out of a single case or to test the relevance of existing theory is called the theory-generating single case study (Andersen, 1997, my translation). As we are dealing with an approach that requires a heavy theoretical contribution

from the researcher, we are dealing with an inquiry created by the theoretically empowered researcher, and here we can recognize Ragin's concept no. 3.

A major aim of my case study is to develop theory related to classroom practice, resting on a chosen theoretical view point and existing theory in the field of drawing teaching and learning. So in this sense my study is what Andersen (1997) would call a theoretical case study. He also argues, as mentioned above, that all case studies are theoretically constructed, which means studies based on theory and/or undertaken to develop theory. One could ask why we need all these terms or concepts. Ragin justifies the conceptual map (Figure 6, page 69) by stating that these categories or concepts help researchers to be aware of what concepts or research tools they are using at any point in time. Ragin (1992: 11) also state that most researchers use several research tools defined by these concepts within one study, as I am doing here.

To conclude, there are several understandings within the academic field of what a case study is. My choice of the case study so far, would be embedded in the presented theory above: 1) Both the formal and informal case can be defined within the boundaries of time of approximately an academic year of teaching and drawing and within a place of a purposeful geographical site 2) They are theory-generating single cases. 3) They are instrumental cases because they have been chosen and analyzed for the sake of comparing. 4) They are seen as a case of exemplary formal VC drawing teaching and as a case of informal visually controlled drawing and can as such be representative cases of exemplary VC drawing teaching and informal visually controlled drawing teaching/learning among nine- to twelve-year-olds.¹²

What are these cases representing? To be able to assess their possible representativeness I need to answer the question "What are these cases of?" according to Wilson & Gudmundsdottir (1987). So far, they are one case of formal VC drawing teaching and one case of informal VC drawing learning. Or to be more correct, "What is this qualitative comparative case study, a study of?". This is a qualitative comparative case study of formal and informal visually controlled drawing teaching/learning processes.

The case-study approach: Multiple data sources

The use of multiple data sources characterizes the case-study approach as method of investigation, according to Creswell (1998), Merriam (1998) and Postholm (2005). A case study, using the case-study approach (Postholm, 2005, the word used for approach in

12.The representativeness of my choice of cases is discussed in more detail on page 87.

Norwegian is *tilnærning*), is a tool for gaining a deeper understanding of the phenomena under investigation, and how different contextual factors in the study are linked together. The use of method-triangulation and/or data triangulation are ways of securing the descriptions and the analysis of the cases (Merriam, 1998). In this inquiry, single and group interviews, observations, including observations of redrawings, a drawing database, and questionnaires are data sources used to create the ground for the qualitative analyses of both cases and for comparing the two.

The interview as a source of data

It is said that a majority of social science researchers obtain their information, their data, through the interview (Brenner, 1981: 115; Briggs, 1986: 1). According to Stake (1995: 121) the interview is the most used method in case studies when looking for the insider's perspective. But to this it must be added that the interview is often used in combination with other methods, such as observation (Postholm, 2005). The quality of the interview together with other confirming data sources is therefore important in the process of securing the credibility of the data used in inquiries (Mertens, 1998: 181, 297, 299). In other words, can we trust the data the interviews give us, data which will be in focus for interpretations, triangulation with other data sources and analyses, and which in the end will lead to our conclusions?

From a constructivist point of view, the interview is seen as a mutual construct between the interviewer and the interviewee. The interview as a neutral tool for collecting data detached from what Buber (1967: 7-87) called "the between" is an illusion, according to this point of view. Weber explained Buber's term "the between" as follows:

It is through the seeing of that which is neither only you nor only I but is rather our between that we learn about each other. (Weber, 1986: 68)

The open-ended questions are not neutral according to Weber; they will never be totally free of the interviewer's will or opinion. The questions asked will always have a certain direction (Weber, 1986: 68). According to Bakhtin (1986) questions and answers are part of a chain of utterances that are connected and that color each other, incorporate each other's content and give each other form. Bearing this in mind, we can not talk about a data collection process free of the researcher's impact. The researcher is posing questions from a background that is his or her own, permeated with his or her life experience, professional experience and all the theory he or she has read and acknowledged. The questions are not "objective" questions, but part of

the basic theoretical terms for the inquiry. They are investigation tools that will give us results that are dependent on the researcher's ethical standard, using the techniques available to present the data within the theoretical framework in which the investigation is conducted. The researcher has to be aware of his theoretical starting point, but also has to be able to articulate this point of view so that it is clear to others who want to follow his or her research process. In other words, the researcher has to be conscious of him or herself as a professional in the research process that includes collecting data through the use of interviews.

The semi-structured interview and group interviews

The teacher was interviewed about his aims, reflections and experiences as a teacher in visually controlled drawing in the formal arena. The informal drawings indicating a process of working on making a visually controlled drawing (for a thorough presentation of the use of drawings see page 80) were then used as basic material to inquire about the insider's perspective on learning and teaching VC drawing informally among the children. At the same time I verified my assumptions about the visually controlled drawing process.

For this purpose, the semi-structured interview (Fontana & Frey, 2000; Stake, 1995) was used. The observations, the drawings, and the interviews have generated the documentational resources (Erickson, 1986) to be used as data in the informal case. The aim of the study is then to use the documentational resources from the formal and informal arena as data in a sociocultural analysis and in a comparison.

First, the teacher and the students in class were observed. My focus was then on the teacher and his teaching. After observing the teacher in class, I interviewed him with a loose schedule of questions as starters, used to ensure that the conversation, or the semi-structured interview covered the main issues of my research (Powney & Watts, 1987: 100-106, see interview-guide Appendix 2). This being a qualitative approach, the aim was to capture the exemplary teacher views and perspective on formal visually controlled drawing teaching, the semi-structuredness was necessary. The loose schedule of wide questions also ensured that some of the same issues were raised when I interviewed the children/students.

I then gathered the informal drawings seen as VC drawings before I commenced the interviews with the children/students. Interviewing each one of the children who had handed in informal drawings was not an option due to time constraints, and as I see it, also not necessary. The aim of the study is to look into and describe the essence of informal visually controlled drawing as socio-visual learning/teaching processes compared to formal visually controlled

drawing teaching. The informal drawings that clearly showed signs of visually controlled drawing processes were picked out and grouped according to themes (for criteria see page 82). I was also looking for 1) drawings that could be representative, that is phenomenon often occurring, 2) unique drawings to show diversity, to be able to describe as much of “the informal VC drawing scene” as possible and 3) drawings of special interest in a comparison with formal VC drawings.

The children who made these presumably visually controlled informal drawings with similar themes were grouped together and interviewed in semi-structured group interviews. Part of the interview was to confirm or invalidate my presumptions about the visually controlled drawing process. They were grouped to save time but also to ensure a free discussion around their development of the similar themes as drawings. I could also then see and ask who had been models for whom.

The fact that I needed them much more than they needed me made me choose an appropriate empty classroom at school during school hours as the informal VC drawing group-interview venue. It was less demanding to take about half an hour of their school time than asking them to meet me after school. They were placed in a circle, the group interview opened with them stating their names for the record on videotape and identifying their drawings.¹³ My strategy and aims for the interviews were to find out how - including with whom, where and sometimes why the drawings were made. According to Mertens (1998: 321) the “Why” question can stop an interview and be experienced as invasive. The why question was not emphasized but registered when it came up as a natural part of the conversation.¹⁴

My comparison is mainly focused on visually controlled drawing processes in two arenas. I chose to gather informal drawings as a starting point to be triangulated with interviews, observations on video of redrawing processes, questionnaires and observations of informal VC drawing in the formal setting. By gathering informal drawings that were already made and thus established by the children as something worth drawing in their contexts, I have possible similes that have been and are still likely to be of meaning to the drawers when beginning the interviews of the children.

My main challenge methodologically was to catch contextual processes without being capable of being present in the natural setting so important to the task being learned/taught. Some of the children had problems remembering how, where and from whom (or from what)

13. For more on the videotaping procedures, see page 79.

14. The why question was later the subject of a questionnaire, see page 83, and Appendix 8.

they learned to draw their similes, but most of the children, as the interviews show, have a detailed narrative about the teaching/learning history, that could indicate accuracy in remembering the drawing scene. By using the drawings as a reference (the drawings being in front of the children while interviewing) and grouping the drawings in themes, and grouping the children in interviews accordingly, the social aspect of the processes might also be recovered. When being confronted with children drawing the same theme in a small class in a small school on a small island it is likely that the children also interact socially as friends and siblings in their informal space where informal drawing is taking place.

But there is a danger of a lack of accuracy in the recovery compared with the observations in natural settings. Time can blur events and being interviewed can color the memories of what actually happened when the drawings were made. In groups, children can help each other remember, but also influence each other. As part of the verifying process, the interviews around the redrawings of the informal drawings can be supported with other research within the field, such as Wilson and Wilson (1977), Lidén (2000), and Thompson (2002) (see page 46 and onwards to page 59). Other documental sources used for triangulation purposes to verify the findings based on the interviews are the observations of informal VC drawing processes in class.

My views on VC drawing in the interviews

I decided before interviewing the children that I would express my subjectivity in the interview process by talking positively about their informal VC drawings as a counterpart to The Modernist Narrative on VC drawing so often found on the formal arena in Norway (Nielsen, 2000). I assumed that it was likely that to the children being interviewed, I represented the formal arena.

In traditional structured interview technique theory this is not recommended (Fontana & Frey, 1998: 52). This was done to make the children open up more and understand that I was there to inquire about something I thought was a good thing. As my inquiry is based on a constructivist understanding, I used interview techniques that have been developed according to this understanding (Fontana & Frey, 1998: 56-66; Fontana & Frey, 2005: 695-727; Holstein & Gubrium, 1995). My experience as an art teacher, my basic theoretical views, and my creativity, or lack thereof, color the interviews. Looking over the interviews, I coded and categorized the data framed by the research questions with a view to answering them. The data from the interviews can be seen as several utterances (Bakhtin, 1986) or multi-voiced,

including my own. But there are also voices in the utterances from others that gave me new insight, even though I am one party, or one voice, within these chains of utterances.

The interview and the child's perspective: ethical reflections

The child's perspective as a phenomenon and as a concept has often been discussed in Scandinavia, not only in research but in pedagogy in general as a principle guiding political decision makers in the field of public education. "The child's perspective" is connected to a new way of looking at children and children's rights, it is a new way of emphasizing the rights of the child to be seen and heard. The children's perspective, that is, their views on their own situation, their experiences, and their knowledge, should be valued, protected, and actively taken into consideration in matters that concern children. Viewing the child as a participant should affect the research strategies, according to Tiller (1991) and Thomas and O'Kane (1998). Tiller explains "the child's perspective" as what the world looks like to the child, what he or she sees, hears, feels, and experiences. The child is the main person; he or she has the main role, and if we explain the child's perspective as Tiller does, we have to use methods in the research process that reflect this point of view.

According to Stake (1995: 121) the interview is the most used research tool to catch "the others'" perspective. In interviews where inquiry questions and feedback are essential tools the child's perspective has to guide the way we use these tools, according to Tiller. The child helps the researcher by sharing his or her thoughts, knowledge, and experiences. According to Andersson (1998) the children are often more sensitive to what is going on in the interview situation than adults through saying what they think is expected of them by adults. I was aware of this possible sensitivity in interaction between adult and child, or more correctly, between an adult professional researcher and a child/children participant(s). But children also often have a tendency to be honest, they do not "cover up" the less pleasant sides of what they experience. This can also be an ethical challenge if the interview uncover matters that require an adult's responsible and protective action. There was no sign of such needs of action in the group interviews focusing on visually controlled drawing processes. The awareness of the power relation between the adult researcher and the child participant made me encourage them to talk about their VC drawing processes by carefully but clearly expressing positive sentiments about VC drawing, contrasting The Modernist Narrative.

Active listening

As an interview and conversation technique Gordon's (1979: 50-77) concept of *active listening* has been useful when talking to the children in groups, in pairs or alone. Active listening is described as the use of mirroring; repeating what is said to encourage further conversation on a topic, and the use of "I" - communication; the description of how the teacher/interviewer understands a statement before answering or continuing the conversation. The use of active listening is not a trick to be pulled out when needed but it is a method and a sign of a student/child-oriented view from the teacher's side - a sign of how he or she sees him or herself - a professional who should also be there listening to the student and acknowledging listening as crucial to the students' learning. This part of my professional teacher's training experience was useful to have as an underpinning when taking the role as an interviewer, conducting the semi-structured interviews, and looking for the children's perspective.

Observation

Observation is a method used to look for the essence of a phenomenon, or to find patterns of behavior in cultures and individuals (Adler & Adler, 1994; Erickson, 1986; Postholm, 2005), and was therefore chosen to look for the main features or the essence in a case of exemplary VC drawing teaching, and for catching the essence of informal VC drawing learning processes when they occurred on the formal arena.

Observing is to be present as an "I" or an "eye" (Gudmundsdottir, 1998a; Merriam, 1998: 153; Peshkin, 2000; Punch, 1994) in a classroom where everyday life evolves, using all the senses, videotaping and noting incidents that are seen as essential for explaining the phenomenon then and there. Observing is also to choose situations to technically record more randomly what might be intriguing and interesting to the focus of the inquiry without necessarily being able to see these possible implications then and there, on site. There is a deductive and inductive side to observation; on the one hand, looking for confirmation of temporary hypotheses or assumptions and on the other, seeking the unknown and unexplained and to make sense of this (Postholm, 2005: 57). These videotaped recordings, that visually capture the actions of drawing and at the same time recording verbal and non-verbal social interaction, are to be reviewed over and over for analysis.

As observer I chose the role of the passive participant (Spradley, 1980) or what Adler and Adler (1994) label the peripheral-member-researcher because I wanted to observe the

teacher in interaction with his students closely enough to establish the insider's perspective, without interfering in the core performance to be described. My focus was the teacher and his everyday teaching performance which involved 1) how he interacted with his students verbally and non-verbally, 2) his emphasis and choices within the subject of drawing in action ("played out" in real life, not only spoken of in interviews), 3) the arrangement of the social and physical environment (the group tables, the classroom), and the choice of drawing tools. All together these three foci helped me answer my first research question.

I also observed while interviewing the children about their informal drawing processes with the second research question in mind. These interviews (often group interviews) were videotaped (not just audiotaped with a minidisc-recorder) because I was looking for the nuances in body language while talking and for specific visual features in the reconstructed drawing processes interesting to the focus of the inquiry.

Angrosino (2005) questions Adler and Adler's (1994) concept of levels of involvement and "objectivity" as an observer, referred to above. The peripheral-member-researcher is a non-involved, detached, passive observer, registering with camera and writing down what is going on. The ideal is then to be as objective and un-involved as possible to obtain an overview of what is happening - as if the researcher was not there. From a post-modernist point of view, according to Angrosino (2005: 734), observation can be defined as context for interaction among those involved in the research collaboration, where the participants negotiate their roles as the observer and the observed and acknowledge their mutual coloring of the scene, or arena of observation. I rely on Angrosino's understanding of observation because I experienced the observation of the teacher's VC drawing classes as a collaboration. Being an art education teacher, I know fairly well what can be expected as exemplary teaching, and I bring into the arena an enthusiasm for teaching drawing. In other words, I find it worthwhile observing. The teacher in focus, on the other hand, wants to show me how he teaches. But there are limits to what can be "mis-en-scene" for the sake of being observed. For example, competence in the subject can be detected, and is not easily "faked". The children's reactions to the teacher and their behavior in general are also good indicators of what they are used to. They seemed to be used to the teacher behaving and teaching the way he did over the academic year I was there. Time or presence over a longer period is, according to Creswell (1998), a good way of getting to know the field of research. Here, this involved the observation of an exemplary teacher's way of communicating with his students when teaching visually controlled drawing in a natural formal setting (the classroom called "the art attic"), where the teacher does what he

usually does regarding his approach to the subject VC drawing and his dialogue with his students over a time span of one academic year.

Recording data with a video camera

While observing in class and during the interviews I used a hand-held videocamera, type SONY DCR-TRV11E mini DV camera. The main and basic sources of data in this inquiry are the videotapes together with the formal and informal original drawings (on paper, not digitalized) used in the qualitative analysis. In class, I used a tripod at first, but soon changed this to hand-held camera. I saw the need to be able to move carefully around in the background, using the camera zoom to not disturb the subjects when there was a need to get close to interesting things happening between teacher and student - and between students. I did not videotape all the time I was present. The videotaping was guided sometimes by random choice, to be able to capture the not foreseen, and sometimes by relevance to the inquiry, for example, when the teacher explained how to draw to a student, and drew on the student's drawings.

All together there are 11 hours and 30 minutes of recordings transcribed by a professional transcriber and myself, organized in 12 folders (including 1 hour audiorecording of participant interviews on their views on similarities and differences, recorded on a minidisc, see Appendix 3, page 19, overview of data). I made sure that I had the teacher's introductions and closures of topics on tape, a lot of material on the interactions between teacher and student, and some between students. I used the microphone attached to the video-camera as a technical device to record sound. This functioned fairly well because I was at times moving around as careful as possible, trying not to disturb, and could point the camera with the microphone towards the scene of interest.

While interviewing the children about informal drawing processes, the hand-held camera was used in the same way. I could focus on what I regarded as important, and what they expressed as important when they were redrawing. I talked into the microphone, naming the children being interviewed on tape for the record, and made sure that my own comments were recorded when I found this necessary, not always being able to make notes. Still, observation notes were made as a substitute and a supplement to the video recordings (see Appendix 3, overview of data).

I considered having one microphone attached to the teacher when observing in class. But having one source of sound, the microphone attached to the video recorder, made the

transcription process easier; I did not have to coordinate several main basic data sources taken from the same scene. But the data does consist of recordings where the sound is not clear, and this is marked in the transcriptions (more on transcribing on page 97). Other experienced researchers warned me not to handle too much data, so the question was, when and what is “enough”? I looked through the recordings that I made at the end of each day in the field to see what I had and what I might lack, and after one year I saw that the videotaped material I had at the end of 2004/2005 was enough to start the process of structuring the answers to my research questions.

All the videos, formal and informal, were digitalized on CD/DVDs and also put on my computer as digital video files. This made it easy to go back and forth from transcription to video recordings looking for details not found in the transcriptions, such as who is sitting beside whom, how drawings are made and what they looked like. I also put the observations and interviews as sound-tracks on my iPod so that I could play the recorded sequences whenever I found time to reflect upon the issues being investigated and to possibly catch all the nuances of what was said, and sometimes difficult to hear at first.

Creating visual and/or artistic representation through drawing can be seen as tacit knowledge (Danbolt, 1992). In my experience from twelve years in the field of art education at the college level, I have noticed that it is not that there are no words to describe what has happened, but often students are not asked to use words to describe what they have done. That is why it was important to also use the video-recordings as a tool for reflection when I wanted to obtain more data on the drawing processes, as seen in Chapter 3, Illustration 11, page 182, where the video is replayed for the child during the interview, to give the possibility of reflecting and commenting.

The drawings as part of the database

A collection of drawings as the only source of data has been used by researchers in the search for the many facets of pedagogy around children’s drawing development (for example by Kellogg, 1971; and by Lowenfeld, 1947/1957). In this inquiry this is one of multiple sources of data; observation notes, the transcriptions of the video recordings (observations and interviews), the drawings and the questionnaires.

The first day I started to observe in class in the fall of 2004 I videotaped the drawings made in the three first visually-controlled-drawing classes this day (still-life with fruit). After looking through my recordings that day I found that it would be technically difficult and

inaccurate (pictures made from video-tapes tend to be blurry) to freeze the frames in the video-recordings and use these as the sole documentation of the finished drawings. I then decided I needed the drawings systematized as real objects, on paper, not only on tape. The next day of observation of the visually controlled drawing teaching in class, I had to ask the students to hand in their still-life (VC) drawings. It was a lot to ask, because some of the students wanted to keep the results of their hard work. I then promised the students that I would make an exhibit of their digitalized drawings on the internet so they could have access to their drawings. I first considered using Gallery2 as a web publishing tool, but because it lacked a search functionality, the digital photographs of the drawings were finally published on the web using Coppermine Photo Gallery. The teacher could also then have a reference to the results of his teaching by looking up the digitalized drawing database. This was/is a way to give something back for their collaboration. The drawing database is *The Vega files*; using the correct name of the location but securing anonymity of the persons involved. This aspect is thoroughly presented and discussed in the sequence *The question of anonymity*, page 109 in this chapter.

The formal drawings were put in numbered folders grouped according to the VC drawing class, with the name of the student, gender, date, class, assignment/title, media (size of paper and type of drawing device) and when possible, who they were sitting together with while drawing, written on each drawing.¹⁵ The drawings were photographed with a Pentax *ist DS digital SLR camera and a 50 mm lens on a tripod from a distance of about one meter. The digital folders reflect the original paper folders with the same information, in addition they now have a file name given by the camera (Imgp. + a number, for example Imgp. 1727) used in the report as a reference to each drawing. Apart from being an exhibit for the students and their parents, the formal drawings are now an exhibit that makes one of the major sources of data transparent, mainly open to easy access for an overview of the results of the teaching regarded in this inquiry as exemplary. But they have also been digitalized for one of the major aims for this inquiry, the comparison. The digitalization of the drawings was crucial to the outcome of the inquiry, it made it possible to obtain an overview and at the same time manage to go into details when comparing the formal and informal drawings.

The students were asked in class in September 2004 to collect drawings they had made informally, and these were handed in up until February 2005. I asked for *all* their informal drawing, not only their VC drawings, for the purpose of identifying approximately how much VC drawing was going on. When I was at Vega in connection with the inquiry most of them

¹⁵Recovery was accomplished by comparing the videotapes with the drawings when possible.

were given to me, but the teachers also collected some and sent them to me by mail. Most of these drawings had the drawer's name on them, only 9 were unidentified. All the drawings handed in as informal were digitalized in the same way as the formal drawings.

Identifying informal VC drawing: criteria

The informal drawings handed in consisted of VC drawings and other types of drawing. To identify the VC drawing I looked for criteria to classify possible VC drawing processes, subsequently supported by Nygaard (2008: 46-47). I used the criteria supported by Pedersen's (1999: 309-312, see page 49 in this chapter for more about his findings) study of the boy Bo's pictorial development from two to sixteen years of age. He strongly suggests in the conclusions of his study that the results of VC drawing often manifest themselves through a) many details in the drawing or b) recognizable images from popular culture as models. In addition, I also looked for c) the same themes/similes being drawn by several children, indicating that they might have learned to draw these similes from one another by looking at one another. These drawings were grouped thematically and were the basis for grouping the children while interviewing them in March - April 2005. As mentioned, one of the issues for the interviews then, was to see if my assumptions were correct.

I looked through my material identifying the drawings with these three characteristics (a, b, and c). I do not claim to have found all the VC drawings in the informal drawing database. To be able to say that I have, would require an interview on each of the about 170 informal drawings (not including the about 80-90 informal drawings made in a formal setting, see *The Vega files*, informal drawings and the search category formal_i) which would have exceeded my time limit for data collection. But the drawings presented as informal VC drawings are very likely to be visually controlled drawings; being classified after the criteria above and then being the subjects for the interviews where they were confirmed as such.

The informal drawings were all photographed and classified as the formal drawings by name (anonymized), class, gender, theme, media and time of collection. If I had observed or been told that the drawings were made with someone, this was marked. They were put in folders according to class, as they were handed in, and then according to the theme groups used in the interviews. For transparency, the drawing that were not used or not seen as VC drawings (marked not_used, see keyword in *The Vega files*), are also presented in the digital database.

The drawing database as a whole consists of all the informal drawings handed in and all the formal drawings collected. Also all the informal scribbling and drawing on practice sheets

of paper and on table covers are found here (marked formal_i, see *The Vega files*) as part of the drawing material that can be triangulated with the observations, interviews, and questionnaires.

Questionnaires

After analyzing my data collected through making notes, videotaping observations, interviews and the collected drawings, I decided to give the students/children questionnaires in 2007 and 2008 to collect additional data to substantiate my analysis (my categories) based on the 2004/2005 data. An open-answered questionnaire on why the children draw informally and a questionnaire on the use of models were sent to all the children. The use of questionnaires was a good option, even though questionnaires do not allow the researcher to clarify the actual content of the answers given (Halvorsen, 2007: 70).

Two types of questionnaires were chosen in this inquiry as part of securing the results of my qualitative analysis - one with the purpose of securing that all the model-categories were represented in the analysis. Explicit multiple choices were given of three model categories (3D objects, photographs or drawings), based on Chen's (1985) inquiry on model-drawing among children (the model questionnaire: see Appendix 9 and more on Chen's inquiry on page 48 in this chapter). This type of questionnaire is what Ilstad (1989: 47-48) calls factual questions (in Norwegian *fakta-spørsmål*). Here, I chose to use a closed (defined) answer approach, taking into consideration that during the interviews, the children were not always aware of their own use of models. I had to be explicit and supportive, and I also had to show them on video that they actually were using a VC drawing approach when drawing informally (as seen with Edith on page 238). As will be shown in the results chapter, the answers given by the students/children in these model questionnaires were confirmations and possible corrections on my previous analysis.

The aim of the why questionnaire was to inquire more about the reasons for drawing informally in general, as the drawing database as a whole was based on informal drawings in general. The answers given will then also include (as with the drawings), the reasons and possible motives for initiating the "How" - the VC drawing learning processes. Also, since the "Why" question was not emphasized (Mertens, 1998: 321) during the student/children semi-structured group interviews focusing on the informal drawing processes, the students/children were given an open answered questionnaire where they individually could write a short

narrative of five to ten lines (or half a page) about why they drew informally (see the why questionnaire, Appendix 8).

According to Ilstad (1989) this type of questionnaire is searching for attitudes, feelings, and behavior motives (in Norwegian *holdnings- og adferdsspørsmål*, Ilstad, 1989: 48). Even though I did not emphasize the “Why” question in my interviews, the qualitative analysis revealed some possible reasons, or answered the question “Why make visually controlled drawings informally?”. The “we”; the wildfire effect, collective drawing, and cooperative drawing as a means of assistance, were detected in the data as concepts covering informal drawing strategies and means of assistance as categories. Could the answers from the questionnaires reveal additional support for these features in the data?

I did not want to give bounded answers in this questionnaire, implicating possible reasons that could be regarded as sensitive to the participants. As Thompson (2002, see page 50) describes in her case study from a pre-school, the children in her case draw on each other’s drawings and learn from each other as part of including the other, a part of complex social interactions, meaning socially more than looking at each other’s drawings and trying to reproduce these.

The model questionnaires and the why questionnaires were answered by about two thirds of the participating children. Both questionnaires were handed out at school during the winter of 2007 and 2008, after the main inquiry in 2004/2005, by me and later by the teachers. This division of responsibility was a practical solution because some of the students were on field-trips when I visited the island for the purpose of handing out the questionnaires. But as an ideal, I hoped I could be there for all the students while handing out the questionnaires because I then could have answered questions the students might have before filling them in. When using these questionnaires there is also a reliability issue to consider since I am asking for and relying on their efforts and willingness to use their time and writing skills to help me in my inquiry (Frisch, 1994). I am also relying on their memory of what was going on when they drew informally in 2004/2005. But having taken this into consideration, previous studies show (Nielsen, 2000) that drawing activity diminishes in quantity from the age of 10-11, but the reasons given and the categories of models used (the themes in the categories are likely to change) do not necessarily change. The answers given in these questionnaires are there to supplement and develop my qualitative analysis that mainly rests on data from observations, interviews, and from the drawing database.

Context in the case-study approach

The term “context” is especially important in this study because the theoretical basis for the analyses and comparisons is a sociocultural point of view, where the emphasis on context such as social relations, social agency, and the physical boundaries (Cole, 1996; Rogoff, 1984), is a major part of the study. Miles and Huberman (1994: 289) use the words “site” and “case” as synonyms to point out the contextual and geographically bounded nature of the case study. Wilson and Gudmundsdottir (1987: 43) also discuss the case study as a bounded system because it is not always clear to the researcher what his or her bounded system can be defined as and what bounded system one is operating within.

The unit of analysis

The researcher and theorist Yrjö Engeström develops the ideas of the early sociocultural school and states the following: “...the unit of analysis was object-oriented action mediated by cultural tools and signs. Mediation by other human beings and social relations was not theoretically integrated into the triangular model of action.” (Engeström & Miettinen, 1999: 4, see also Vygotsky, 1978: 40). The unit of analysis in this comparative case study incorporates mediated activity such as the acts of teaching and learning to draw; the drawings and the dialogues *interwoven* with other human agencies and human social relations (Engeström & Miettinen, 1999), understood by Cole (1996) as context (see the understanding of the concept *context* referred to in Chapter 1, page 12). The unit of analysis here is then the formal case of teaching visually controlled drawing and the informal case of teaching/learning visually controlled drawing, investigated for the purpose of comparing the two. The research questions frame the unit of analysis, and the questions give direction for what research strategies to use; which participants and artifacts to involve, where and how to involve them. In other words, how to collect and analyze the data.

The VC drawing teaching program at the island of Vega for one academic year defines the main time and place boundaries of the case study, and the informal case is defined within these boundaries.¹⁶ The major focal points, the issues investigated and compared, are the formal and the informal VC drawing processes. Hence, the context defining the two cases compared in this inquiry means agency and social relations situated in the geographical

16. The main inquiry was undertaken within these boundaries. The questionnaires were handed out in the winter of 2007 and additional retrospect interviews were conducted in the spring of 2008.

settings at Vega within the time boundaries of approximately one year. It is the mediated activity of teaching and learning formal and informal VC drawing, the agency of the participants and their social relations in this geographical setting and cultural situatedness, and within this time span that is incorporated in the definition of the unit of analysis (McDermott & Tylbor, 1995).

Two single cases

By using two single cases (one formal and one informal) in this qualitative comparative case study, I am lifting the exemplary teaching of visually controlled drawing up to be a case that can be recognized by the community of art educators as good teaching. The same can be said for the one single case of informal VC drawing presented in this inquiry. My two single cases were chosen to provide me with data on the main characteristics that can be found within the field of teaching VC drawing among exemplary art teachers in public school today, and to provide me with data that can be recognized by my audience as informal VC drawing. That is why it is important that the researcher knows the field to be studied before starting the research process when choosing the case-study approach, according to Andersen (1997), Gerring (2004) and Shulman (1981).

Using Andersen (1997) and Miles and Huberman (1994) as references, I claim that the inductive process started in the field of my practice as an art education teacher, manifested in hypotheses made long before the official researcher apprentice status was given. The need for this study was experienced as an art teacher in public school and in teacher training college, and even before, when I was a student in teacher training college specializing in art education.

The theoretical grounding necessary to conduct a study on this theoretical level requires to some extent a deductive approach in the choice of case or cases. I am looking for a case or cases that satisfy certain criteria found beforehand.¹⁷ But within the case, there are processes to be analyzed (seen and named through induction) and this is often when new knowledge is found. The inductive approach is therefore an important part of the study itself, once the choice of case has been made. By choosing suitable cases for the purpose, I make it possible to promote the single formal and informal case as relevant for the community of teachers and researchers interested in art education in general and teaching VC drawing in particular (Andersen, 1997; Shulman, 1981).

17. For the criteria for the formal exemplary teaching case, see page 89 in this chapter.

The teacher at the art school on Vega Island in Northern Norway, is employed as an art and crafts teacher to teach in public schools in the region that includes Vega public school. He has fifteen years of experience in teaching children drawing and his formal qualifications are above average for art teachers in Norwegian public school today. In this sense he is not an “average” art teacher, but he is a good example of a well educated, experienced art teacher who functions professionally on the public school setting; teaching all the children in this setting, not only the children who are especially interested in art.

From my experience as a drawer, a parent, and an art teacher, I can recognize the informal drawing processes in the group of children (also being the student body in this inquiry). The examples presented in this report as illustrations of the informal VC drawing scene, or the informal case, create recognizability, and accordingly also a sense of representativeness (Andersen, 1997; Gudmundsdottir, 1998b; Ragin & Becker, 1992; Shulman, 1981; Stake, 1995; Wilson & Gudmundsdottir, 1987). To sum up, in this inquiry two cases from the geographical site Vega in Northern Norway, mainly around the time of 2004/2005, are investigated by using the case study approach (Creswell, 1998; Postholm, 2005).

The choice of research site: The municipality of the Vega islands

An overall context description

The choice of time and place is part of the research strategy. To describe this specific choice of site is therefore needed. The municipality of the Vega islands outside the coast of Helgeland in Northern Norway, is one of 44 municipalities in Nordland county situated just below the polar circle. The islands of Vega consist of smaller and larger islands, with the large main island as a centre of commerce, administration and education located in the small town of Gladstad. This community has a population density that is representative for several small municipalities, about 1200 people, and it is a small rural community struggling to survive. People on the islands have a strong sense of belonging; a sense of identity linked to geography and history of the islands. Even though the community of Vega is seen as a well functioning rural society, the population rate is declining,¹⁸ as in many rural communities in Norway.

The use of the local environments and local cultural sites in formal teaching is encouraged in Norwegian public school, as it is in many countries around the world. The Vega

18.The population rate in 1995 was 1500, in 2008 it was 1200 (SSB, 2009 [the Norwegian Central Statistic Bureau, SSB - Statistics Norway]).

islands have been populated for at least 10 000 years and the archaeological sites from the stone age seem to be part of the inhabitants' identity; these sites are used in compulsory projects at school for all children and they are used as hiking trails for Sunday walks by people on the island. The sites have also been given academic attention by professors and students in archeology at the regional university, the Norwegian University of Science and Technology in Trondheim (Bjerk, 1999). While I was preparing for the observations in art class in 2004, the Vega islands were inscribed in UNESCO's World Heritage list¹⁹ because of the inhabitants' ability over the years to maintain a sustainable living in a rough environment close to the polar circle (mainly farming and fishing), and especially because of the women's eiderdown harvesting and production of blankets and cushions. Apart from fishing, farming, and public services, tourism has become one of the main sources of income for people on the islands; in the summer of 2009 there were about 15 000 visitors/tourists at Vega. It is in this historical, geographical and socio-economical context that the formal and informal VC drawing takes place.

The art school movement in Norway and Vega art school

The exemplary teacher of formal VC drawing is part of the art school movement in Norway. The art schools in Norway are part of the government's policy to enhance culture among children by giving the public a subsidized, inexpensive possibility to strengthen the children's cultural training in the aesthetics such as music, art, and drama. Mostly, the art schools operate in the children's spare time and are financed in part by the municipalities and in part by the parents. At Vega art school the principal has managed to obtain financing for two part-time teachers as an extra cultural resource for all the children at Vega public school on a permanent basis, and because of this unusual arrangement, all the children benefit from the art school teacher's high professional art competence during school hours.²⁰

Vega art school hired two professional artists and two professional art teachers; one carpenter and ceramist, and certified art education teacher in a 50% part-time job, the observed teacher educated as a draftsman from the Academy of Fine Arts in Norway, he also has

19. See the web-site <http://www.verdensarvvega.no/english.htm>

20. Today the practice of hiring professional artists in public schools on a project basis is called "Den kulturelle skolesekken", or "The cultural school bag" financed by the Norwegian state, and is practiced all over Norway, with Vega art school as a good example of a functional merge of art school (hiring professional artists and certified art education teachers) and public school.

training as a graphic designer and works in a full-time job at the art school, one full-time certified art teacher who also was the principal of the art school at the time, and one painter/artist in a 50% part-time job. They are seen as resources for the region working on projects offered to them by different schools in other municipalities. In other words, parts of their jobs are secured through steady public financing, working as art teachers in public school on a permanent basis at Vega public school, and part of their activities are short-term jobs on projects in other municipalities commissioned on the basis of their reputation and skills.

The classroom where the teaching takes place in the formal case, *The art attic* was built in the early nineties. The art school staff managed to establish *The art attic* in the public school's attic as their studio with light walls, a beautiful view over the mountains on the island, working space with a class structure that encourages working in groups, and good storage possibilities for materials.

The choice of formal case: Exemplary teaching at Vega

As, mentioned above, the choice of time and place is part of the research strategy. Vega public school is one of the larger schools in the region with 180 students from 1st grade to 10th grade. It is not a typical small rural school, but the classes are smaller than the average class size in Norway, being 20-28 students. At Vega, they have about 17-23 students on each level, and in art classes, this group is divided into two groups of about 8-13. The small groups are, according to Lindström (2006: 62) one of the criteria's for successful art teaching.

Exemplary teaching

The criteria for the understanding of exemplary teaching is embedded in the previous presentation of learning theory, but to summarize, I rely on the following criteria for documenting exemplary teaching: One is exhibiting the drawings made in class so that the average quality of the products can be seen (Day, Eisner, Stake, Wilson & Wilson, 1984: 33-36) (see *The Vega files*, formal drawings). The other is to look for asymmetry in teaching situations, that is the activity of a competent other in the students' ZPD (Darling-Hammond & Youngs, 2002; Strandberg, 2006; Vygotsky, 1978). The third criterion when looking for exemplary teaching is to find a teacher who knows his or her "two theories"; the content of what is taught *and* meeting the student as a subject in the formal teaching/learning setting, as described by Darling-Hammond and Youngs (2002), and Darling-Hammond, Chung and

Frelow (2002), Tharp and Gallimore (1988), Coates (1984) and Wood, Bruner and Ross (1976).

As an art education teacher I heard through my students who had their in-teaching training at Vega public school praise the art classes and the mentoring they were given. When preparing for the inquiry, I then contacted the art school at Vega. The teacher I decided to observe was recommended to me by the principal of the art school. He is one of the teachers hired by Vega public school on a permanent basis to cover visually controlled drawing and special art projects, such as the making of animated movies, paper clipping sculptures inspired by the Norwegian artist Nils Aas, stone age projects and eider duck projects (see page 134).

As mentioned, the observed teacher's professional background is two years of training as a graphic designer and three years at the Academy of Fine Arts with an emphasis on in-depth studies in drawing. He has work experience as a professional draftsman and graphic designer, apart from being a teacher in public school and the art school for 15 years. He has not studied theoretical pedagogy but often works together as a pair on projects and at Vega public school, with a teacher who has a Master's degree in art education. (See interview in "Participant interview. Teacher", folder no. 11, page 7, Appendix 3). He is from the main Vega Island and he knows the children he teaches and their families well.

All together, I observed him teaching five different assignments during the 2004/2005 academic year. Most of the assignments were given to the 5th, 6th and 7th grade, divided in two groups and each teaching session lasted 2 x 45 min. except for one assignment that lasted 45 min., (see Appendix 3 for an overview). Four different tasks of visually controlled drawing were given to the students over the course of a year, and I ended up using three of these assignments to represent the formal case: The still-life with fruit and vegetables made with pencils, the fall poem made with Chinese ink, and the still-life with ceramics made with pastels. The water color landscape assignment and the still-life with fruits made with pastels were not used (see *The Vega files*, contextual material not used) because there were repetitions of what was found in the three chosen assignments, and because only one class (one age-group) was given the water color assignment.

The student body

The student body he teaches in this inquiry consists of small classes (8-13 students), as mentioned above. The students are from nine to twelve years of age (5th to 7th grade), this being an interesting age-group related to previous research documenting a decline in drawing

activity (see Chapter 1, page 6). These three classes are one fifth grade class consisting of 19 students, one sixth grade class consisting of 23 students and one seventh grade class consisting of 19 students. These classes were divided in two, and approximately the same assignments were given to all the classes regardless of age.

All together, 61 students participated in the inquiry regarding the formal case. The students in the three classes from 5th to 7th grade were mainly from a rural community of Vega. Two students were from other European cultures. Ethnic diversity in the group, which is a norm in urban society today, was not represented. The group included children receiving special education at school. They were included in class as a Norwegian standard for special education. The gender split was more or less even, with approximately the same number of girls and boys.

To summarize, the choice of observing the exemplary teacher's teaching and interviewing the teacher about his work in the art attic, as a case of exemplary teaching in formal VC drawing, is defined by the teacher's professional competence, extensive teaching experience, the small classes (8-13 students), a tempting working environment, and the average high quality in the VC drawings made in the chosen teacher's classes as described as a criterion in several exemplary art education cases conducted by Day et. al. (1984: 33 – 36).

The choice of informal case: Informal VC drawing processes at Vega

To promote the case of informal visually controlled drawing to be in some sense representative (Shulman, 1981 see page 67) of nine- to twelve-year-old children's informal VC drawing processes, my chosen case would have to provide me with data on the main features of this activity. Looking at some of the features of the case-study approach, it could have been plausible to call each making of a drawing a case study. One drawing is made in a specific place in a specific time, the process has a beginning and an end, one uses theory to confirm or develop theory on data gathered from multiple data sources such as contextual descriptions – drawings – observations and/or interviews. But for the purpose of comparing, which is one of the main issues of the study, it has been a rational research strategy to group the formal and informal social contexts into two cases.

Therefore, I group the representative and interesting informal visually controlled drawing processes made by children on the Vega islands around the time of 2004/2005 as one case, mirroring the various tendencies in the overall data material gathered among the 61 children. Their common boundary is that they are made voluntarily and not as a direct response

to an art teacher's formal teaching. Many of the informal drawings are made in similar contexts, and in similar settings, either in school, where for example the math teacher allows the students to draw what they want when there is twenty minutes left of the class and other tasks are finished, in classes without teaching because a teacher is ill, or they are drawn at home with friends, parents, or siblings. This is also the justification for grouping or clustering the informal arena as one case, the distinguished social and contextual difference between the formal and informal case being the social relations and the agency of the activities focused on.

Since this is a comparative case study, I also needed the students as part of the formal exemplary case as participants and verifiers in my comparison between the two cases. They have experienced the exemplary teacher, *and* they were the chosen subjects in the informal case; being the experts on their own informal VC drawing processes.

The informal case grounded in observations, drawings and interviews

To adequately document informal drawing processes as a case among children of nine to twelve years of age was a challenge. Capturing these informal teaching/learning processes as children-initiated in context as observations, that is without instructing the children to make an informal drawing, has not been easy. The teacher and I wanted to see if we could capture spontaneous informal drawing processes on videotape by giving access to material that could encourage children-initiated informal drawing activity. We covered all the tables with good quality drawing paper in the still-life classes and gave the students help sheets of paper, or practice/exercise sheets of paper besides the actual paper for the final "Fall poem" drawing assignment. I hoped that the students would make self-initiated drawings by scribbling/drawing on the covered table and the help sheets of paper. No instructions or information were given to the students about how to use the paper covered table, but several students did use this tempting white paper surface for drawing purposes (see *The Vega files*, formal drawings, folder 20(i)) when they had time, which often was when they were waiting for the teacher's attention and help to work further on their assignment. This placed some of the self-initiated drawing processes, or informal drawing contexts within the boundaries of the classroom; the formal site or setting, and some of these processes were observed and videotaped.

I asked the children to hand in all the drawings they made by themselves without being in a formal art and crafts teaching context *not* distinguishing between VC or non-VC drawings. I was given 175 drawings (in addition came 22 redrawings) from 51 named children, nine drawings were without names. I then sorted out about 100 drawings from 26 children that to

me indicated processes of visually controlling the drawing (for the criteria see page 82). So roughly, about half of the drawings were seen to have some extent of VC drawing features made by about half of the children (for more on handling the drawings as data see page 80 and page 98). This means that it was likely that the drawers had either another drawing, someone's drawing behavior, a picture, or an object as a model, and that it was the drawer's aim to make a simile, or part simile, a "look alike" as part of the drawing process. These drawers were interviewed (see interview guide Appendix 2) and some of the children were asked to redraw. Their redrawings were observed and videotaped (see *The Vega files*, search and keyword `vc_rec`). About 30-40 of the 70-80 informal drawings/scribbling made in a formal setting can be seen as having elements of VC drawing (see *The Vega files*, search for `formal_i` and keyword `formal_i vc_likely`).

The relevance of investigating informal VC drawing

Counting or quantity can be part of a qualitative approach to answer issues that require a qualitative, interpretive analytical approach, according to Erickson (1986). As an example I can refer to the counting of how often a theoretical category occurs in a transcribed text as an indication of its relevance. Here I have only indicated a rough minimum estimate, stating that about half of the informal drawings gathered made by half of the children was the result of processes that can be seen as being fully or partly visually controlled drawings. In addition I have the informal drawing processes caught on the formal arena.

This rough estimate, though, does underpin the relevance of the focus of the inquiry. As mentioned above, the informal drawings were then used as basic material in semi-structured interviews around redrawings to inquire about the insider's perspective on informal VC-learning/teaching. The observations of redrawings and informal drawing in the formal setting, the drawings and the interviews have generated the documentational resources to be used as data in the informal case. The aim of the study is then to use the documentational resources from the formal and informal arena as data in a sociocultural analysis and in a qualitative comparison.

Qualitative comparative method

Thinking without comparison is unthinkable. And, in the absence of comparison, so is all scientific thought and scientific research. (Swanson as quoted by Ragin, 1987: 1, see also Swanson, 1971: 145)

Ragin (1987) quotes Swanson in the introduction to his prize-winning writings on comparison as part of a method in his book *The comparative method, moving beyond qualitative and quantitative strategies*. There is a discrepancy between the use of comparison in research and the available theory on this particular methodology, according to Ragin (1987). Attention to comparative methodology has been poor, compared with how much we as researchers actually do compare. Statistical comparison and correlation within quantitative research have a long tradition, so has research using an experiment group and a control group in the process of finding out if a cure in medicine works, comparing the state of health in both groups to see if the medication has an impact. These experimental research processes from natural science are then controlled. In the formal and informal cases of VC drawing I am describing and analyzing drawing processes as parts of wholes, as contextual and complex; and these are important features in qualitative research.

Ragin's (1987) methods are aimed at his field, sociology, often with a focus on causality. His outlines of comparative qualitative research processes are meant for macro studies of societies. But he also outlines some principles that I have found useful in my micro-comparison. I want to emphasize that his methods are used as an inspiration and are adapted according to my needs as a researcher in a micro-study with a focus on similarities and differences in two different contexts (formal and informal) with the same thematic focus: teaching and learning to draw what is seen.

According to Ragin it is important to find comparable cases. Hence, there must be some thematic similarities, or common units of analysis (Ragin, 1987: 13). One needs to have comparable cases and comparable data. Merriam (1998: 194-195) also emphasizes the importance of looking at each case separately, to see processes as they occur in context before comparing, or doing a cross-case analysis. It is important to emphasize that Merriam does here refer to cross-case analyses with the aim of finding unified descriptions across cases, and not comparative studies.

Ragin discusses the use of units of analysis as a term, referring to its meanings. One is "unit of analysis" as data, the observational unit or units; a unit or several units to analyze. Another is "unit of analysis" as an explanatory unit, or theoretical category.²¹ This means that if the later is being used in a qualitative case study, it is important to view the compared cases from a common set of relevant theoretical terms rooted in relevant theory for both cases. The

21. For a larger, theoretical discussion on the understanding of the term "unit of analysis", see Engeström, Miettinen & Punamäki, (1999), Postholm (2003: 81-82) and Vygotsky (1978; 1997).

activity the visually controlled drawing teaching/learning process as interaction is my focus. I have chosen to look at teaching/learning aspects in both cases of formal and informal VC drawing processes, even though with different emphasis, looking for the characteristics in both cases separately, *but* with the comparison in mind, and in the end I have compared the two.

Warner's comparative dimensions

The use of the analytical tool *comparative dimensions* is presented by Warner (1971). Warner's project was to analyze how Karl Marx compare four different societies. He looks at Marx's methodology when doing a comparative analyses of four epochs; the Asian epoch, the Ancient epoch, the feudal epoch and the modern bourgeois epoch. By focusing on a common theoretical theme, the modes of production (or the way in which its members relate to each other and to nature as they make a living, Marx, 1965), interesting aspects of these epochs or societies became clear. Marx does not look mainly at materiality, objects, but at social relations, objects are seen as subordinate to social relations. His comparative dimensions (such as property, division of labor, the state's role in society, and the purpose of production) are all related to his theory of history as a history of class struggle. Warner (1971: 70) describes "comparative dimensions" as aspects that are seen as relevant for comparative analysis with an articulated main purpose. Marx's aim was to be able to describe and identify by using comparison as a method of specification (Warner, 1971: 74), to distinguish each epoch through descriptions and comparisons of phenomenon he found theoretically important. Marx then compare a well-known epoch, the epoch of his own time, the bourgeois epoch, with distant epochs in time and place.

Inspired by Marx I was looking for comparative dimensions rooted in the data and in existing sociocultural theory that highlights aspects that are relevant for my common theoretical theme; teaching/learning in both cases of formal and informal visually controlled drawing. But as opposed to Marx, I did not have all the categories beforehand, these were also found in a deductive-inductive process when working with the data.

Finally, I have found Ragin's (1987: 12) reference to comparative qualitative work as comparing illustrations, interesting. Elaborating further on Ragin's metaphor on my own, I can say that illustrations can be seen as descriptive visual and verbal examples, illustrating phenomena. Drawings are seen as wholes, perceived as wholes; meaning that I try to understand them in context, that is as a product of social interaction in time and place. At the same time drawings also consist of distinctive visual elements.

I see the drawings as part of the verbal and visual illustrations from two contexts; I perceive, describe, and characterize the cases as wholes by finding and using theoretical comparative dimensions or concepts; that is terms from sociocultural theory. Subordinate to the sociocultural contexts and the social processes, I use terms from theories on visual perception, for example terms such as hidden line elimination, that are fruitful for the purpose of describing, analyzing, and comparing the cases. Also subordinate to the comparative dimensions found in the data in both cases, I use terms I constructed and found useful while conducting the inquiry. They are grounded in the data and in my theoretical point of view to explain and cover my findings.

The comparative dimensions in this inquiry

The comparative dimensions of formal and informal visually controlled drawing came about as analytical tools because of the starting focus of this inquiry; the comparison. The data collection and later the data analysis revealed major tendencies of similarities and differences when trying to answer the vital questions in qualitative research in general and in qualitative research in the field of education especially, such as: How? What? With whom? Where? When? Why? How much? With what results? (Strauss & Corbin, 1998).²² The answers to these questions in general in sociocultural learning theory are seen as interwoven and mutually coloring each other (Cole, 1996). Here the “How” is in focus, but being in sociocultural tradition, questioning widely as a point of departure, is seen as bringing up relevant data.

The comparative dimensions are also derived from the overarching theoretical profile of the inquiry, sociocultural theory. Sensitizing questions such as “What is going on here?”, theoretical questions such as “What are the larger (theoretical) structural issues here?”, and structural questions (structuring the research process) such as “Where do I go from here to ensure my research and to cover the crucial aspects of my inquiry?” were also asked to find relevant comparative dimensions for formal and informal VC drawing teaching/learning (Strauss & Corbin, 1998: 89-90). The comparative dimensions were developed in a deductive-inductive analytical process, and came about because they are seen as important for describing teaching and learning formally and informally.

The comparative dimensions are derived from the data and from sociocultural theory. The answers to “The How”, “The Why”, “The What”, “The Who”, “The With whom”, “The

22. Strauss and Corbin do not include the question “With whom?”. Being in a sociocultural understanding of teaching/learning processes, this question was crucial.

When”, “The Where”, “The How much” and “The With what results” are incorporated in the presentation of the following seven comparative dimensions: 1) drawing goals, 2) drawing strategies, 3) social arrangements, 4) means of assistance, 5) transfers, 6) creativity/recombinations and 7) drawing genres. For further theoretical explanations and justifications for these comparative dimensions, see the previous sequence on theoretical references in this chapter, the following results chapter and also the up-coming section on analyzing the data (page 100 in this chapter).

Handling the data

Transcribing, connecting drawings and dialogue

The videotapes of formal and informal VC drawing activities are transformed into readable two-dimensional signs, or as a text on paper. The text is then translated from the Northern-Norwegian dialect into American English. There is a possibility of losing authenticity in both of these data-processing stages, I would even claim that it is impossible not to lose some degree of authenticity by “zooming” in and being focused on one scene, by transcribing and also losing some of the visual information on tape, and by translating and losing some specific cultural nuances in the language. As I see it, the question is whether or not these losses challenge the credibility of the presented data as representative for the focus of the inquiry, formal and informal VC drawing teaching/learning processes.

Triangulation can also be seen as a comparison, holding different sources of data up against each other to see if they match in the sense that they give similar or complementary information that points in the same direction. Looking at the drawings, the transcribed texts, and the questionnaires as complementary is part of the research strategy, not only to sort out the data as a basis for the inquiry, but also to expose credibility through different sources of information on the researched scenes. The database of formal drawings collected over a time span of about one school-year (September-April) is also part of documenting the results of what I define as exemplary teaching. Not only the transcribed observations and interviews on formal teaching, but the results of the teaching, the drawings, are an important indicator of what is going on in class. These two documentational sources were connected. The informal drawings are traces of informal drawing activity and are complemented in the transcribed interviews/redrawings, the transcribed observations of informal drawing in the formal setting and the questionnaires. The formal and informal drawings are as such, a possible source of data

that can be triangulated with the transcribed texts and questionnaires, confirming or challenging these.

Transcription Symbols

To make the transcribed texts as comprehensible as possible, reflecting what is said and done on the videotapes, symbols inspired by Matre (2003) were used when transcribing the videotape-recordings. I have also chosen to use as a reference a notation of where the quotes used can be found in their original state on tape. The symbols or notations used when transcribing and repeated in the quotes in Chapter 3 are as follows:

The three slashes /// are used when it is hard to understand what is said on the videotape, three period notations ... in the text mean silence, and a longer line of period notations with parentheses (.....) means something has been said in-between the quotes, but is not regarded as relevant to the analysis. Parentheses with text () are used when, as an observer/interviewer, I am explaining things happening that can not be detected in the dialogue, but are important for the understanding of the situation. I use capital letters when a word is given emphasis and is stressed by the participants or the interviewer.

All the interviews and all the observations from 2004/2005 have been transcribed partly by me, and mostly by a professional transcriber. These transcriptions are found in numbered folders with the same number as the videotape they are a transcription of. The transcriptions from the formal and informal cases are marked F for formal and I for informal. A quote can be traced back to the database by looking up, for example, Informal Video Transcription Folder Number 6 page 13, abbreviated as a reference in the text to IVTFo. no. 6, p. 13.

My attention on the formal arena is on the formal teaching; that is the teacher and how he teaches. Because of this focus on the formal arena, the microphone/video camera has followed the teacher. Utterances from the students in this setting are therefore not always accentuated.

The drawing reference system in the text and on the web

As mentioned, the formal and informal drawings were collected and photographed into an open digital database available on the web as *The Vega files*. Each picture has an original file number generated by the camera used as a reference in the text and can be found in the database, for example Imgp. 1727. "Imgp." stands for Image Pentax. All the pictures are sorted

into two main categories, “Formal drawings” and “Informal drawings”. These categories on the web are spelled out as comprehensible words because *The Vega files* is a website accessible to all, including the students themselves, who might not have read the report. The abbreviations used in the written text, as explained below, are functional as abbreviations of terms often used as references in the text.

The formal drawings made in visually controlled drawing classes as a response to an assignment given by the teacher are found on the web as “Formal Drawings, Folder number” (for example “Formal drawings”, Folder 3) abbreviated in this report to FDFo., with the number in front, for example 3FDFo. The formal drawings were collected according to drawing class, each folder is one drawing class, (the ordinary classes were divided in two and given drawing classes) and numbered chronologically as the teacher’s day progressed (see overview of data, Appendix 3).

In this text, a reference to a drawing is the number given by the camera. The folder-number where the drawing belongs is put in parentheses in the text (for example Imgp. 1727(1IDFo.)). If the folder also includes informal drawings or scribbles done on, for example, practice sheets of paper during classes where also the formal assignments were made, the folder reference is abbreviated FDFo._i in the report, with the number in front, for example 1FDFo._i. On the web this category is entitled Formal Drawings, Folder 1(i). Each of these informal drawings are marked “formal_i” in the folder as a sub-category for informal drawings made in a formal setting. This categorization keeps the drawings in the setting they were made in, and at the same time marks them as what they are; informal drawings made in a formal setting. Keeping these informal drawings in the formal setting, or categorizing them according to setting made it possible to see/trace possible social influences in informal simile-making from children sitting together in groups while drawing in class.

The drawings given to me by the children as informal drawings are found in Informal Drawing Folder, abbreviated IDFo. in the report with the number of the folder in front (for example 5IDFo.). On the web, the informal drawings are found as “Informal drawings, Folder number”, for example “Informal Drawings, Folder 5”. Drawings handed in as informal and later found to be formal, are marked informal_f. The informal drawings were grouped according to class, as they were handed in, and then according to themes.

Vc_likely or semivc_likely, vc_rec, vc_checked or semivc_checked

All the drawings received as informal drawings are in the folders marked IDFo. nos. 1-8 (Informal Drawings, Folder number 1-8 on the web). The drawings in these folders were then marked VC if they were interpreted as possible VC drawings; made in a process to “look alike” a seen model, reflecting a possible visually controlled drawing process.²³ These drawings are used in the interviews. They are then marked *vc_checked*²⁴ (or *semivc_checked*) if they are confirmed VC drawings and *vc_rec* if they are reconstructions made during the interviews. The uncertain drawings are marked *vc_likely* or *semivc_likely*, indicating that the drawings are possibly results of fully visually controlled drawing processes, without having checked this with the drawer, or partly visually controlled; *semivc* (in the text referred to as semi-VC), meaning that part of the drawing can be interpreted as being a result of visually controlled drawing processes.

Analyzing the data

Already when collecting data I could discern some of the major categories that I finally ended up with. In the beginning of the research process I had sensitizing concepts (Alvesson & Sköldbberg, 2000: 14; Creswell, 1998; Strauss & Corbin, 1998: 51) of what to look for that were of a deductive nature, with presumptions based on theory and my own experience. Alternating between the deductive and inductive approach has been a methodological necessity throughout the research process. The deductive analytical process has been conducted with theory as thinking tools. The categories or comparative dimensions “drawing goals”, “drawing strategies”, “means of assistance” and “drawing genres” were seen in the data in a partly deductive approach. These dimensions as analytical categories helped me answer my two first research questions, “The How” in formal and informal teaching/learning. Being in a sociocultural understanding of human activity “The What” and “The Why” (goals and genres) are seen as interwoven with “The How”; here “strategies” and “means of assistance”.

The inductive approach has been guided by the use of questioning (see page 96 in this chapter: *The comparative dimensions in this inquiry*) in the search for undiscovered non-standard categories (Becker, 1998; Strauss & Corbin, 1998: 73-93). This is how the comparative dimensions “creativity”, “social arrangements”, and “transfers” were discovered

23.For criteria see page 82 in this chapter.

24.The use of _ was implemented to facilitate searches in the drawing database. When these categories are referred to in the text, ordinary hyphenating or a dash (-) can be used.

and then substantiated theoretically. These categories are either non-standard, or taken for granted, and by that almost made invisible - such as “social arrangements” as part of “The How”. The comparative dimension “transfers” underpins the motive for asking the third research question; looking for similarities and differences for the sake of developing formal VC drawing teaching. Creativity/recombinations as comparative dimension was detected in the data as recombinations and as part of a drawing strategy. After reading Vygotskij (1995) this dimension became the separate category “creativity”. This dimension is found in both cases and is especially interesting to highlight in an art education research context, with reference to *The Modernist Narrative* (Wilson, 2004).

As an agent in the inquiry process it has been useful to have working hypotheses that are temporary assumptions, for example who has been working together on similar informal drawings handed in. The process of developing categories in an analysis has then gone from a conscious process with my own experience and theoretical references as a resource where the relevance of these categories was tested (Gudmundsdottir, 1992), to an open inductive curiosity, using Becker (1998) and Postholm (2005) as models for challenging myself as a researcher elaborating on the data to find out what is going on. For example, finding the comparative dimension “creativity” was part of such a mental challenge. Creativity, according to *The Modernist Narrative* (Wilson, 2004, see page 40 in this chapter and page 267 in Chapter 4), is not seen as a possible teaching/learning feature in VC drawing.

The use of the case-study approach (Creswell, 1998; Postholm, 2005), in this comparative case study of two instrumental cases (Stake, 1995) as the defined method of approaching the research field is justified, as described above. The specific categories were seen, and understood as relevant for the inquiry, and developed as theoretical concepts by the researcher, the “I” (Peshkin, 1988; 2000; Punch, 1994) or “eye” (Gudmundsdottir, 1998a), through a long course of actions in four major phases; a) before entering the research field through my interests, my professional theoretical studies, the chosen theoretical paradigm, the research focus, and my experience as a teacher and an art education teacher (Miles & Huberman, 1994: 17; Peshkin, 2000: 9), b) during observations on site and interviewing, c) during studies of the videos, transcriptions, notes, drawings and questionnaires d) after going through the data, reading, listening and looking several times, and then finding relevant theory.

Creswell's data analysis spiral and Giorgi's work-steps

The data analysis process followed can be visualized by using Creswell's (1998: 143) data analysis spiral (see Figure 7). The first loop represents the first step of transcribing and organizing the data in files, folders, and a first draft of the web database. The second loop represents the process of making sense of the data as a whole (see Appendix 3). The third loop represents the process of classifying, interpreting, finding themes, in my cases, finding comparative dimensions and sub-concepts by using color codes, comparing or contrasting the cases (see Schemes 1 and 2, Appendices 5-6). Creswell's loop four consists of matrixes made to visualize the results before finalizing the research report (see Matrix, Appendix 7).

As I have two instrumental cases (Stake, 1995) to be compared in a theoretically oriented (Andersen, 1997) comparative case study, the text and images are, together with the existing theory, a major basis for the findings. When studying the transcriptions I applied the phenomenologist Giorgi's (1985) four steps for interpreting the data and withdrawing from it its significance in relation to my research focus. Even though my inquiry is not defined as typically phenomenological, there is a slight inclination towards phenomenology in the data analysis process; this inquiry being a theoretically oriented case study. The steps gave structure to the process of making sense of the data, leading to my findings when working with the transcriptions. These steps are: 1) reading through the transcriptions once to catch the major points, 2) reading once again and marking the text where units of meaning for the inquiry are detected 3) reading the text again reflecting on and interpreting the units found as theory (using color codes), and naming the units not found in theory as categories or concepts that can describe and make accessible to others what the findings are, 4) looking for patterns of plausible connections and explanations.

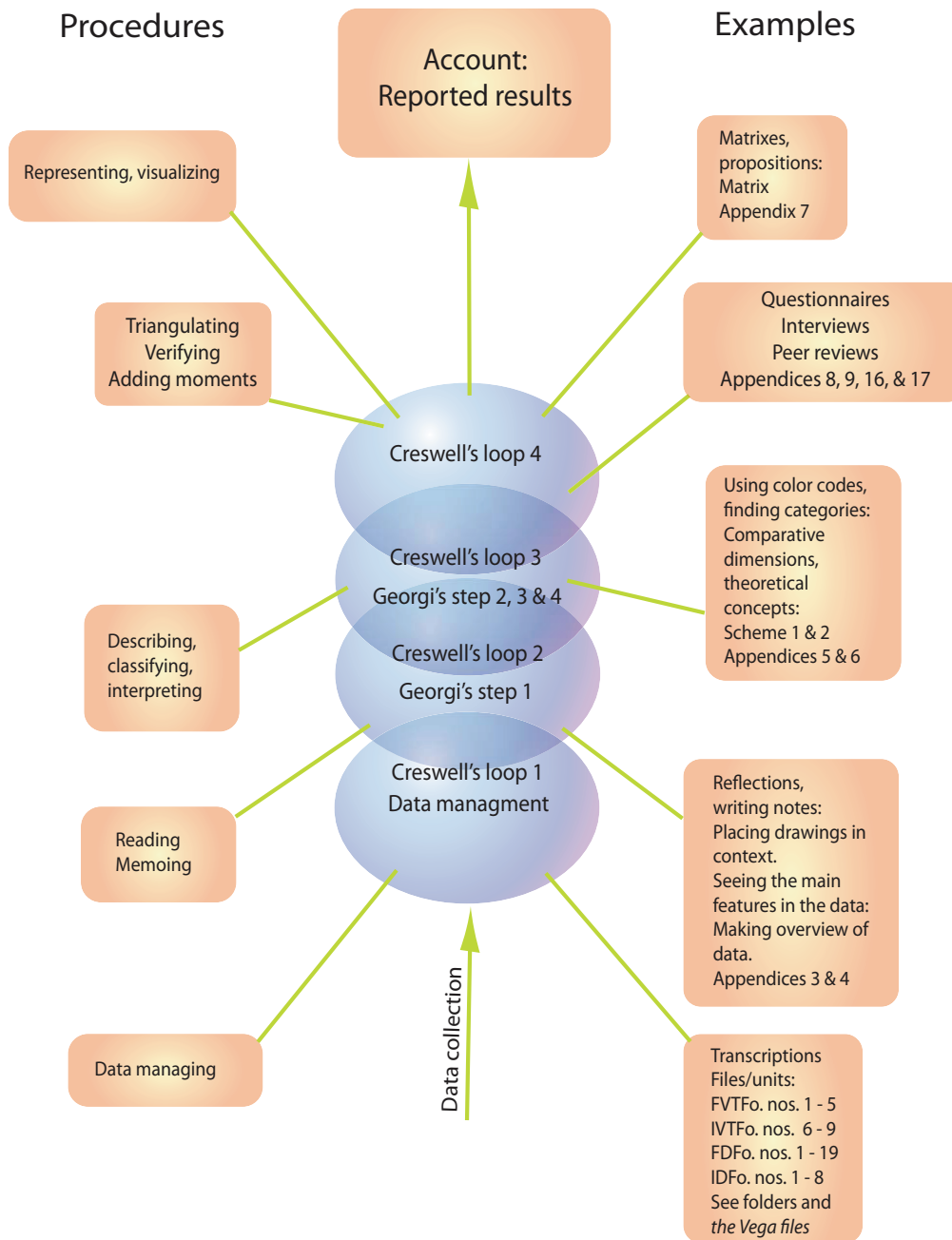


Figure 7: Creswell's (1998: 143) data analysis spiral, appropriated for the inquiry, merging with Giorgi's (1985) four steps for interpreting data

Since my chosen paradigm of understanding the world is constructivism and a sociocultural view on learning, my curiosity for children's visual representation is to see these processes as activities that are situated in context; mediated (using and making socially and culturally developed tools and signs) and therefore social (reaching out for “the other”, and/or developed together with “the others”). The transcriptions and drawings from the formal and informal cases were grouped in two formal and informal social contexts and were treated separately before comparing (Merriam, 1998; Miles & Huberman, 1994: 243) - but with the comparison in mind. The video recordings were examined and the transcriptions were double-checked to ensure they were accurate compared to the videotapes. Major relevant points were noted.

The processes identified as the means of assistance cooperative drawing (documented by notes, video recordings, drawings and interviews, inspired by the term collaborative drawing used by Wilson & Wilson, 1982a; Wilson, 2007) and the drawing strategy internalized observation (documented by drawings, video recordings and interviews), were revealed as relevant processes while I was observing in class and conducting interviews, (notes in FVTFo. no. 1, page 3), and were then identified further when the observations/video recordings were transcribed; they were found through induction (Erickson, 1986: 121; Gudmundsdottir, 1992a; 1992b; 1998a; 1998b; 2003).

Sociocultural theory regarded as relevant to VC-drawing practices in formal and informal teaching and learning was read and a map or a list of the major theoretical concepts, or keywords regarded as crucial to answer the research questions was made, giving each concept or keyword a color, see point 1-4 below (by means of felt pen markers, color pencils and/or colored book marks). The same (short)-list of comparative dimensions was used in both cases as a starting point for the analysis; they had to make sense and be part of the data in both cases, even though manifested differently. The marking with the different colors clustered the data in both cases and gave a visual notion of how often a theoretical concept occurred in the transcriptions seen together with the drawings. This made it easy to navigate from one case to the next when comparing. The four major keywords, themes, concepts or clusters identified as comparative dimensions were:

- 1) Drawing goals (derived from Freeman & Sanger, 1995; Kindler et. al., 2002; Scribner, 1984; Simmons, 1992; Scribner & Cole, 1972; Wilson & Wilson, 1977): yellow
- 2) Drawing strategies (derived from Freeman, 1980; 2004; Goodnow, 1977; Scribner, 1984; Scribner & Cole, 1972; Thompson, 2002; Wilson & Wilson, 1977): pink

- 3) Means of assistance (derived from Coates, 1984; Tharp & Gallimore, 1988; Thompson, 2002, Wood, Bruner & Ross, 1976): green
- 4) Drawing genres (derived from Bakhtin, 1986; Kindler & Darras, 1997; Simmons, 1992): blue.

The transcriptions were then closely re-read and analyzed using these colors as a tool to work through the transcriptions, marking where these theoretical terms or keywords were to be identified as practice in the data, then looking for possible connections. Often several theoretical terms were relevant to the situations observed or the information given in interviews, as Tharp and Gallimore (1988) point out, theoretical concepts often occur simultaneously and are often interwoven in practice.

As mentioned, when collected in 2004/2005, all the drawings were marked and grouped according to formal/informal in their folders, photographed, and digitized. The date, class, name of drawer, and task were marked on each formal drawing, and when these were made in groups, this was marked (see the drawn-with-functions in the search menu in *The Vega files*). The informal drawings made in the formal setting seen as possible informal VC drawings were marked. After conducting the interviews and observations, and transcribing these, the drawings made in the situations seen as relevant to the inquiry were then marked in the transcriptions by their file numbers. They were situated in context, so to speak.

During the theoretical analysis of a more deductive nature described above, also well described as an attribute of qualitative or interpretive research in Erickson (1986: 121), the close in-depth study of the data opened up for new findings or new categories. The analysis became again an inductive process. The documentation of the informal learning drawing process (as part the comparative dimension *drawing strategy*) that I have entitled *the wildfire effect* as a result of *collective drawing* (drawing the same theme in a group) found as part of the comparative dimension *social arrangements* (when the social arrangement is to be in a group), was detected and given the color code orange. The unexpected documentation of *recombination* and *creativity* in both cases was revealed and given the color code red. Finally, because I had chosen the observed teacher's students to be the children in my informal VC drawing case, the comparative dimension *transfers* from the formal to the informal case and vice versa were found, and as a comparative dimension it was given the color code grey. The results were structured in schemes and a matrix, giving me an overview before writing out the results (see Appendices 5-7). These schemes and the matrix were under constant revision

during the research process. To complete the list of the seven comparative dimensions found, an overview of their color codes and theoretical grounding is presented below:

- 5) Social arrangements (supported by Rogoff, 1984; Vygotsky, 1978): orange
- 6) Creativity/recombinations (supported by Pedersen, 1999; Vygotskij, 1995): red
- 7) Transfers (supported by Greeno, 1989; Lave & Wenger, 1991; Scribner, 1984): grey

The theoretical understanding of these categories have been grounded in the previously presented theory sequence, but to summarize they can be described as follows:

Comparative dimensions: Summary

A drawing goal is identified as what the drawer or the teacher wants to achieve by initiating the VC drawing teaching/learning activity, closely interwoven with “The How”, *a drawing strategy* is a description of how the drawing goal is attained as a technique that can be taught and learned *and* as a way of learning, *social arrangements* describe how, where, with whom and when the drawing teaching/learning activities are situated or arranged, *means of assistance* describe how the subjects are given intended interpersonal help in their ZPDs, *transfers* are seen as situated contextual learned traces of VC phenomenon adapted or used in other contexts, influencing teaching/learning processes in the other arena or case, *creativity/recombinations* is described as the process of putting together different visually controlled (often internalized observations) into the making of new drawings, hence learning ways of making new drawings both as visual expressions and as techniques, and *drawing genres* are seen as specific visual traces of VC drawing belonging in specific social contexts in society - taught, learned and used for specific purposes - with a common specific content, style and structure.

These categories are comparative dimensions, they are the main clusters found in the data relevant to describe, understand and compare VC teaching/learning processes from formal and informal contexts, seen from a sociocultural point of view. The dimensions will also be described in context by concepts found as sub-categories of these comparative dimensions, such as the wildfire effect or cooperative drawing. They can be seen in abstracts in scheme 1 and 2 (Appendices 5 and 6).

Ethics

This inquiry involves children and therefore also their parents, a teacher's teaching practice and the revelation of priorities and practices in a named school as part of a community. All these possible disclosures need to be thoroughly reflected on with respect to ethical standards in research before publishing an open and accessible research report. Thomas and O'Kane (1998: 340) discuss the issue involving children in their article *The ethics of participatory research with children*. They emphasize the importance of obtaining informed consent from the parents and the children, of understanding the researcher's responsibility to protect the children, guaranteeing their well-being as research subjects and reflecting on how to deal with disclosure of information that might not be to a child's advantage (this aspect is also stressed by Halvorsen, 1999). They maintain that the researcher's responsibility is to seek help if the child discloses matters that need professional attention, but always with the child's consent. During this inquiry, there has been no disclosure of sensitive matters needing professional attention. The parents, children, teacher, and school administration have been asked and have given their written consent to allow the research project to take place (see Appendix 10 and 11).

The Researcher's Ethical Checklist (NESH, 2005) (my translation – in Norwegian: *Forskningsetisk sjekkliste 2005*) issued by the national committee for ethics in research in Norway (my translation - in Norwegian: De nasjonale forskningsetiske komiteer abbreviated NESH), has published the following five points for ensuring ethical standards: 1) Do the goals and the methods used in any way harm or control individuals, the environment, military interests, or does the project violate Norwegian legislation? 2) In research involving people, have they been properly informed about the project before giving their consent, and has the researcher checked that there is no dependency between the person being researched and the researcher that might influence the outcome of this consent? 3) Have personal data been sufficiently camouflaged to ensure the protection of privacy? 4) Are there any risks of harming people or the environment connected to the implementation of the project, and if there is, are the people involved aware of this? 5) Are you sure as the researcher that the persons in the research project have the possibility to blow the whistle if they feel that research ethics are being undermined, and have all the parties involved been informed about this?

When I go through my project with this checklist in mind, I can see that the goal and the methods used do not violate accepted values (point 1). But children's drawings and drawing processes are also part of/used as a clinical method in psychology to help detect how

children are doing emotionally. In that sense the one goal for this research project, to describe and analyze the children's world of informal teaching/learning of VC drawing, and the methods for collecting data about children's informal drawings, observing, interviewing, and videotaping the drawing processes, some reflection is necessary to ascertain if special precautions should be taken. As mentioned above, when collecting the data material, my focus has been on how - involving why, where, with whom and what children draw in seeing-drawing processes, in other words, VC drawing learning (and teaching) in context. Of course, there will always be a personal component in the choice of topic to draw, even if it is "only" VC drawing, but looking at the data material I can not find controversial topics.

As mentioned above, I have asked for written consent from the children and parents, the school's administrative head and the teacher (point 2). I have asked the children to sign the consensual statement as Thomas and O'Kane (1998), and Andersson (1998) suggest. As a source of verification, there are many sequences in the videotapes that document their joy and pride at being part of a research project. I interpret the students putting on their protective paint-coats and naming them "professor-coats" because they are part of a research project as a sign of being comfortable with being part of the inquiry, using humor to identify and connect with the research project (see Figure 9, page 127).

Protecting personal privacy by making the persons involved anonymous (point 3) is a challenge in a small community, and the restricted need for this privacy is also guided by the nature of the investigation. I have chosen to conceal the identity of the children because they have an unknown future that has to be protected, but I have chosen not to anonymize the geographical location of the school where the investigations took place, in part because this was what the teacher being observed wanted. This decision could also be debated.

Another important point is that the drawings and the interviews are not necessarily anonymous for the children and teachers involved on site. In a small community people often have inside knowledge about their neighbors, students, colleagues, siblings, children, and friends. They will be able to identify and detect their own data, and it is inevitable that they will recognize some of the other participants' drawings, actions and statements, but they will not be able to use this report as their source of reference for identifying persons. In this way, the persons involved are protected.

This issue can also be turned around. Some years ago I was asked to lecture on the use of pedagogical documentation in kindergarten in a small neighborhood in central Norway. This small place is associated with a sad story of sexual abuse of children in a daycare centre, a

case that has had more than its share of media coverage. I can see how a geographical name with these associations could unconsciously color my opinion of what is going on there, even today, 15 years after the case was big news. In the worst-case scenario, something could happen in Vega that in the future could color people's opinion of the research report, and thus maybe devalue the work. I am, in other words, talking about the protection of the research project as a work of science. Hence, we can also talk about ethics in the process of protecting the research being undertaken. This minimal risk would have been avoided by anonymizing the geographical location of the school.

Looking at the last two points on NESH's ethical checklist (4 and 5), there are no risks of causing harm to people or damage to the environment, as far as I can see, in connection with the research process, and all the involved parties have the chance to blow the whistle through the media. Because my research is of a qualitative nature, I am looking for the participant's perspective both formally and informally, and my starting point for inquiring into the participants' perspective is to look for what works, how does it work, and under what conditions does it work. I am not mainly looking for what does not work.

There is also a possible conflict with two participants' perspectives, the teacher's perspective and the student/child's perspective. This is an unequal relationship and can be full of tensions and conflicting interests. The professional teacher's basic pedagogical theoretical view, encompassing listening to the child's perspective, will be a crucial factor in reducing this conflict of interest. It became important to work closely with the field by using member checking so that the research results could be discussed with the teacher involved before publishing. If there should have proven to be any major discrepancies between me as a researcher and the participants, I would have published two versions, or the two perspectives of the sequences in question, as suggested by Postholm (2005), but this has not been necessary.

The question of anonymity

As part of the reflections on ethics, I will discuss here the question of anonymity related to this specific inquiry. Drawings are products made by children who often are proud of the work they have done. At the same time, the drawings are part of a database. Data is by definition in the Norwegian Act relating to Personal Information of 14 April 2000, no. 31, section 2 nos. 1 and 2 (Personopplysningsloven, 2000) not usable if the informants are not protected. If this is not ensured, the data material is not valid as research material. To ensure protection, persons can

be de-identified if necessary in the official report, so that the report can not be used as a source of identification.

In my case, there are at least two dilemmas here: 1) The ethics of making anonymous someone who does not want to be anonymous, that is, the child who wants to be identified by his or her proper name, especially bearing in mind the principles of the above-mentioned children's perspective. 2) The degree of success in trying to "conceal" an inquiry carried out in a small community where everybody is aware of the fact that an inquiry is taking place. This is a big event, and in many ways it is an honor to be seen by others, to be interesting to others. The project has also received media coverage (Johansen, 2005). It is well known in the district that these classes were part of a research project in 2004/2005. The school's web-site has also informed the local community and beyond about the event.

I have chosen to name the school because the teacher I observed and the local community wanted to be named (see Appendix 12, letter to The Data Inspectorate, see also The Data Inspectorate, (2009)). My arguments for operating with partial anonymity, that is the school is known, but the teacher and children are anonymized, are as follows:

The topic of the inquiry does not seem to be controversial nor, as Punch (1994) points out: Does the topic of the inquiry say anything about what challenges to expect? But the question of anonymity could have been crucial. We know that many of the themes of informal drawings in this age group can be focused on genitals based on early sexual curiosity. In Norwegian we call these "bathroom drawings", because these doodles are often found on the walls of public bathrooms, for example in schools. It could certainly create embarrassment now and later if these could be linked to specific children, and this is not something a researcher would want to expose. Confidentiality would then be important. The content of the drawings collected is not of this nature. Because my focus is on VC drawing in context, it has not been necessary to pursue all the various topics drawn by the children, as long as relevant teaching/learning categories are not overlooked. My conclusion is that the material I have collected is not controversial in content as far as I can see, but I will have to make room for what I do not see, the unforeseen consequences. I decided then to anonymize the children and the teacher.

As mentioned, this was not an easy undertaking. The students are often proud of being used "in a book", as they put it, that is in a research report. I had to use at least twenty minutes in each class when introducing myself and the research project to explain to the students why anonymity was necessary. I said that perhaps one of them would become prime minister one

day. Then the drawings they made as children might become interesting to use and even misuse by journalists in an article about them in the newspapers. To ensure that this would never happen, I had to camouflage their identity by using other names. After some discussion it seemed to me that the students in all three classes included in my research project grew accustomed to the idea of being anonymous in the report, but the principle of acknowledging the child's perspective was challenged.

Anonymity and ethics

The nature of my inquiry is to describe exemplary teaching in VC drawing and children's informal visually controlled drawing processes. I found this in Vega, so in one sense, it belongs to Vega. To me, this is also a question of ethics; to give as much credit as possible to the ones who are the sources of your data. As a researcher I am an observer, not a practitioner in teaching. I am in a sense constructing the scientific report together with others. The teacher gave away data generously from his practice. Taking into consideration the above arguments, I decided to reveal the name of the site, so that part of the credit for the final results of the inquiry could be given to the participants from Vega.

The Data Inspectorate

As mentioned, the dilemma of naming the exact location of the researched activity in this comparative case study using two instrumental cases, and at the same time protecting the children and the teacher involved as participants has also been a challenge. Making a person anonymous means to avoid releasing any information that can identify the persons used in the inquiry. Using the name of the small community where the teaching takes place can be a way of tracing a teacher (out of four art teachers) in a specific subject that is part of a team in a school. To secure the inquiry, I applied to The Data Inspectorate (in Norwegian: *Datatilsynet*)²⁵ for an evaluation of the ethical precautions implemented in this study (see Appendix 12 and 13) and they agreed in my assessment.

25. See the web page http://www.datatilsynet.no/templates/Page___194.aspx for more information on The Data Inspectorate in Norway.

The copyrights

To publish figures from popular culture made and owned by creators and commercial businesses is also a matter that is part of the ethical and legal considerations connected to this inquiry. I have contacted the representatives of Disney & Co. in Norway, Egmont Serieforlaget AS, who responded by giving their written consent as long as their figures would be used for research purposes and would not be used commercially. I have written to the Diddl promoters, represented in Norway by Papirkompaniet AS, and asked them to contact me and allow the publication of the figure Diddl in a research report on issues focused on children's self-initiated drawing, also involving their figure, the Diddl. They have also consented. The publishers of Figures 5 and 62 have also been contacted.

Ensuring the quality of the research process and the results

Data in qualitative research

Erickson (1986: 149) refers to data as the documentary resources used in research, and according to Erickson, the documentary resources do not become data before it is used in the inquiry as part of the interpretations and findings. In this report, data is understood as the whole pool of documentational resources used as the basis for the inquiry. The assumption that data is "neutral", and that we find explanations through theories after looking at neutral data is contradicted by many of the theoretical references used in this inquiry, such as Erickson (1986), Peshkin (1988; 2000) and Punch (1994). Theory is a basis for interpreting data and therefore data is colored by theory. We grasp what makes sense to us, as Peshkin (2000) maintains, in other words data are often loaded with theory from the starting point of the data-collection process.

The word data is the plural of datum. A datum is a statement accepted as given. Such statements may comprise numbers, words, or images accepted as they stand (Flexner, 1993: 508 in *Random House Unabridged Dictionary*). In other words, data are documented experiences through images, words, numbers, or sound. Then we can say that people's feelings expressed or stated in words or images are data. When we are looking for confirmation in a database, we might be looking for the opinions, feelings, and actions of individuals or groups of people. How does the understanding of the word "data" differentiate from the understanding of the word "facts"?

A statement of fact is a statement that is presented as an accurate representation of a situation, event, or condition, and that is capable of being either proven or disproved. A fact is any of the following according to *Random House Unabridged Dictionary* (Flexner, 1993: 691): something actual as opposed to invented, something concrete used as a basis for further interpretation, or information about a particular subject. Something in the world makes a true statement true or something known to be the case.

In other words, one could for example say that stating how many people are in a room, what colors the walls are painted and what the gender of the observed student is would classify as stating facts. These are facts, they are concrete and can be used as a basis for further interpretation, and “something” in the world (the actual observable objects) makes these factual statements true. When comparing these two terms, we can say that facts are observable and that data also include confirmable interpretations of facts, an important distinction when looking at the science of interpretation. It is fundamental when the focus for our research process is to capture the participants' perspective not really known before searching, to regard their logic, opinions, views, actions, social interactions, and feelings as data, and as researchers, to interpret these in light of relevant theory.

Many of these processes have elements of facts that we all can agree on, or what Phillips (1992: 70-72) labels *low-level observations* or *low-inference observations* (as opposed to high-inference observations, that is theory-laden observations); these facts are indisputable, for example how many students there are in the classroom. But from a qualitative researcher's point of view, the data, as described here, are the most interesting. When stating that interpretations are scientific (Kalleberg, 2005), there are (at least) two aspects to this: 1) the science of interpreting interpretations; that is the representation of people's feelings and views, and 2) interpreting the choice of facts that are what we can agree are there. As Peshkin (2000) says, a choice has already been made when we select what to see, and he characterizes this as part of the interpretation process. We could agree on what we see, what can be touched and counted, but there would still be an element of the “I” through the selection of what to see, count, and touch (Nygaard, 2008: 47), and we can dispute what is seen theoretically, that is what category it belongs to, what value it has, how it came about, and why it is there.

Member checking

According to Alvesson (2002) it is the researcher's right and duty to approach the data using his or her creativity, that is alternative unconventional ways of seeing what is in focus, so that

the report will present a core of research results that will bring new knowledge, understanding, or insight into the field being researched. This will result in a report that often will be characterized by its heavy emphasis on a great deal of text (a high degree of textual documentation and textual reflections) that can be hard to follow for the participants in the field of research. We can easily fall into the trap Kuhn (1962/1996: 31) described, where we end up with a report that is only for other researchers and not for the field being researched. My aim is that I want the text I produce to be useful to the field I am researching. The classroom research tradition (Gudmundsdottir, 1992b) is therefore a useful reference in this inquiry. Classroom research focuses on 1) the pedagogical processes in the classroom, 2) research on education as a source to help develop practice, and 3) the use of qualitative methods to make inquiries about what puzzles the researcher within the field of practice. I want my participants to recognize themselves and the situation/context described in the report. This is a basic principle in the classroom research tradition (Postholm, 2005). Hence, the researcher has to manufacture the data material according to the participants' basic understanding of themselves and their work situation.

Part of this process of "rooting" is what Creswell (1998) calls "member checking". This means letting the teacher read the final report and give his consent to the written presentation. The teacher's voice is heard on how he experienced being part of a research project (see Appendix 14). The results of the inquiry (prior to being handed in as a Ph.D. report, so changes still could be made if necessary) were also presented to the community at Vega in the fall of 2009, where the teachers at Vega public school and Art School, other members of the local community, the children participants, and their parents were invited (Appendix 18).

Member checking does not imply that the researcher can only "mirror" the participants. As stated above, the research process and the writings are a product of cooperation with the participants in the field of research but, to a large extent, this is a product of the researcher's creativity (Alvesson, 2002), analytical sensitivity and abilities, three to four years of hard work, and his or her theoretical and methodological knowledge. But member checking means that the presented analysis must always be anchored or rooted in the discussions with the participants. If there is a diversity of opinions or interpretations, this must be elucidated in the report (Postholm, 2005).

These obligations come out of the anthropological tradition from whence qualitative research originates (Denzin & Lincoln, 1994/2000; Postholm, 2005), and mean valuing the

field and basically looking upon the field with respect, trying to understand the logic in the field from the field's point of view. But by asking the simple question “who am I doing research for?”, one will obtain answers that necessarily and hopefully color the final research report. Since my answer to this question is other researchers in pedagogy and in the field of theory and practice in art education in teachers’ training, as well as art teachers in public schools and art schools, it is these interests that drive this sociocultural comparative inquiry. Member checking is a way of seeing if the results of my comparative analyses are experienced as plausible, trustworthy, recognizable, and useful by the researched field. Member checking is part of ensuring the quality of the inquiry.

Interviews with the students/children and the teacher

As mentioned, from the group of 61 children, 51 named children handed in informal drawings (nine drawings were un-named), 26 were identified as possible VC drawers and interviewed. From the group of 51, six selected students/children were interviewed about their views and experiences on the similarities and differences when drawing in formal and informal contexts, with their own drawings in front of them. Four of these children were from the group of 26, and two were chosen outside the interviewed informal VC-drawers group of 26, to broaden the representativeness among the six children.

This was also done to open for “outside eyes”; the children, the teacher and the peer reviewers (see below) seeing possible undetected features in the informal drawing data material I had not used. There were two from each class level, a boy and a girl when possible, with variation in their interest for VC drawing. They were interviewed to see if their experiences on the similarities and differences were coherent with mine, and also to see if these experiences consisted of new moments to be added to the inquiry. The interviews were recorded on minidisks and transcribed, and together with the drawings, they were presented to the teacher as a focus for an interview on his views on similarities and differences (see Appendix 3, p. 19, Participant interview. Teacher, and Participant interviews. Children, folder 11 and 12, and Appendix 2).

Peer reviews

The same drawings and transcriptions of the interviews with the representative six children (see above) were given to two peers for reviewing. I was looking for their views on similarities and differences. In addition they were given a transcription of an interview made with the

teacher after a drawing class (FVTFo. no 1, p. 7-8).²⁶ The two peers, one an associate professor specializing in children's drawing processes and the other a college lecturer in pedagogy and art and crafts, were asked to state what they saw as similarities and differences, looking through the given material extracted from the database of the formal and informal case. Inspired by Lindström (2006) and professor E. Eisner (personal communication, September 19, 2006), this was done with the aim of securing my results. The content of the reviews is presented in the next chapter and can be read in their entirety, translated from Norwegian, in Appendices 16 and 17.

Triangulation

Triangulation requires several sources of data, and is a comparison between these sources to see if they “match” or confirm each other, either as method-triangulation; the researcher-initiated sources of data, for example observation and interview on a specific topic, situation, or research focus, or as a study of available information, such as curriculums or other relevant research reports. We know from methodology that by using verification standards, such as triangulation, we can say that we have confirmable data, and it is our interpretation compared to other sources of data that is a plausible way of convincing the audience that what is being presented can be labeled science (in Norwegian: *vitenskap*). Triangulation through various data sources is traditionally a way of validating data (Creswell, 1998; Merriam, 1988; Stake, 1995).

Triangulation as a way of securing the data given by the participants and verifying your own interpretations of the data is a metaphor borrowed from the navigation of ships at sea. The exact positioning of a ship at sea is always determined by two specific degree numbers that will converge at a particular position and confirm this position (Lind, 2001). This confirmation is a verification of a given position at sea. I use this verification metaphor by giving the different sources of information used in the data collection process the role of the two numbers

26. The peer reviewers were given (see Appendix 15):

- a) Transcription of observation and interview with the teacher 160904 (FVTFo. no. 1, pp. 5-8)
- b) The formal and informal drawings made by Aurora and Charles (5th grade), Edith and Didrik (6th grade), Camilla and Henry (7th grade) at the time of the main inquiries in 2004/2005 (see *The Vega files*).
- c) Transcription of interviews on VC-drawing processes with Charles (together with Erwin), Edith (together with Dorothy), and Camilla, from spring 2005 (IVTFo. no. 7, pp. 11-17, IVTFo. no. 6, pp. 4-12, IVTFo. no. 8, pp. 16-17).
- d) Transcription of interviews with Aurora, Charles, Edith, Didrik, Camilla and Henry as to their views on similarities and differences, from February 2007, (student/children folder no. 12, the interviews are referred to above).

used in navigation to confirm the actual position. These different sources can confirm or undermine the third geographical position at sea; that is a third source of information; my results.

The different sources of data triangulated specifically for the purpose of ensuring the quality of the results presented in this inquiry have been: 1) the transparent exposure on the web of the complete drawing database, 2) the transcribed notes (from my scribbles to typed text), observations, and interviews 3) the peer reviews, 4) the interviews with the participants (the teacher and six children) on their views on similarities and differences, 5) and the questionnaires.

Summary: Reflections on methods and ethics

My first planned research strategy was to pursue this inquiry as a single case of drawing processes defined in time and place with two focal points; one on formal VC-drawing processes in class looking mainly at the teacher's teaching. Subordinate to this are the students' learning processes as a consequence of the teaching. Focus number two is then on the same children's informal VC-drawing learning processes, looking mainly at their learning/teaching processes in drawing what is seen among peers. In my opinion, it could have been possible to continue the inquiry with this one-case strategy, but it would then describe one case of VC drawing, blurring one of the main research aims; to compare the formal and informal arena.

To be able to do a good qualitative comparison Ragin (1987) suggests grouping and analyzing what is to be compared; that means describing the characteristics of each case to be compared. Miles and Huberman (1994: 243) and Merriam (1998) suggest to always present one case at a time and then compare; to look for cross-case patterns and to look for distinctive differences. To be able to compare in this way, my research strategy changed and zoomed in on the comparative process by grouping the teacher-student data and the children-peers' data into separate groups, making two cases out of the two focal points (see Chapter 4, page 253 for further reflections and discussion on the methods used).

Reflections on the case-study approach

Guba and Lincoln's (1981: 377) major argument against using the case-study approach when they evaluate its strengths and weaknesses is that the researcher's biases and misinterpretations can be hard to detect because they are so well camouflaged through thick descriptions. If the

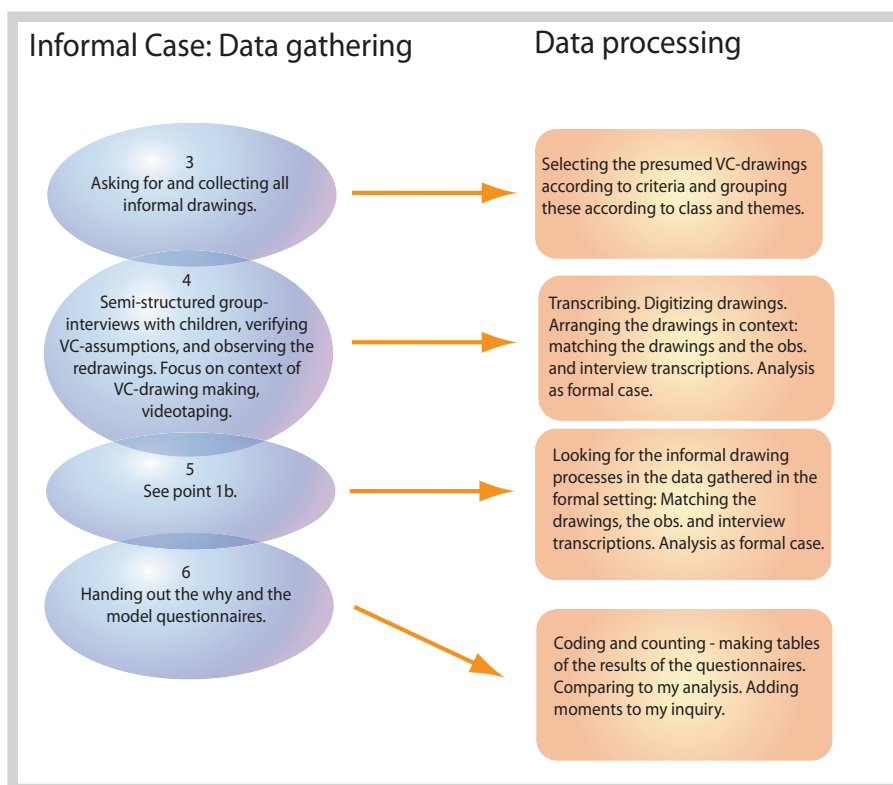
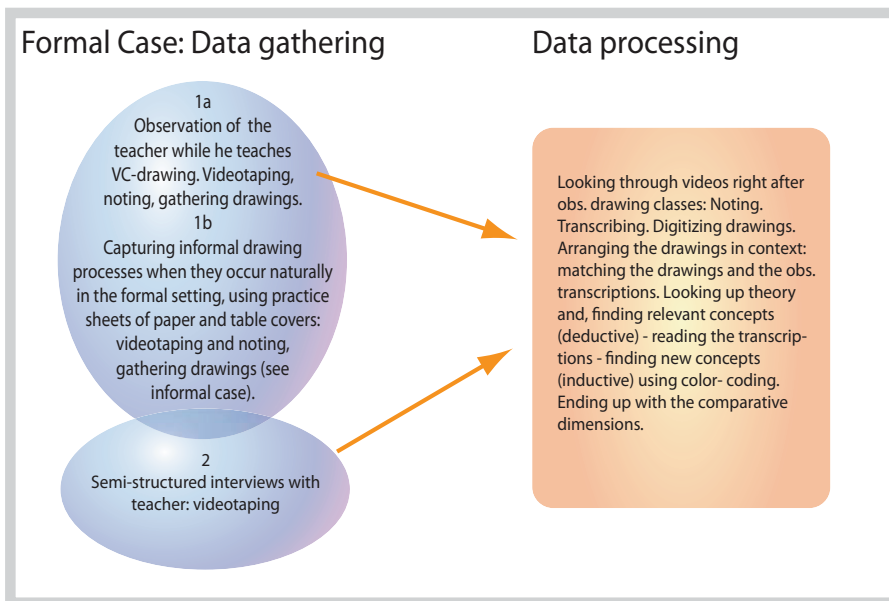
researcher is a good writer, he or she can be very convincing. But through easily detectable multiple data sources and the descriptions and analyses checked by the participants, reflecting the reality they experience, we are operating within the strengths of the case study approach as a qualitative method.

When the aim is to describe and understand different phenomena, qualitative research approaches are often chosen, according to Denzin and Lincoln (1994/2005). When we do this we are identifying ourselves as research instruments interpreting data material. The data also has a voice and meaning outside our own interpretations (Ricoeur, 1981) that interact with us and within us, according to Ricoeur. The acknowledgement of myself as a researcher, and as an interpreter, classifies this research project in a hermeneutic tradition, and in a theoretical view on science and scientific research that takes into account that the researcher as a research instrument can never remove him or herself as a subject from this process. The essential point, according to Gadamer (1989: 269), is to be aware of one's biases so that the data can be presented and evaluated as research, together with the researcher's point of departure, in other words with the researcher's understandings prior to and during the research process.

The methodological approach has been found capable of shedding light on the research questions: 1) To document, describe and analyze the clues that characterize exemplary teaching of VC drawing, documenting these by using video observations, notes, interviews, and a quantity of drawings. 2) To document, describe and analyze the children's informal learning/teaching VC-drawing processes, documenting these by using, interviews, video observations, redrawings, and questionnaires. 3) To compare the teacher's visually controlled drawing teaching with the children's informal VC-drawing teaching/learning processes by using comparative dimensions rooted in theory relevant to both cases to be able to compare the comparable.

Summary: The research strategy

The presented approach and methods, or what has been done to justify the results as a scientific report, will now be compiled in an overview of the research strategy. The overall research strategy includes the choice of paradigm manifested in how the data is collected, how the analysis of the data is undertaken, and what is done to secure the data. The research strategy used in this comparative case study is summarized in Figure 8, presented below.



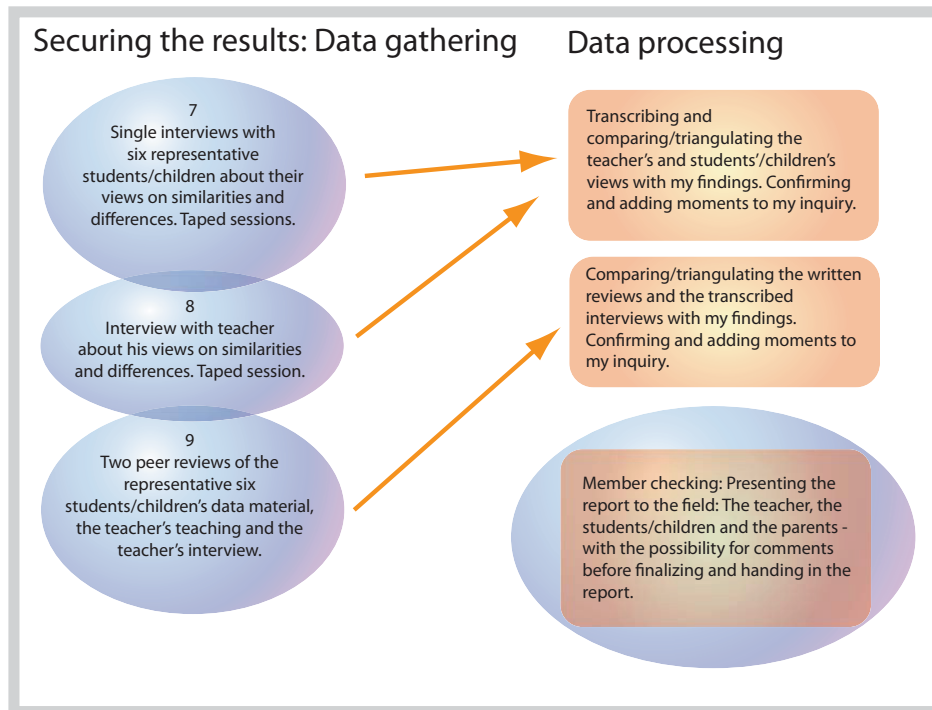


Figure 8: An abstract of the research strategy

When it comes to collecting and securing the data, my strategy consists of the following nine sequences (see Figure 8): 1a) Observing the teacher in VC-drawing classes and collecting drawings made in class and at the same time 1b) Capturing informal drawing when this takes place in the formal setting. 2) Interviewing the teacher about the content he is teaching, and about the observations and the drawings made in class. 3) Collecting all the students'/children's informal drawings, classifying the drawings that seemed to be VC drawings according to specific criteria. 4) Interviewing the drawers about their drawing processes, after grouping the VC drawings that seem to have common visual references and models. Video-recording the children while reconstructing their drawing behavior and drawing processes while having their informal VC drawings in front of them (for point 5), see point 1b). 6) After going through the first data elaboration and analysis, two questionnaires were handed out to the students to seek more data as part of the informal case data-collection process, but also to secure the results.

Analyzing and elaborating the data to describe the formal case and the informal case with the comparison in mind, using color codes in the transcribed observations, notes and

interviews looking for comparative dimensions, involved finding concepts to describe these dimensions in an deductive/inductive process. At the same time I placed the drawings in context, making the digital drawing database of all drawings handed in. The digital database gave me the overview I needed to see the strongly suggested social influences and to document the results of the formal teaching. Then representative, interesting, descriptive sequences seen as comparative dimensions were identified in the data and chosen to illustrate the findings in the report.

7) Further, the results were secured by conducting interviews with six students seen as representative (two from each class) about what they regarded as the main similarities and differences in their formal drawing processes and their informal drawing processes, with their own drawings in front of them. New information was added to the results of the inquiry. 8) Interviewing the teacher about similarities and differences with the same six representative students' formal and informal drawings as a starting point for the interview. 9) To further secure the quality of the inquiry, peer reviewing was used, sending transcriptions of the drawing processes, the interviews and the formal and informal drawings of the six representative young persons to two colleagues with a similar experience in analyzing children's drawings and with the same interest in pedagogy as myself. The peers were asked to briefly sketch out what they saw as the main similarities and differences in the formal and informal drawing processes. New moments were added to the results. Then the first final draft of the report has been read by the teacher and the results of the inquiry have been presented to the participants, the school staff, and their parents at Vega, with the possibility of making adjustments before handing in the report.

Summary: Formal case

The formal case involved observing the teacher in drawing classes by video-taping the classes and writing field notes. The observations and the interviews with the teacher were primarily focused on capturing the communication between the teacher and the students, how the teacher teaches, what he emphasizes. Second, the interaction between the students, and between students and the objects drawn was observed. This priority of focus has been necessary to gain an overall picture of the teacher's teaching to answer the first research question:

- *How does an exemplary teacher teach visually controlled drawing in a formal context to nine- to twelve-year-old students?*

The teacher was chosen primarily on the basis of his professional academic background in visually controlled drawing (see page 88). I have looked at the various assignments given to the students; are they challenging and at the same time do they challenge creativity? How are the results? How are the assignments presented by the teacher in class? How does he teach? How does he assist his students? I have also looked at the products made in his drawing classes by comparing the drawings made by his students to the actual assignment, that is, to the objects being drawn. Do the students succeed in making a drawing that looks like the objects? (See the drawing database *The Vega files*, formal drawings).

This teacher was also chosen because of his reputation as a popular and loved teacher where my reference is my own student teachers' experience and assessment of him when they were undertaking their in-class-training. The data collected in the formal case consists of the formal VC drawings (see *The Vega files*, formal drawings), and observations materialized in notes (formal transcription folder 1, FVTFo. 1) and video-recordings of teaching sequences (formal transcription folders 1-5, or FVTFo. 1-5). In the report, I have used three different assignments of visually controlled drawing given to the students over the course of a year to describe the formal case: Still-life with fruit and vegetable, "Fall poem", Still-life with ceramics. The teaching has been observed in groups of 8-13 students.

Summary: Informal case

My focus when describing a case of informal VC drawing processes was on gathering all the children's drawings given to me as informal (see *The Vega files*, informal drawings), sorting out the drawings where I assumed they had used visual control according to three criteria. I made the pre-assumption that similar pictures might have been made in the same social contexts, maybe even by drawers sitting together. I also used recognizable similes from popular culture as a criterion. The last selection criterion was the level of details in the drawing, leaning here on Pedersen's (1999) research. These pre-assumptions were later verified in interviews.

The children's informal VC-drawing processes are documented by the drawings as a data source (*The Vega files*, informal drawings) and backed up and complemented by the taped interviews (transcribed in folders 6-9, or IVTFo. 6-9). Describing the main features the children use in visually controlled drawing outside a teaching context demands a specific data collection process (the gathering of the drawings), as they are often created outside the classroom. Sometimes the students make informal drawings while waiting for the teacher to

help them with their main drawing assignment. This knowledge was used when preparing for the observations in the classroom.

When the students were given assignments in VC drawing, they were also given practice sheets of paper to exercise on. The teacher and I also covered the tables in class with tempting drawing paper to perhaps trigger the students to draw informally without being told. These preparations for VC-drawing class have given me observed examples of informal self-initiated drawing processes in context (see *The Vega files*, formal_i). Some of these processes or incidents are used as part of the description of the informal VC-drawing case. The location is then the classroom, the art attic, but the social context is informal, the children are drawing among themselves, with informal agencies, not relating directly to the teacher's drawing assignment.

The informal VC-drawing processes based on the collected informal drawings were reconstructed through later interviews, so the reconstructions of the children's drawing processes are "second-hand"; I was not observing and videotaping directly on site in context. In a sense this is information gathered outside the boundaries of the informal case, but my focus when interviewing is to find out about the social context of the making of the drawing. My focus here was on how the drawings were made, learned by whom or how, with what as a model, drawn with whom, how is VC drawing taught, by whom, where and why. Secondly came the themes of the drawings. This priority of focus was made to answer the second research question focused on learning:

- *How do nine- to twelve-year-old children learn visually controlled drawing in informal contexts?*

Some of the information have been lost because I am relying on the student's memory when asking them how they learned to draw the collected drawings. Self-initiated informal drawing processes where visual control is used are often repeated as a way of internalizing the drawings and the drawing strategies. It is likely that the student would draw the drawing as he or she learned it.

It has been important to capture the students' articulated thoughts on their drawing process on videotape. This material is used as the data source to document the students' informal VC drawing processes, together with impulsive informal VC drawing processes captured on tape in class. After the transcriptions and analyses of interviews, observations and drawings, the children were given two questionnaires; the model questionnaire and the why questionnaire to further inquire and to secure the findings.

Summary: Comparing

The cases were first described separately through the seven comparative dimensions found and conceptualized in the data. Then compared by using these comparative dimensions drawing goals, drawing strategies, social arrangements, means of assistance, transfers, creativity/recombinations, and drawing genres to answer the research question:

- *What are the similarities and differences between these formal and informal visually controlled drawing processes?*

The result of the casing and comparison was triangulated with the participants' opinions on the similarities and differences, and the peer reviewers' judgements on the similarities and differences. Finally, the report was member checked.

The examples or illustrations referred to in the next chapter as results are often representatives of phenomena found in the notes, the observation transcriptions, interview transcriptions, drawing database, and questionnaires, meaning that they often occur several times and can be seen as typical. If the example referred to is not typical, it is specified in the text. The example is then justified as an example of the diversity found in the data and is shown as part of the description of the formal or informal cases.

Summary: Securing the inquiry

It is said that good research is good ethics, which is perhaps just another way of saying "bad science is bad ethics" (Thomas & O'Kane, 1998). As I see it, I have been working with the craft of registration and the art of understanding and interpreting. How can qualitative methods produce data that we can characterize as scientific results? To summarize what has been presented and discussed, I am left with six points:

- 1) be as accurate as possible with the data – and the data collection process
- 2) use adequate research methods that give you data that answer your research questions
- 3) use adequate theory when interpreting data
- 4) be as clear and aware as possible of your own "I".
- 5) protect your participants
- 6) secure your findings

The qualitative research tradition incorporates the "I" of the researcher, and at the same time has the goal of highlighting the participants' perspectives (Denzin & Lincoln, 1994/2000; Creswell, 1998; Guba & Lincoln, 1994; Gudmundsdottir, 1990; Merriam, 2002; Postholm,

2005). All good quality research requires imagination and creativity (Alvesson, 2002; Thuren, 1993; Wormnæs, 1987), which means that the presence of the “I” is crucial. In showing originality, one of Merton’s later criteria characterizing the ethos of science (Merton, 1973) is that there is no doubt that the researcher, the “I”, must not only be represented, but must also be the driving force of the investigation. The standards or above-mentioned points are present as guidelines to ensure the quality of the work presented in the report. This is where the challenge lies; that is as a researcher, an “I”, seeing the “other”, incorporating the other’s perspective, that is the other’s “I”, and at the same time ensuring that the professional researcher’s “I” is shaping the research and the final report.

Chapter 3 - Presentation of results



Figure 9: Students equipped with shirts for painting. The students and the teacher called them "professor-coats" for the occasion of being part of a research project. (In Norwegian: professorfrakker, FVTFo. no.3, p. 9)

Introduction

The formal and informal VC drawing processes are grouped and will be presented below as two cases; the formal case is described by analyses grounded in extracts from transcriptions of interviews, notes, transcriptions of observations and drawings collected from one teacher's lessons in visually controlled drawing during an academic year at the Vega art attic. The informal case is mainly described and analyzed on the grounds of observations of informal visually controlled drawing caught in the Vega art attic, and by using extracts from transcriptions of semi-structured group interviews around the videotaped redrawings of a wide and representative selection of the collected informal VC drawings made by the same children that are students in the formal case, and made approximately during the same time span. Together with the drawings and two questionnaires, these are the data sources used to describe and analyze the informal case.²⁷ Data supporting the following presentation of the results were mainly collected during the 2004/2005 academic year. The data collection was guided by the following research questions:

27. An overview of the database as a whole is found in the data-base list (see Appendix 3), and all the collected drawings, from the little scribbles to the refined drawings, can be viewed at the web site *The Vega files*.

- *How does an exemplary teacher teach visually controlled drawing in a formal context to nine- to twelve-year-old students?*
- *How do nine- to twelve-year-old children learn visually controlled drawing in informal contexts?*
- *What are the similarities and differences between these formal and informal visually controlled drawing processes?*

Below I will as part of the inquiry, describe what has been observed in the formal exemplary teaching case.²⁸ The data have been collected and analyzed with a sociocultural theoretical understanding of drawing processes and were grouped in comparative dimensions (Warner, 1971, see Chapter 2, page 95) found in the data and seen as interesting in both cases. They were found using questions such as how, where, what, with whom and why as thinking tools (Strauss & Corbin, 1998).

The comparative dimensions are seen as significant categories or concepts relevant to the comparison of phenomena occurring in both cases, with the two foci formal teaching and informal learning/teaching. These concepts were of help in the understanding of what was going on, and facilitated the comparison by structuring processes generally known as important in teaching/learning in art (Haabesland & Vavik, 2000). Teaching processes in exemplary visually controlled drawing classes and informal visually controlled teaching/learning drawing processes are interesting to compare because there is a basic similarity in attempts to depict a simile that could be seen as surface similarities (Erickson, 1986: 122). It involves processes around the “seeing-and-drawing-by-hand” - symbioses as core activities. But what is the substance in these similarities and differences?

Comparative dimensions and the use of illustrations

As mentioned, during the theoretical data analysis, with the major research questions often being posed while making inquiries into teaching/learning issues (Strauss & Corbin, 1998), seven comparative dimensions (Warner, 1971) or categories were found interesting. The description and conceptualization of the seven comparative dimensions are also cues that can be seen as abstracts defining features seen as important in the two cases as separate units. And as mentioned, I have chosen to use the sociocultural analysis of representative quotations and drawings from the data as illustrations of the comparative dimensions found to describe the formal and the informal case below. If the quotations or illustrations are not representative

28. To justify my understanding of the formal case as exemplary, for criteria, see page 89 in Chapter 2.

(that is if they do not occur many times in the data) but are interesting because they fulfil the diverse and wide picture of the formal and informal case, this will be marked in the analysis. The comparative dimensions were found after asking the following questions, all seen as tools to help answer the three main research questions. The comparative dimensions are rooted in sociocultural theory presented in chapter 2, and are defined as follows:

1) Drawing goals: What does the subject want to achieve with the drawing process? What does the teacher want to achieve when initiating his visually controlled drawing classes and what do the children want to achieve when making visually controlled drawings informally? This can also be an explanation as to why the drawing activities take place, and it affects how the VC drawing teaching/learning is manifested. A drawing goal in this inquiry is defined as the subject's aim when learning or teaching VC drawing (Freeman & Sanger, 1995; Kindler et. al., 2002; Scribner, 1984; Simmons, 1992; Scribner & Cole, 1972; Wilson & Wilson, 1977, see chapter 2, page 37, page 46 and page 48 onwards).

2) Drawing strategies: How are the drawing goals attained? How are the similes learned? How are the making of VC drawings taught? What are the techniques or "tricks" used to achieve the drawing goals? A drawing strategy in this inquiry is described as a specific technique (or several specific techniques) used to reach the goal of making a simile as a construction strategy, a learning strategy - or both (Freeman, 1980; Goodnow, 1977; Scribner, 1984; Scribner & Cole, 1972; Thompson, 2002; Wilson & Wilson, 1977, see chapter 2, page 37, page 46 and page 48 onwards).

3) Social arrangements: Who are part of the drawing process, with whom is the VC teaching/learning drawing process developed, where and how? Social arrangements in this inquiry is described as how the drawing activities are organized or arranged, and what the social-contextual and social-relational circumstances around the drawing activities are (Rogoff, 1984; Vygotsky, 1978, see chapter 2, page 24).

4) Means of assistance: How are the subjects helped to develop the drawings in their ZPDs? A means of assistance in this inquiry is described as the intentional interpersonal offering for help. Means of assistance differ from the comparative dimension "drawing strategies" (that can be the content of a means of assistance) by being intentional and interpersonal help to achieve the drawing goal(s) - often seen as teaching (Coates, 1984; Tharp & Gallimore, 1988; Thompson, 2002, Wood, Bruner & Ross, 1976, see chapter 2, page 29, page 49 and page 50).

5) Transfers: Where are the various drawing behaviors and visual expressions taught and learned in formal and informal contexts, what are their characteristics in content, style and structure - and are there traces of situated learning being transferred from one arena to the next? A transfer in this inquiry is described as an identified specific contextual trace or VC drawing phenomenon found to occur and influence teaching/learning of VC drawing in other contexts (Greeno, 1989; Lave & Wenger, 1991; Scribner, 1984, see chapter 2, page 35).

6) Creativity/recombinations: How are the similes or VC drawings used? How are new similes learned? How are they taught? Are there traces of creativity in the bounded activity of teaching and learning to draw what is seen? Creativity in this inquiry is described as the process of combining and recombining already learned similes or parts of similes and to teach/learn to draw similes by making new figures or compose new drawings (Pedersen, 1999; Vygotskij, 1995, see chapter 2, page 23 and page 49).

7) Drawing genres: Why is the drawing activity initiated, what is drawn, how, and where do the drawings belong in context? Can the drawings possibly be associated with genres in broader sociocultural visual dialogues in society? Can sociocultural context bounded traditions be detected in the visual appearances used in both cases? A drawing genre in this inquiry is described as specific visual traces used in society in specific contexts for specific purposes, it is identified by its content, style and structure and substantiates “The How” in focus (Bakhtin, 1986; Simmons, 1992; Kindler & Darras, 1997, see chapter 2, page 34, page 43, and page 57).

Phenomena found when focusing on the comparative dimensions are illustrated, conceptualized and explained in the analysis. Several dimensions or concepts occur in real life simultaneously and they are often interwoven, as Tharp and Gallimore (1988) point out when referring to six concepts as their “means of assistance”. I have been true to the theoretical analysis of each illustration, analyzing everything that is seen as relevant to the inquiry. Because of this, there are repetitions, or there are several examples illustrating the same concepts. In real life, categories can occur simultaneously and it is interesting to see how these different phenomena interplay. But each analysis of an illustration complements the picture of the formal and the informal case.

The teacher often uses “three-D” and “two-D” as abbreviations for three-dimensional and two-dimensional, and in the text below it is written as “3D” and “2D” when expressed in the dialogues. The dates are written in the European sequence: day (dd), month (mm) and year (yy). When referring to transcribed dialogue, each line in the quote is numbered, and is shown

in the text as for example Illustration 11: 30, meaning Illustration 11 and line number seen in parentheses in the quote, here (30). For the explanations of the transcription notation symbols, see Chapter 2, page 97.

Exemplary teaching is not perfect teaching, and an exemplary teacher would be the first to be aware of the potential for improvement. As the following illustrations will reveal, exemplary teaching is seen as the quality of the interpersonal verbal and visual dialogical approach adjusted to each child as an overall teaching strategy.

The formal case of teaching visually controlled drawing

A description of social arrangements and context

The students come running into the classroom, noisy and excited as Norwegian students often are after their break between classes.²⁹ The classroom where visually controlled drawing teaching takes place during the academic year of 2004/2005, the art attic, is situated on the top floor at Vega school. You have to climb three flights of stairs and walk through an old, dark cold storage room before entering the art attic. The walls here, painted white, are part of the inclined ceiling supported by heavy wooden beams. The room is lit by ceiling lights and a large window on the short end of the attic. There are six double tables grouped together to make three large work surfaces. Along the long ends of the room, shelves reach up to the inclined ceiling/wall, where the students store their portfolios and where the teacher keeps the materials for art lessons. There is a sink for rinsing paint brushes and a large table in the middle of the room for demonstration use. From the window there is a view over one of Vega's mountains (see the students' water colors of views from the art attic in *The Vega files*, contextual material not used, formal drawings folder 16), and there is a shelf beside the window for exhibits of models and student products.

Before starting the art class, the teacher prepares classes by sharpening the special pencils, cutting up paper into functional sizes and setting up the still-life or models (branches and leaves) in the middle of each group table. As mentioned above, when I was observing, we also covered the group tables with drawing paper to make a clean surface that could be saved for research purposes if the students should be tempted to make informal drawings or scribbles while waiting for assistance or when talking to peers (see *The Vega files*, formal drawings

29. The average noise level in Norwegian schools is high (Turmo & Lie, 2004: 47).

20(i)). The students are mainly organized into groups of 2-8 students sitting around the objects being drawn, two or three sitting on opposite sides. Sometimes, the objects are given to the students individually so they can look at them more closely, as in the Chinese ink on chalk paper class where the students use leaves and branches as visual models (see *The Vega files*, formal drawings, folder 4 – 9(i) and FVTFo. nos. 2 and 3).

The teacher points to the functionality of using the group structure because it gives the students good visual access to the still-life and it encourages students to help each other (FVTFo. no. 1, p. 1), and the data shows that students engage in each other's work, often with positive assessments (for example in FVTFo. no. 4, p. 16), and as the illustrations will reveal, to model each others' drawings and drawing behavior. In art education at Vega art/public school, the ordinary classes of about 20 students are divided into two smaller groups, with the teacher instructing about 8-13 students at a time, gathered around the three group tables. The observed students are in the fifth, sixth, and seventh grade; which means students from nine to twelve years of age, taught in age-homogeneous groups.

When the students have entered the room and found their seats by the group tables, (the students choosing where to sit themselves), the teacher starts his teaching by introducing the topic to the class (as shown in Illustration 6, page 159). He uses professional terminology when he refers to techniques and materials incorporated in his teaching, such as tonal graduation/gradient (in Norwegian: *valor*), hidden line elimination, abbreviated HLE (Freeman, 1980) (in Norwegian: *overlapp*), contour, the study of the relationship between things, the negative space in between (Edwards, 1987), hatching, chalked paper, three-dimensional, and two-dimensional. He makes sure that these terms are explained so that the students can understand what they mean (see for example Illustrations 3a, 3b and 3c, page 147, Illustration 4, page 151 and Illustration 6, page 159). Then he hands out pencils and paper and starts to walk from student to student, bending over, looking over their shoulders trying to see the still-life in the middle of the group table as they see it, and discussing what he sees with each student (as in Illustration 7, page 162). The teacher often gives positive feedback verbally and physically by encouraging each student with a tap on the shoulder together with different ways of giving assistance. The ambience in the classroom is informal as it often is in Norwegian art and crafts classes, the students talk to each other, but there is often (not always) a sub-tone of engaged seriousness and concentration. Drawing what is seen is a challenge and the task demands visual and motoric attention (Edwards, 1987).

Visually controlled drawing is only one of many art assignments given to the students of this age group during their academic year. A varied program, having different challenges demanding a variety of input from the students, is a good description of the art education presented to the students at Vega. The profile of the program is to give students defined tasks with clear purposes and expectations linked to the subject's learning goals that also could be found in the national curriculum in force (L97). Projects involving animated movies, paper-clipping sculptures inspired by the Norwegian artist Nils Aas, and stone age and eider duck findings on the islands of Vega are good examples of the art curriculum content (see pictures below, Figure 10). But also assignments incorporating craft-related materials, such as clay, wood and textiles, are part of the challenges in the art and crafts education offered to the students at Vega, as stipulated in the national curriculum at the time. In other words, visually controlled drawing is part of a variety of challenges in art education. These students from nine to twelve had all together 380 hours (classes) to work on these challenges (approximately 126 classes a year as stipulated in L97: 81). In addition to these 380 art and crafts classes, about 30 hours of visually controlled drawing (10 hours per academic year) were given to all students aged nine to twelve years from the county's art school budget. These classes were either separate drawing classes or integrated in other projects, such as the eider-duck project. It is under these terms in art education, and in this physical and social context that the following scenes take place. These scenes, presented as illustrations, are the grounds for identifying the comparative dimensions as they occur.

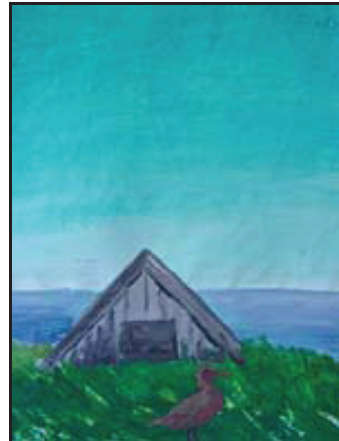


Figure 10: The paper-clipping project inspired by the artist Nils Aas, and the eider-duck project

Illustrations 1a and 1b: Drawing goals, drawing strategies, means of assistance and drawing genres

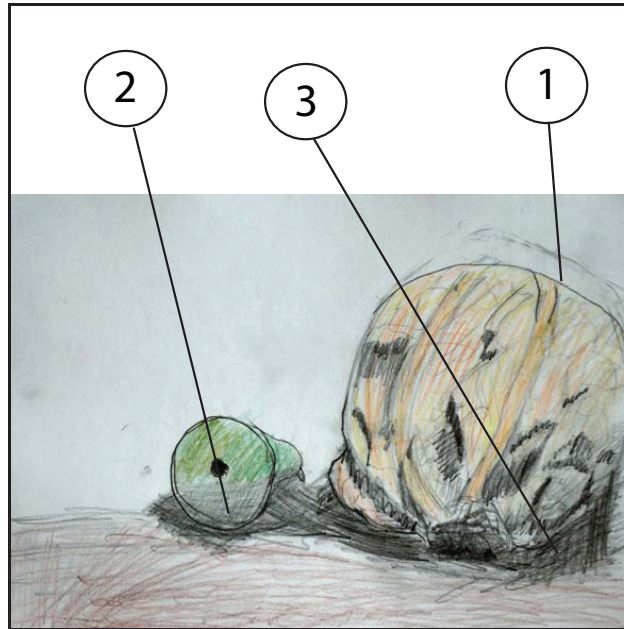


Figure 11: Andrea 5th grade, Imgp. 1638(1FDFo..i)

Illustration 1a, context: The teacher is interviewed in the art attic after the 1st and 2nd class of the still-life assignment “fruit and vegetables” in the 6th grade, 16/09/04:

- (1) Interviewer: You said something about drawing fruit (the still-life) on white paper with a pencil.
- (2) Teacher: Well, the task is not very exciting to begin with. If you manage to formulate a challenge, you might be able to awake an interest in them (the students), even though the task itself might be boring in the beginning. And the drawing equipment is pretty basic, it's a pencil, a black line on white paper. It's kind of fun to go way down to this basic point. We're using some fancy paper. I think dry pastels are really fun to work with; you can get some really cool effects, really fun, and easy to work out. Then it's really OK to go back to the pencil, the simple line, the simple assignments, one has to have the guts to do that.
- (3) Interviewer: How do you sum up the two classes we just had?
- (4) Teacher: Well, it is a little – not uncomplicated – it's obvious that someone...I feel that we partly managed to create some good dialogues, they understand the assignment, they understand that they have to try to make a 3D figure. They are supposed to find the outline first (the outer form/contour), they are supposed to describe the three-dimensional form with the help of graduated tones, and then place this (the three-dimensional object) in a room, that is, we just put it on the table, and with the help of shadows we managed to tell that the object is lying on a table. And I can see that they discover that, they make discoveries. Oh, yes, and that was my little kick today, it happens. But it's never the big kick. Still, I think it works. They make discoveries. And the

ones specially interested in drawing will continue to explore drawing. I know this from my own experience and from my own childhood, when I was exploring these things, that is the three-dimensional forms, to be able to express them (the three-dimensional forms) with light and shadow, and to start grading, that is to start describing the three-dimensional form, I did it then completely...by exploring by myself. The groups are really different, of course they should be, they're really different. There was some noise now, that can make a bad working environment, the tables are rickety, and make noise, they are not good enough. Some children annoy each other, and things like that. But it's also this noise that makes ...that they don't disappear in the assignment. No, they don't disappear in the assignment...

- (5) Interviewer: What do you mean, "disappear in the assignment"?
- (6) Teacher: No, but sometimes I manage to get them so fascinated that they are drowning in the challenges, I don't even notice them, they're just there...pang...and it is my ideal situation, it's really rare that a whole group has an experience like that, but it happens sometimes.

(FVTFo. no. 1, p. 7-8, video no. 1: 04.47-08.26)

- (7) Teacher: When we draw, it's really about seeing.
(FVTFo. no. 1, observation notes, p. 2)

Illustration 1b

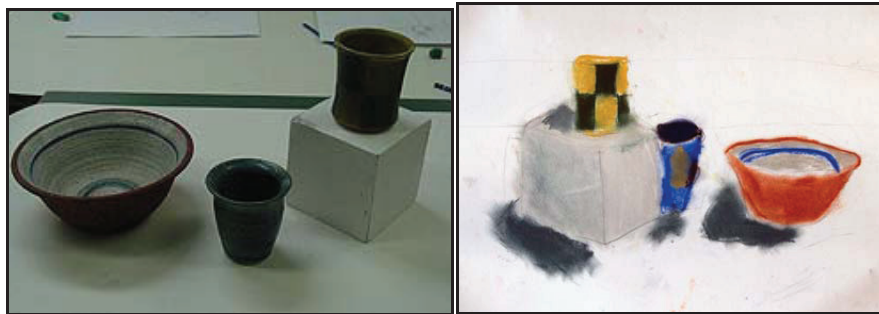


Figure 12: Photograph of the still-life and August 5th grade, Imgp. 3525(12FDFo.)

Illustration 1b, context: Observation of the teacher talking to August, 5th grade (see Imgp. 3525 above), drawing on the student's drawing, instructing about hidden line elimination, (HLE, Freeman 1980, see page 55), and using basic geometric terms in the class with assignment still-life with ceramics, pencil and pastels, 17/11/04.

- (1) Teacher: How are we going to manage this? ... Yes – yes– ... This one – THIS one is hard – This is really hard... Let's try over again It's not that easy ... // it's really hard with this one here –
- (2) August: /// the edge –
- (3) Teacher: Yes, that's what we call an ellipse - ... And you understand... what you see – what you see –
- (4) Student2: /// (another student calling for help)
- (5) Teacher: (Answering the other student) Yes, I'm coming, but you have to give me time to stop at ... August's ... his name is. Look here, August – It arrives... What

- we really see, is THIS one –. And then it hides here, and comes back again here – And then it hides, and comes back again. Do you see?
- (6) August: Yes –
(FVTFo. no. 4, p. 24, video no. 4: 51.40-52.10)

Analysis of Illustrations 1a and 1b:

Drawing goals

Having chosen a sociocultural point of view, I see drawing as mediated action (Wertsch, 1998) covering our use of the historically and culturally developed tools pencil and paper when interacting with the world (Vygotsky, 1978: 40, 55; Vygotskij, 1995: 11 – 30, see Chapter 2, Figure 1, page 19). From this point of view, drawing, as the teacher describes it, is using the tools pencil and paper to make a black line (Illustration 1a: 4, 5). They are tools because they are externally oriented (Vygotsky, 1978: 55) and these tools change the external material world by making traces. Once the traces are made on paper, they can be classified, according to Vygotsky (1978: 55), as signs loaded with meaning and representation. Signs are often internally oriented to help humans master themselves (Wertsch, 1985). Learning visual awareness through drawing can be such an internally oriented activity.

Visually controlled drawing is a tradition within art aimed at, according to the teacher, learning to draw by seeing (“When we draw it’s really about seeing”, Illustration 1a: 7), or as the teacher tells his students at the beginning of the assignment still-life with ceramics, in the 5th grade: drawing is telling, drawing is describing, drawing is seeing (FVTFo. no. 5, p. 1). One formal drawing goal is to learn to see, and to make a simile of the seen as a result of cultivating seeing awareness, sensitizing visual perception. To be able to draw you have to see what is in front of you, the object, the still-life to be drawn (Illustration 1a: 7). The tools pencil and paper are also part of a strategy to obtain the formal goal of learning to see.

Drawing strategies

Drawing is training visual awareness, but it also involves the knowledge of how to make the still-life, what I have chosen to call the formal drawing strategies. According to the teacher (Illustration 1a: 4), the mediated activity of drawing a simile has to be undertaken in a particular sequence. Sequence, according to Goodnow (1977), is mainly culturally learned, and we see here that the teacher is advocating a system, an order or a specific sequence to build up the drawing. If we use Goodnow’s (1977: 23, see Figure 5, Chapter 2, page 54) notation of

sequence in the specific process of making a simile on paper, this far in the formal case this will be: 1) Contour/outline, 2) tonal graduation of light and shadow, and 3) place the drawn object in space, on a surface casting shadows (Illustration 1a: 4, see Figure 11, page 135). Sequence (Goodnow, 1977) can be seen as part of a strategy, what I have chosen to call a formal drawing strategy.

We can divide the process of drawing a simile according to the teacher's instructions in the formal case into two parts at this point: 1) the goal of cultivating visual awareness and 2) knowing methods or a drawing strategy such as the defined sequence above (1) Contour/outline, and (2) tonal graduation of light and shadow, and (3) place the drawn object in space, on a surface casting shadows, and the use of HLE (Illustration 1b) to express the visually perceived. The strategy taught by the teacher to draw a simile can also be seen as tools, structuring thinking tools, in the making of a drawing. They are aimed outwards or externally as a tool that is combined with the paper and pencil to help the students accomplish the act of drawing a simile.

Means of assistance

The formal drawing strategies in visually controlled drawing are presented to the students in dialogues (Illustration 1a: 4) and through the means of assistance instruction on how to create a sense of three dimensions (what he calls 3D, Illustration 1a: 4), but he also gives these verbal instructions in such a way that they can be classified as cognitive structuring (Illustration 1a: 4). His instructions can make it possible to apply the structures given in a personal way, with a personal touch so to speak, and this opens for new discoveries or experiences in drawing. The teacher works on the frustration control part of the scaffolding process (Wood, Bruner & Ross, 1976) (Illustration 1a: 4-6) by trying to keep the noise level down so that the students have the chance to disappear in the assignment, that is to concentrate fully on the drawing task (Edwards, 1987). To summarize, the teacher uses two linguistic means of assistance, cognitive structuring and instructions (Tharp & Gallimore, 1988: 57) to teach the students to draw what is seen; here a still-life.

The specific sequence used is part of the teacher's own pool of skills, experience and knowledge in visually controlled drawing considered age appropriate, useful and attainable for the group of children he is teaching (Wood, Bruner & Ross, 1976). We can then see the teacher's drawing strategies when teaching, his own tools to build the drawing; sequence and HLE as part of what Shulman (1986) labels pedagogical content knowledge – the “what” and

the “how” in teaching (Wilson & Gudmundsdottir, 1987). The teacher sees his own experiences in drawing as a child in the students, and on these grounds he teaches his skills and knowledge in visually controlled drawing (Illustration 1a: 4). Further illustrations will also show that the way sequence is communicated is also a choice and a simplification of subject content taken out of his own pool of knowledge, skills and experience for teaching purposes. When composing his base of pedagogical content knowledge in visually controlled drawing, the teacher is also transferring skills, experience and knowledge from the informal (his own learning history in drawing as a child) to the formal context (Illustration 1a: 4), even though his informal contexts are not within the time boundaries and geographical boundaries of the informal case used in this inquiry. The teacher’s informal learning experience merges with his formal training as a designer and his experience as a teacher on the formal arena.

Situatedness influences teaching and learning, and the physical environment where the visually controlled drawing takes place is also something the teacher is aware of. He is unhappy about the scratchy noises the desks make, and about the lack of concentration this can cause (Illustration 1a: 4). According to the teacher, the quality of the material environment, such as good desks and a quiet environment, has an impact on learning.

According to Coates (1984, see page 49), Clement (1992) and Wilson and Wilson (1982a) the aim of visually controlled drawing is to encourage children to see visual qualities, a definition close to the teacher’s understanding of visually controlled drawing (Illustration 1a: 7). If we look at Simmons’ (1992, see page 57) four approach modes, the teacher classifies the drawing tradition he teaches as what can be identified as the observational approach (approach 2), but we can also see traces of the analytical approach (approach 1). The teaching of accurately capturing the contour of the objects and the teaching of the laws of light and shadow (the result seen in for example *Imgp.1622(3FDFo.)* or *Imgp.3525(12FDFo.)*), with an extensive emphasis on looking at the objects to be drawn, echoes Simmons’ approach number 2; the observational approach. But the teacher is also focused on seeing the major basic shapes, the outlines of a cylinder or seeing an ellipse (as in Illustration 1b: 3, with *Imgp.3525(12FDFo.)* as an example), that is more of an analytical approach (Simmons, 1992). To conclude, Simmons’ observational approach and analytical approach are found in the formal case of teaching visually controlled drawing.

The means of assistance cooperative drawing

Illustration 1b also shows how the teacher uses what I have chosen to call the means of assistance cooperative drawing. This means that he draws on the student's drawing, and at the same time uses the means of assistance instruction and modeling (Tharp & Gallimore, 1988) to teach, as seen when he teaches the drawing strategy HLE, or "overlapping" in Norwegian (Illustration 1b: 5), to create a sense of space and volume in the drawing. He uses descriptive (Illustration 1b: 5) and motivational utterances (Illustration 1b: 1) (Coates, 1984). Cooperative drawing as a means of assistance covers the teacher's drawing on the students' drawings while he is modeling and instructing, using descriptive utterances and constantly questioning, checking for visual awareness to make sure the student follows him visually, seeing what he is seeing and drawing when giving assistance.

Seeking/checking for visual intersubjectivity

The teacher uses the means of assistance questioning (Tharp & Gallimore, 1988) to seek for intersubjectivity (Wertsch, 1985; 1998) or to check for visual intersubjectivity as documented in Illustration 1b. The data show that questioning often is aimed at seeking for visual awareness (Illustration 1b: 5), or checking if the student sees what the teacher sees. I will use the term *seeking for visual intersubjectivity* or *checking for visual intersubjectivity* here as a label for these visual and verbal processes often occurring when using the identified means of assistance cooperative drawing, specifically used in visually controlled drawing teaching.

Drawing genres

The teacher teaches what can be looked upon as a pictorial language, visually controlled drawing. Visually controlled drawing can be identified as belonging to the genres (Bakhtin, 1986, see page 34) called observation drawing; in context found in the natural sciences, architecture and the art world, and the still-life genre, found in the art and crafts world, as seen in these illustrations. This category of drawing and drawing processes can be identified as what Kindler & Darras (1997: 40, see page 41) label as images that are a result of isomorphic tendencies. According to Kindler & Darras the development of isomorphic tendencies in drawing (isomorph: a simile, or something identical, Scribner, 1984: 39) requires teaching or asymmetry (Strandberg, 2006); that is interaction between a more competent other and the student in their formal ZPD (Vygotsky, 1978). Visually controlled drawing goes beyond initial

imagery (Kindler & Darras, 1997, see page 43), i.e. the students' ZADs (Vygotsky, 1978) in drawing. This type of drawing is part of an isomorphic (Kindler & Darras, 1997) tradition and belongs within the sociocultural tradition or in the speech genres (Bakhtin, 1986) of visual languages, here labeled drawing genres. Both drawing genres were nurtured and developed within the classical academic Western school of art rooted in the picture making laws and rules developed during the Renaissance (Bryson, 1990; da Vinci, 1956).

Illustrations 2a, 2b and 2c: Drawing strategy

Illustration 2a, context: In this illustration the teacher is observed in dialogue with a student, Alexander, about the assignment "Fall poem", Chinese ink on chalk paper, with leaves and branches as an inspiration, 5th grade, 22/10/04:

- (1) Alexander: Draw a fall leaf?
- (2) Teacher: Yes, then we can draw a fall leaf. And then we have beautiful ink and pen drawings. Be my guest! See if you can draw a fall leaf inside! (in the middle of the drawing with the branches as borders).
- (3) Alexander: ///
- (4) Teacher: And then you don't draw around the leaf, like this (points around the leaf)
- (5) Alexander: Yes –
- (6) Teacher: You hold it (the leaf) – you hold it and then you draw what you see
- (7) Alexander: /// Why can't we just (puts the leaf down on the paper surface) – and then just ///? (traces around the leaf with a finger).
- (8) Teacher: You're not allowed to put it down and draw around the leaf, no. No! Oh no! Here you hold the leaf up, and then you look at the leaf –
- (9) Alexander: ///
- (10) Teacher: -and then you draw. Hm?
- (11) Alexander: /// (.....)
- (12) Alexander: /// Do we copy/mimic it? (in Norwegian: *herme*)
- (13) Teacher: We don't copy it – Well, yes, we can – if you hold the leaf like this – in the air, and then you draw as closely as possible – can you do that? ...Hold it in your hands and then draw...

(FVTFo. no. 2, p. 25, video no. 2: 58.50-60.00)

Illustration 2b, context: The teacher is interviewed in the art attic after the 1st and 2nd class in still-life with fruit and vegetables in the 5th grade, 16/09/04.

- (1) Teacher: Maybe I interfere too much in their processes. Many students are focused on the results, they are more interested in the final product than to play within the world of drawing.

(FVTFo. no. 1, p. 1, observation notes, interview 16/09/04)

Illustration 2c, context: The teacher is interviewed in the art attic after the 1st and 2nd class of still-life with fruit and vegetables in the 6th grade, 16/09/04:

- (1) Teacher: Copying from 2D to 2D is something completely different than seeing in 3D and drawing 2D. Then they only draw according to the line, they don't look.

(FVTFo. no. 1, p. 4, observation notes, interview, 16/09/04)

Analysis of Illustrations 2a, 2b, and 2c

We can look at the dialogue (Illustration 2a: 1-13) as representative of a “how not” that tells us something about what kind of formal drawing processes are wanted, a seeing-drawing process and a drawing based on this process. The teacher’s goal in this formal drawing lesson is to get the students to observe and draw, to practice and sharpen and sensitize their sensorimotor “look-and-draw” abilities. There is a reason for focusing on how the simile/sign is made (Illustrations 2a and 2b). When the students use the tracing/mimicking process as a drawing strategy (tracing with a pencil around the leaf pressed on paper), this would not include the specific sensitizing looking-drawing-looking-drawing process of making a simile out of an object, but it will give a result that would certainly be close to an exact print of the leaf. In Freeman and Sanger’s (1995, see page 52) cross-cultural study of what is regarded as beautiful by 11- to 14-year-old young people, the picture-artist referent is seen as valuable; that is the ability the draftsman has to make the picture look good, and often this means “alike”. Thus when a sign or a simile of a leaf looks almost exactly like a leaf it is a highly valued drawing, or the final product is highly valued, as the teacher has also observed as being important for his students (Illustration 2b).

The teacher is fully aware of the students’ goals in the informal arena and he reflects on the differences between his formal goals in this class, and their informal goals when drawing. He wants visual perception to result in a drawing, as he says in Illustration 1a, “When we draw, it is really about seeing” (Illustration 1a: 7). The teacher gives the students instructions as a means of assistance (Tharp & Gallimore, 1988) see, look closely, but do not trace (Illustration 2a: 8). The teacher’s goal with the visually controlled drawing class is not only to draw a simile, but to make the drawing by using a specific drawing strategy that disciplines the students to learn awareness of visual qualities and then commit this awareness to paper.

Illustrations 3a, 3b, 3c, 3d, 3e, and 3f: Drawing strategies and means of assistance

Examples of students' fruit and vegetable still-life drawings to show the difference in use of the drawing strategy oblique projection as referred to in the analysis page 147-148.



Figure 13: Charlotte 5th grade, Imgp.1636(1FDFo._i)



Figure 14: Andrea 5th grade, Imgp.1538(1FDFo._i)

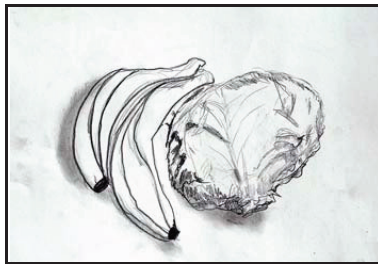


Figure 15: Camilla 7th grade, Imgp.1616(3FDFo.)



Figure 16: Erika 7th grade, Imgp.1621(3FDFo.)



Figure 17: Evelyn 7th grade, Imgp.1622(3FDFo.)



Figure 18: Emily 7th grade, Imgp.1624(3FDFo.)

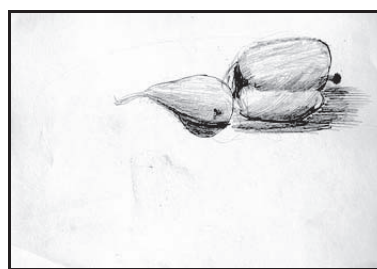
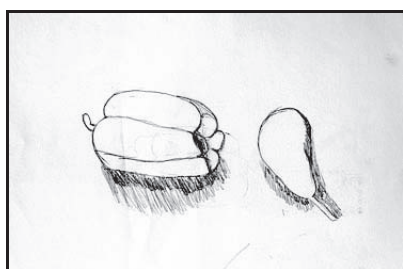


Figure 19: Henry 7th grade, Imgp.1619(3FDFo.) Figure 20: Fred 7th grade, Imgp.1620(3FDFo.)

Illustration 3a, context: Observation of the students drawing a cabbage, the teacher talks to one student, Anita, in one of the groups about her drawing, 5th grade, 16/09/04 (the drawing can be seen on video no. 1, see Appendix 3, p. 1):

- (1) Teacher: Now young lady, you're going to start to look at what we're seeing there, now we're going inside, we have taken the outline, that's very good, now we're going to look, what do we see here? Now we're going to make this a cabbage. Now we take this (the teacher draws on the student's drawing) /// now we can start making a shadow, here. Then we have colored, we have made what we call tonal graduation.

(FVTFo no. 1, p. 18, video no. 1: 35.30-36.20)

Illustration 3b, context: Observation of the teacher talking to a student in a group drawing a cucumber and an orange 6th grade, 16/09/04:

- (1) Teacher: Can you do this now? (Talks to a student while helping by drawing). Now we're going to make a shadow, we build up the shadow a little...we put on a little...it's starting to be 3D, we're cheating a little (.....) We make it a little like this (the teacher draws on the student's drawing). Is this an orange? (The teacher holds the drawing up front). Yes! There are these little tricks. You can make it, try...Then look here, here it casts a shadow, to be able to take this down from the air, we put it on the table, to do that we make a small shadow. It can be even darker, we can level it down (.....) Then suddenly it's on the table, now suddenly it's on something! (continues to draw on the student's drawing)...now we have explained that this is a cucumber, we have said something about the outer form, we have managed to explain that it is 3D, that the orange is 3D, and that it's on a surface because it casts a shadow (shows with his hands by forming a round form, and hits the table with his hand). We have managed to say a lot of things in the drawing. Now I want you to try, work some more on this drawing, go further with this (points at the drawing).

(FVTFo no. 1, p. 6, video no. 1: 01.09-02.28)

Illustration 3c

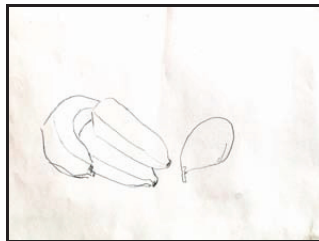
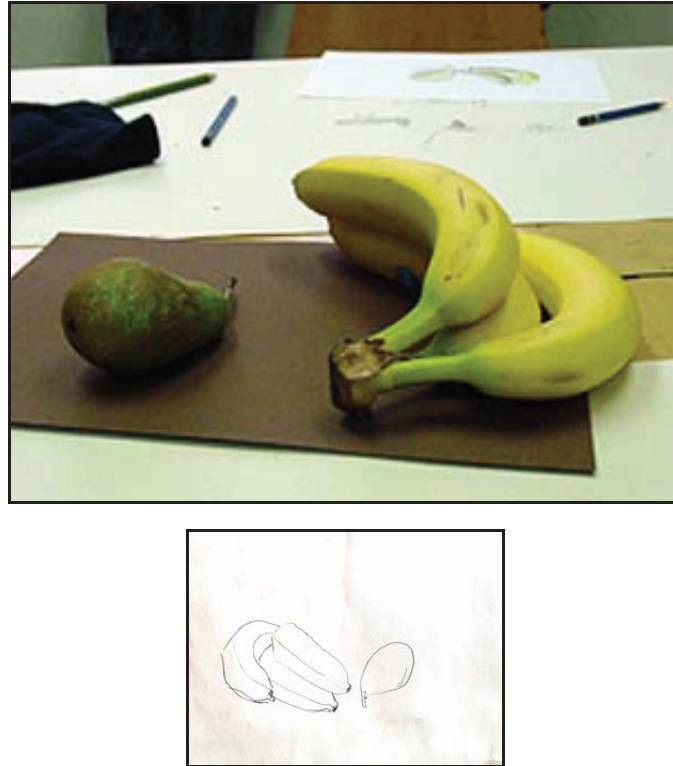


Figure 21: Teacher's model drawing of the first part of the sequence: contour and hidden line elimination (HLE), [Imgp.1597\(2FDFo._i\)](#). Above, picture of the still-life

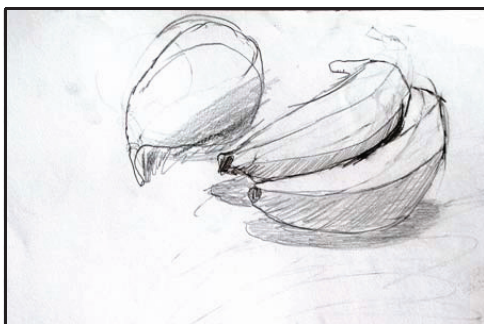


Figure 22: Chris 6th grade, [Imgp.1608\(2FDFo._i\)](#)



Figure 23: Aurora 5th grade, [Imgp.1635\(1FDFo._i\)](#)

Illustration 3c, context: Observation of the teacher is instructing a student in the 7th grade, 16/09/04:

- (1) Teacher: Take this one away, we can't see it, but it overlaps and this one is whole, it's called hidden line elimination (HLE). They overlap each other (drawing on practice-sheets of paper, modeling how to make the illusion of room by using HLE, see Imgp.1597 above).

(FVTFo no. 1, p. 16, video no. 1: 28.00-28.16)

Illustration 3d, context: Observation of the teacher getting Dorothy (drawing not shown as the theoretical point is in the dialogue, the drawing can be found in *The Vega files*) in the 6th grade started with the assignment still-life with ceramics, pencil and pastel, 17/11/04:

- (1) Teacher: Try to see if you can draw, all of you!
(2) Dorothy: I'm going to begin by drawing from the top first.
(3) Teacher: Yes. And if you all are really clever, you'll try to look at the volume
(4) Dorothy: What ///
(5) Teacher: Try to draw the volume. Can you manage – No, I have an eraser (talking to one student giving the teacher an eraser) – can you manage to draw the spaces in between the different figures?
(6) Dorothy: There's no space in between ///
(7) Teacher: No, some of you see the spaces in between, some of you don't (depending on how the students are sitting in relation to the still-life) –
(8) Dorothy: Where should I start?
(9) Teacher: Decide that yourself. You can decide that completely on your own.
(10) Dorothy: Can you help me with the start?
(11) Teacher: Okay – Then you have to promise me one thing, because I don't see exactly what you see. You see the top one – the one on top. If we place it here – and a little – ALMOST so that you can see the circle, do you see it? (drawing on the student's drawing, checking/seeking for visual intersubjectivity).
(12) Dorothy: Yes.

(FVTFo. no. 4, p. 2, video no. 4: 04.45-05.40)

Illustration 3e, context: Observation of the teacher helping a student (not identified) to draw a cup in the assignment still-life with ceramics, pencil, and pastels, 7th grade, 17/11/04:

- (1) Teacher: Yes, then we start down here – There, there's a curve – do you agree? (drawing on the student's drawing, checking/seeking for visual intersubjectivity).
(2) Student: Yes.
(3) Teacher: We see a curve in the bottom – and now comes the difficult part – then I usually make a help line here – right down here – a help line. And then I try to draw the same thing on both sides.

(FVTFo. no. 4 p. 17, video no. 4: 36.30-37.30)

Illustration 3f



Figure 24: Edith 6th grade, Imgp.3471(10FDFo.)

Illustration 3f, context: Observation of the teacher demonstrating for a student, showing how to make a shiny texture by using appropriate spots of white pastel, 6th grade, in the assignment still-life with ceramics, pencil and pastels (see the blue cup in Imgp.3471 above), 17/11/04:

- (1) Teacher: Do you want some gloss? ... Do you want a little gloss, just for fun?
- (2) Dorothy: I want it like THIS.
- (3) Teacher: Look here – where do you see the gloss? Now you have to try to put the gloss where you see it. (Draws with white pastel on the students' still-life)
- (4) Dorothy: I see – I see only gloss THERE.
- (5) Teacher: Yes. Don't you see it, on the edge here? Then you see it on top here, on top – And then you see a little gloss HERE. Do you see – and then inside here – Hello! ... Yes! There you see a lot. Try to see if you can make it.

(FVTFo. no. 4 p. 12, video no. 4: 28.40-29.00)

Analysis of Illustrations 3a, 3b, 3c, 3d, 3e, and 3f:

Various drawing strategies

In the process of committing the formal drawing assignments to paper, the drawing of the fruit and vegetable still-life in Illustration 3a, the teacher focuses on seeing the outer form, the outlines or the contour of the drawn objects, where it is crucial to capture them on paper as a first step in the sequence of making the VC drawing. When this is done he then encourages the students to use tonal graduation or shading to identify the drawn object. The teacher asks the students to analyze the objects in the scene or the still-life as wholes or major flat forms first, then he introduces the technique or the tool (oriented outwards, Vygotsky, 1978) to make the

drawing; the tonal graduation that makes it possible to understand the drawing as a representation of three dimensional objects situated in space and placed on a table. The teacher then prompts the students to use light and shadow to describe the objects, but also to place the objects in space, on a surface, by using the casting shadow as a source of information for the placement of the objects on a flat surface (Illustration 3b: 1). Again, the teacher's formal strategy is 1) first to capture the whole outer form or contour and then 2) describe the volume of the still-life as shadows expressed as graduated, shaded forms, or tonal graduation and then finally, 3) the still-life is placed in a room, on the table with the help of shadows (Illustration 3b: 6-16) (see also Illustrations 1a and 1b, page 137).

We see in some of the students' drawings that oblique projection (seeing what is lying on the table from the side and at the same time from the top, see Chapter 2, page 55 and onwards) is used as a drawing system (Freeman, 1980), and that this occurs when making the simile of the observed scene (fruit and vegetables on a table) as seen in pictures Imgp.1616, Imgp.1622 and Imgp.1619 above (see Figure 15, 17 and 19). Thus, some of the students respond to the teacher's assignment by using oblique projection to describe objects in space as part of their drawing strategy in visually controlled drawing classes. The drawing strategy HLE is also taught by the teacher and this is also what most students utilize when drawing several objects that are viewed as one behind the other (see for example Illustration 3c). Another drawing strategy, or a method to help make a simile, as taught by the teacher, is the use of help lines (Illustration 3e), he says he often uses these himself (3e: 3). The choice of subject content, here the use of help lines, is part of his pedagogical content knowledge (Shulman, 1986). The teacher is checking for visual intersubjectivity (Illustrations 3e: 3), instructing the student on how to make it easier to reproduce a form that is balanced by drawing a help line in the middle of the simile and adjusting the drawing so that what is on both sides of the line are equal (Illustration 3e). Another trick of the trade taught by the teacher is the use of white to make a sense of a shiny texture, which can also be seen as a drawing strategy (Illustration 3f).

Modeling and cooperative drawing

In Illustrations 3a and 3b, the teacher uses the means of assistance modeling (Tharp & Gallimore, 1988, see page 29) when scaffolding (Wood, Bruner & Ross, 1976, see page 32). He models the use of contour and the use of HLE (see his model in Imgp.1597 Figure 21, page 145), but also draws on the student's drawings, demonstrating a specific drawing

behavior and helping the student to build the drawing (Illustration 3b). I have labeled this process, or this means of assistance specifically used in visually controlled drawing cooperative drawing, as first presented in Illustration 1b and derived from Wilson (2007) use of the term collaborative drawing when he describes what is taking place when adults and children draw together, developing a graphic narrative in a graphic dialogue (Wilson & Wilson, 1982a).

Cooperative drawing as a process would then be similar to Wilson's descriptions, but it involves asymmetric contributions to one drawing process by modeling as the more competent other, contributing to the finished drawing as a product and making the drawing develop with knowledge and skills not present at the moment in the student's ZAD. It also differs in the sense that VC drawing has a fixed goal, to draw what is seen, and is assessed by the students and the teacher according to this goal. This echoes Tharp and Gallimore's (1988) requirement of a known and definite answer to an assignment when talking about the use of means of assistance in the students' ZPD.

The students' drawings at Vega public school are for the most part in portfolios so the assistance given in the students' ZPDs by modeling drawing behavior (exposing the knowledge and skills of the more competent other), and the making of a graphic model as part of the students' drawings, for example making shadows (Illustration 3b), can be revisited and used as reminders of the modeling processes as the given means of assistance. They can also be used as graphic models, to be drawn later or remodeled, when new still-life pictures are to be made as assignments in art and crafts.

When scaffolding (Wood, Bruner & Ross, 1976) in the students' formal ZPDs, the teacher uses dialogues that can be sorted under Tharp and Gallimore's (1988) verbal means of assistance, and the quality of these means of assistance can also be described under Coates' (1984: 199-202) classification of utterances when teaching art. Apart from giving instructions (Tharp & Gallimore, 1988) (Illustration 3b), the teacher often talks about "cheating" and performing "little tricks", as in Illustration 3b. According to Coates (1984: 199-202), we could characterize these instructions as descriptive and practical, the how to do, and the "cheating" and "tricks" as social and motivational (Coates, 1984). The teacher is making the task of drawing into something comprehensible and attainable for everybody as long as they know the "tricks" he is about to teach them. He is teaching the students "the tricks of the trade". The tricks themselves are part of his pedagogical content knowledge (Shulman, 1986), as are the verbal utterances, calling this knowledge of committing a three-dimensional object on paper

“tricks” when in dialogue with the students. His verbal instructions often occur together with cooperative drawing, and with the support of such motivational words as “tricks” and “cheating”. This can be seen as part of his bridging (Wilson & Gudmundsdottir, 1987), trying to connect with the students “at home”, by using words that can make this task exciting. The teacher is reaching out to the students, seeking intersubjectivity (Wertsch, 1985; 1998) by using the words “cheating” and “tricks” in their formal ZPDs.

Looking for the space in between, or negative space, is a drawing strategy advocated by Betty Edward (1987) in her book *Drawing on the right side of the brain*. According to her, the strategy of focusing on the space in between the objects to be drawn helps the draftsman to detach him or herself from visual presumptions of what is to be drawn according to earlier visual experiences, and to see objects as pure form by drawing “nothing”. The teacher uses this strategy not only as a “trick” to help the students focus on the forms in the still-life, but also to help them see when to use HLE (Illustration 3d).

When the teacher draws on the student’s drawing on the student’s request for help, he ensures that they both see the same thing, he seeks for intersubjectivity by using the means of assistance questioning (Tharp & Gallimore, 1988). The data shows that very often his use of questioning as a means of assistance involves checking if the student is visually aware of what he as a teacher sees (Illustration 3f). He is checking for a common visual ground of perception, or for what I have labeled, inspired by Wertsch, visual intersubjectivity (Wertsch, 1985; 1998). Questioning (Tharp & Gallimore, 1988) for visual awareness is mainly used together with the means of assistance cooperative drawing and instructions using descriptive utterances (Coates, 1984), as seen in Illustrations 1b and 3b.

Illustration 4: Means of assistance: Questioning and cognitive structuring

Illustration 4, context : Observation of the teacher explaining the difference between three-dimensional and two-dimensional in dialogue with Isak in 7th grade, 16/09/04:

- (1) Teacher: But drawing is a two-dimensional thing. We’re going to try to transfer from our brain through our hand what we see three-dimensionally. Hush, don’t talk when I’m talking (directs this at chattering students and claps his hands once)...so you’re going to try to describe two-dimensionally on paper what you see three-dimensionally, do you know the difference between 2D and 3D?
- (2) Isak: Yes, 2D is flat (claps his hands once) and 3D comes... (gesticulates in circles with his hands).
- (3) Teacher: Yes, paper is two-dimensional, it has height and width. It has two dimensions, a three-dimensional thing has height, width and depth, it has three dimensions. (The teacher shows with his hands, gesticulates and forms an imaginary ball in the air).

(FVTFo no. 1 p. 8, video 1: 08.28-09.14)

Analysis of Illustration 4:

By using questioning as one of the means of assistance (Tharp & Gallimore, 1988), the teacher initiates and develops a dialogue exposing the answers to his question “do you know the difference between 2D and 3D?” (Illustration 4: 1). By questioning, he involves the students, he demands a response. At the same time he can instruct the students, giving them the correct answers about the difference between 2D and 3D (Illustration 4: 3). When using the means of assistance questioning the teacher has to know the answer, according to Tharp and Gallimore (1988). The answer is not only related to the subject of art and crafts, it is also connected to the subjects of natural science, physics, and mathematics; the understanding of the laws of volume and space. Here the teacher is using assessment questioning (Tharp & Gallimore, 1988) to check for the student’s understanding of the difference between the terms 3D and 2D. The question can also classify as an assistance question (Tharp & Gallimore, 1988) because it can initiate the possible cognitive images that can help the student to move within his ZPD in drawing a 3D object on a 2D surface.

Explaining in words what three dimensions means can help the students to develop awareness of what has to be depicted in a drawing of a three-dimensional object (Illustration 4: 3). This is also one of the teacher’s goals in VC drawing; to teach the students “the tricks” as he says, or “the cheating” (see Illustration 3b: 1, Illustration 5b) in depicting a three-dimensional object on a two-dimensional surface. According to the teacher’s teaching practice in visually controlled drawing, a cognitive understanding of what three-dimensional is gives a better understanding of the drawing assignment. We can label this dialogue (Illustration 4: 1-3) cognitive structuring (Tharp & Gallimore, 1988). The images, associations or structures that the words height, length, and depth can help the students to commit on paper the difficult task of depicting three-dimensional objects on a two-dimensional surface.

Illustrations 5a and 5b: Means of assistance: Instructing to use the drawing strategy exercise

Illustration 5a, context : Observation of the teacher getting the class started while he hands out small practice sheets of paper, ink, and pens before the assignment “Fall poem” is given, 5th grade, 22/10/04:

- (1) Teacher: I will also give you a pen. You are allowed to practice a little, draw a little, maybe make some letters. Oh, this was empty (holding a small ink bottle) ///
So here you are (talks to the group about filling up more ink) Yes.
- (2) Annette: ///
- (3) Teacher: People! People! People! Just make strange figures or what ever you want.
- (4) Annette: Shall we start?
- (5) Teacher: Just go on... Please, exercise and exercise!
- (FVTFo no. 2, p. 20, video no. 2: 42.50-43.28)

Illustration 5b, context: Observation of the teacher as he explains to a student while helping to draw light and shadow with tonal graduation on the student's fruit and vegetable still-life, 16/09/04:

- (1) Teacher: Gradually it becomes a 3D form, it's a technique you have to practice a little. Can you see? We're beginning to develop a 3D effect. We're cheating.
- (FVTFo. no. 1, observation notes, p. 2)

Analysis of Illustrations 5a and 5b

The teacher focuses on the need to exercise the craftsmanship of using pen and ink (Illustration 5a: 5). He instructs the student to exercise (Coates, 1984; Tharp & Gallimore, 1988) as part of his teaching process in drawing, as part of a strategy to reach the goal of making a simile. He calls the technique of expressing light and shadow (3D) through tonal graduation "cheating" (Illustration 5b: 1). Tonal graduation is part of "the tricks of the trade", and so is practice or exercise. Thus the exercise is also part of a drawing strategy in the craftsmanship and ability to express three-dimensional form. It is seen by the teacher as an important part of the visually controlled drawing process.

The teacher is saying to the students that to master a simile presupposes the mastering of techniques that needs practicing through exercise. Just as in internalizing the motoric skills of walking and talking, the motoric skill of drawing requires many repetitions. The time and hours given to art and crafts as a broad subject according to the national curriculum in force at the time (L97) and the extra 10 classes of VC drawing given to all the students at Vega by the art school do not allow an excessive use of repetitiveness and exercising in drawing, but the teacher instructs the students to practice and exercise within the time frame given in VC drawing, and as part of the drawing strategy to be able to reach the goal of making visually controlled drawings.

Illustration 6: Means of assistance: Modeling, copying (*herme*), frustration control - transfers and the wildfire effect

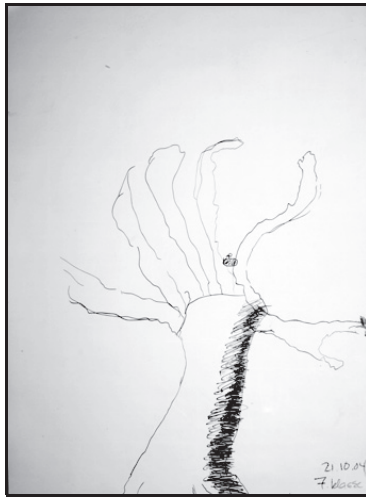


Figure 25: Martin's model 7th grade, Imgp.1845(5FDFo._i)



Figure 26: Teacher's model, Imgp.1856(5FDFo._i)

Illustration 6, context: The teacher is instructing the students at the beginning of the second class (the last of two classes in seventh grade) after the students have been practicing Chinese ink and pen in the first class. During the first class of exercises on the practice sheets of paper a student, Martin, has made a tree on his own (Figure 25, Imgp.1845). The teacher is fascinated by the drawing, and asks Martin to show the other students what he has made. Martin does not want to show his drawing of a tree to the class so it can be used as an example for others.³⁰ The teacher then draws a tree (Imgp. 1856) as a model for the other students. Observation, 7th grade, 21/10/04.³¹

- | | |
|--------------|---|
| (1) Teacher: | There's something called – there's something called chalk that covers the paper...this makes it very pleasant to draw on...Now you can – everybody listen – Now you're going to draw a tree – Martin – he started to draw a tree – Martin – where is it? I want to show you – |
| (2) Martin: | To show it! No way! |
| (3) Teacher: | Oh, yes!! |
| (4) Martin: | No! |
| (5) Teacher: | No way? Well then I'm going to draw a tree, and then I'll show you what /// the following task is all about. I'll give you the last class today... We're going |

30.He and his parents have given their written consent and allowed me to use the drawing anonymously for research purposes, see Appendix 11.

31. Students 1, 2, and 3 have not been identified as their backs are to the camera, standing in a circle around the teacher, facing the teacher.

- to draw a tree...I want each of you to draw a tree...Now, let's see (starts to draw a tree, most of the students are gathered around him, watching).
- (6) Student1: ///
- (7) Teacher: Yes – And it's suppose to be an old, crooked – an old oak, for example. A really old one. A strong tree...And
- (8) Student1: I can't draw!
- (9) Teacher: No – we do not have to know a lot. We're just going to –
- (10) Student1: You were angry with me when I drew –
- (11) Teacher: Now, I'm giving you a new assignment...Look here – let's say that we have a... – with branches – like this –
- (12) Student1: Branches/branching? (laughs a little) (in Norwegian: *forgreining*)
- (13) Teacher: Yes, it's called branches/branching.
- (14) Students: /// (not clear comments)
- (15) Teacher: And THEN – All of you, come here! Come and see (noise in the classroom, calling upon the few students not watching). What I want you to –
- (16) Students: /// (not clear comments)
- (17) Teacher: Here is where we're going to begin to hatch (in Norwegian: *skravere*) – this means that we're going to make – we're trying to understand – we're going to make the tree three-dimensional. Do you understand?
- (18) Student1: That's not possible!
- (19) Teacher: Oh yes, it is! We're going to make an illusion -
- (20) Student1: That's hard ///
- (21) Teacher: – of three dimensions ...
- (22) Student1: I can't do that.
- (23) Teacher: Look here –
- (24) Student2: I can't do it.
- (25) Teacher: Look here –
- (26) Student3: I can't do it either.
- (27) Teacher: Now we're going to practice hatching... And then we can see that the light comes in from one side – we have tried that before – We're sending the light in on one side – and then it hits the tree (draws an arrow on the left side of the tree, see Imgp.1856). And on one side of the tree there will then be a shadow. We shall hatch the shadow into existence, that is, we're making parallel lines...when we make parallel lines like this, we're parallel hatching, like this. We make parallel lines–
- (28) Student1: Can I copy (mimic) you? (in Norwegian: *herme*. In English the students would say copy, but the Norwegian word also has a strong sense of mimicking, see below).
- (29) Teacher: Yes, you can copy me – Now I'm giving you permission to copy. Are you starting to get it that now I'm about to create 3D?
- (30) Student1: It looks like a hand.
- (31) Teacher: Do you understand?
- (32) Student1: Yes –
- (33) Teacher: Right? – but don't – watch out, so you don't end up with the totally black – if you hatch like this (making parallel lines very close under the right branch, see Imgp.1856) it's going to be pitch black – If you draw the lines like this, it's going to be pitch black. And that's not that interesting. We have to have some light with the dark – look here, we can make it a little like this – you know that the tree is not completely round. You can use big movements, and the trees can have a variety of thicknesses, and it can also be a little like this (the teacher is still drawing a tree Imgp. 1856), and then – and then we hatch, we'll have less hatching, that is a distance between the lines. And here we want it a little darker, then we tighten the hatching. And then we can let the branches here – and the roots there /// cover the ground, like this...And then we hatch. Now we have to make sure that there is a shadow – Yes – OK. And here there is some grass – and then – on the branches, we also want to hatch a little, it's called hatching.
- (34) Student1: Hooting? (misunderstanding on purpose the word hatching to be funny?)

(35) Teacher: You see? Now we're starting to create 3D on this tree here. And the branches over here will also be hatched (the teacher finishes the drawing).

(FVTFo. no. 2, p. 15-16, video no. 2: 34.18-36.00.)

Peer influence - the wildfire effect in solving the assignment of drawing a tree after seeing the teacher draw a tree: The rest of the students' drawings:



Figure 27: Evy 7th grade, lmpg.1857(5FDFo._i)



Figure 28: Greta 7th grade, lmpg.1858(5FDFo._i)



Figure 29: Gina 7th grade, lmpg.1859(5FDFo._i)



Figure 30: Hanna 7th grade, lmpg.1860(5FDFo._i)



Figure 31: Norman 7th grade, lmpg.1861(5FDFo._i)

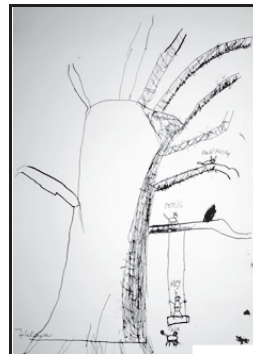


Figure 32: Martin's 2nd drawing 7th grade, lmpg.1862(5FDFo._i)

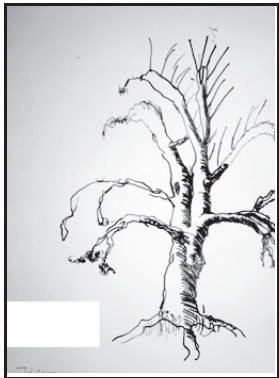


Figure 33: Gabriel 7th grade, lmpg.1863(5FDfo._i)



Figure 34: Isak 7th grade, lmpg.1864(5FDfo._i)



Figure 35: Martin's 3rd drawing 7th grade, lmpg.1865(5FDfo.)_i



Figure 36: Erna 7th grade, lmpg.1866(5FDfo._i)

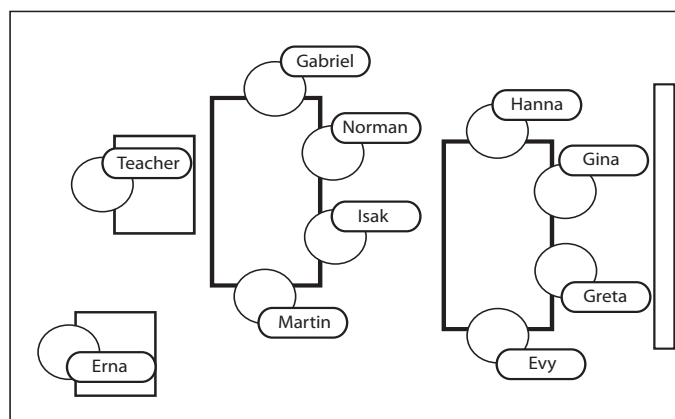


Figure 37: Classroom chart

Analysis of Illustration 6

The teacher instructs the students, giving them information about the material they are going to use, chalked paper (Illustration 6: 1). The teacher wants to use a student's drawing (on a practice sheet of paper, Imgp. 1845) as a model for the other students, but the student does not want his drawing to be shown in class. The teacher respects this decision and uses the student's drawing as a model to make his own drawing (Illustration 6: 5). He gathers the students around him and makes the drawing so that they can see how he draws, he also explains and demonstrates the technique called hatching (Illustration 6: 17-35) using descriptive and practical utterances (Coates, 1984), and ensures that everybody in the class visually can follow his drawing process. He describes verbally what he is doing (Illustration 6: 17-35), using the means of assistance instruction (Tharp & Gallimore, 1988). During his verbal and visual instructions, making a picture-model, and at the same time being a model by demonstrating how to draw a tree and how to hatch to create a visual sense of a three-dimensional object; he is also a model who reveals what he is making in social space. The student who does not want his drawing to be shown in class has a model in the teacher's behavior, he sees that this can be done.

While instructing, the teacher has to work with a group of students who are explicit and outspoken about their lack of abilities in drawing (Illustration 6: 18-26). He has to manage the outspoken despair of the students when they are given a drawing assignment. The teacher solves this by not responding directly and verbally; he keeps instructing, telling them to watch what he is doing (Illustration 6: 19-33). He is using instructions and modeling as frustration control (Tharp & Gallimore, 1988; Wood, Bruner & Ross, 1976). Again, we can see that Tharp and Gallimore's verbal "means of assistance" and Coates (1984) categories of utterances in art education often are interwoven in art and crafts. The teacher uses descriptive and practical utterances as social and motivational impulses (Coates, 1984). Finally the student group seems to understand (Illustration 6: 28-35).

Modeling - copying(herme) - and encouraging semi-VC drawing

On a student's request, the teacher gives them permission to mimic/copy (in Norwegian: *herme*) (Illustration 6: 28-29). They continue with the assignment of making a drawing of a three-dimensional tree, using the technique of hatching with Chinese ink on chalked paper (Imgp.1857-1866, Figure 27-36). We can see that one student even mimics the instructional

arrow drawn by the teacher on the model drawing to show where the light comes from (teacher's drawing Imgp.1856, and student's drawing Imgp. 1859). Not all the drawings (see the variety of trees above, figure 27-36) are VC drawings. But all of them are semi-VC drawings (see page 100), defined as *part* of the drawing being a result of a direct seeing-drawing process (see for example the making of shadows by hatching).

The Norwegian verb *herme* can mean copying something or someone, but according to the dictionary, it can also mean mimicking something or someone (Kirkeby, 1999: 184). It can then also mean making fun of someone by mimicking, or to do the same as someone because you are not able to do something on your own. If you *herme*,³² this could be a sign of a lack of imagination, independence, self-reliance, and self-sufficiency. In other words, this term can also have negative connotations. Here, we can see the students use the word in the sense of copying the picture of the tree, using a visual model as a product, but also copying the process, the making of the picture (Illustration 6: 28). The teacher allows the students to copy/mimic or *herme* in their ZPD in this assignment, something he does not always allow (see for example Illustration 2a). Here, mimicking/copying his two-dimensional drawing is a drawing strategy used by the teacher when teaching hatching, working on this task by exercising in the formal arena.

Transfer: The informal “we”³³ at work on the formal arena - the wildfire effect

If we look at the trees drawn in this class as visual traces of group dynamics (Imgp. 1857-1866), we can see that students as peers sitting beside each other (see the class chart, Figure 37) have the possibility to take part in visual and verbal interaction. It is likely that the makers of Imgp.1857 and Imgp.1858 (see Figure 27 and 28) have copied each other by marking the trunk with small horizontal lines and a tree-stump on the right side of the tree. We can see that Imgp.1861, 1862 and 1864 (see Figure 31, 32 and 34) have small birds, bird-houses, cats, and a swing on a branch as informal attributes added to the strict and bounded assignment of copying the teacher's model of a tree. These students were all sitting at the same group table. These drawings reveal traces of informal semi-VC processes in a formal VC assignment. We can assume that peer influence as graphic dialogues (Thompson, 2002; Wilson & Wilson,

32.The term *herme* is suggested derived from the Greek mythological deity Hermes who was a messenger god between gods, and between gods and mortals (repeating and interpreting messages?) (found in at: <http://www.dokpro.uio.no/ordboksoek.html>). This is also a possible origin of the word *hermeneutics* (found at: <http://en.wikipedia.org/wiki/Hermeneutics#Etymology>).

33.See also page 170, in this chapter,

1982a; Wilson, 2007) was at work when the drawings were made; one student “answering” graphically the other; confirming their peers’ visual expressions by copying them. The social situatedness (Lave & Wenger, 1991) of visual expression is likely to be reflected in the drawings. Solving a formal drawing assignment in these groups also involved informal VC-drawing processes among peers. The drawing of trees shows the traces of mutual inspiration and learning based on social and visual interaction or modeling, or what Palmer (2007) labels a social “wildfire”. Here, it is labeled the *wildfire effect*. In the formal and informal cases of VC drawing presented, I have labeled this phenomenon the wildfire effect, as a result of *collective drawing*; drawing the same theme in a group, and traceable by the results of visually controlled modeling of each other’s drawings/drawing behaviors or part of each others drawings, here seen as informal drawing strategies (to be presented more thoroughly further) merge with the teacher’s teaching, and has an impact on the result of his teaching - the drawings.

The makers of Imgp. 1859, 1860 and 1863 all had a direct visual model of the teacher’s drawing while they were in process (see Figure 29, 30 and 33), we can see that these drawings are close to the teacher’s tree-drawing. The shape of the tree, the roundedness and shape of the branches, and the hatching are made in similar ways.

The bounded fixed assignment of drawing a tree according to a model and peer influence in class still leaves us with 11 drawings that all are made by individuals solving the assignment differently. There are, for example, variations in size and form of the trunk, the use of hatching, the pressure on the ink-pen, and the shape of the branches. As we can see in Illustrations 7, 9a, and 9b below, this diversity and individuality in expression when drawing in accordance with a model is appreciated by the teacher.

Illustration 7: Means of assistance: Frustration control

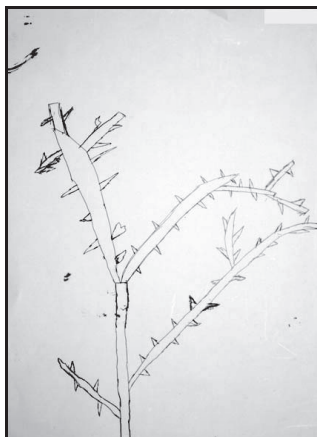


Figure 38: Erna 7th grade, lmpg.1846(5FDFo._i)

Illustration 7, context: Observation of the teacher's handling of a student who is about to give up when solving the assignment "Fall poem", Chinese ink on chalked paper, 7th grade, 21/10/04:

- (1) Erna: Teacher, I need a new piece of paper!
(2) Teacher: Why is that?
(3) Erna: Come and see, it turned out really stupid (in Norwegian slang: *teit*, which also can mean dumb).
(4) Teacher: Is it stupid? Are you really sure that it's stupid?
(5) Erna: Yeah. Pretty much –
(6) Teacher: Why is it stupid? I think it's lively (in Norwegian dialect: *livet*) – I think it's great...There are maybe – maybe made – maybe a little bit too many of these pointed ones.
(7) Erna: NO, but that's the way it is – (looking at the branch given by the teacher as a model)
(8) Teacher: Yes, some. But do they all stick out and are pointed? (referring to the branches).
(9) Erna: No.
(FVTFo. no. 2, p. 14, video no. 2: 31.20-31.50)

Analysis of Illustration 7:

This illustration is a dialogue between the teacher and a student about to give up. Similar situations have been experienced by many, if not all art and crafts teachers: the impatience of a student feeling that the drawing is "stupid", wanting to start over again, instead of working over a longer period of time on one drawing. Utterances like these according to Wilson (2004), are often interpreted as part of the "drawing crisis" by theorists as part of The Modernist Narrative of understanding drawing development (Lowenfeld & Brittain, 1979). Here (as

opposed to Illustration 6), the teacher enters into an open dialogue with the student about the assessment of the drawing. He uses questioning as frustration control (Wood, Bruner & Ross, 1976) and resists the student's request by not giving her a new sheet of paper. Frustration control in VC- drawing, controlling the "I can't" or the "it's stupid", is undertaken here by questioning the student's negative self-assessment (Illustration 7: 6). The teacher encourages the student by having a different view and, at the same time, he questions the drawing, showing where there is potential for development (Illustration 7: 6-8). He improves the student's visual awareness and at the same time motivates her to continue to draw, engaging her in her own drawing by giving it visual and verbal attention as her product. By questioning (Tharp & Gallimore, 1988, Illustration 7: 8), he guides the student to a more sensitive way of seeing so she can improve the drawing. He questions to make her see what he sees (Illustration 7: 8). The question ("But do they all stick out and are pointed?") comes from a more competent other in the student's formal ZPD (Kindler & Darras, 1997; Tharp & Gallimore, 1988; Vygotsky, 1978). Motivational utterances (Coates, 1984) are used when directly confronted with the student's negative self-assessment, discussing if the drawing is "good" or "bad", and at the same time, he is descriptive (Coates, 1984). By questioning, he is describing what is not in the drawing (Illustration 7: 8) but is found in the model (the branch). As shown here, the data consist of many examples of this type of frustration control and direction maintenance (Wood, Bruner & Ross, 1976) being used to control students' negative self-assessment and to help them continue working on the VC drawing in their ZPDs.

Illustration 8: Means of assistance: Cooperative drawing

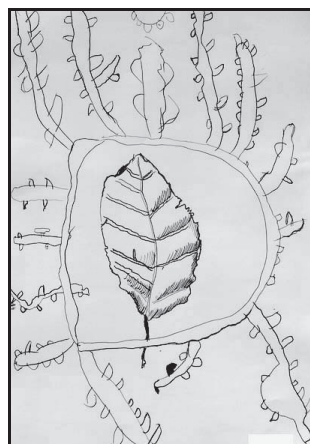


Figure 39: Daniel 6th grade, lmgp.1828(9FDFo._i)

Illustration 8, context: Observation of a dialogue between the teacher and a student, Daniel, while working on the assignment Chinese ink on chalk paper, 6th grade, 22/10/04:

- (1) Daniel: /// can you come here and hatch? (student asking the teacher)
(2) Teacher: Do you want me to hatch?
(3) Daniel: Yes.
(4) Teacher: Yeah – OK – do you want me to help you to hatch a little? /// Look here –
(5) Daniel: /// hatch my picture ///...
(6) Daniel: ///
(7) Teacher: What does it mean to hatch? ...What does it mean to hatch?
(8) Daniel: To make lines.
(9) Teacher: Yes. That's good – now I think we should – could we for example – I think you could make this a little longer, then it can go under, and then it can come up again, for example. Does THAT work? (drawing the stem of the leaf a little longer, talking about the stem of the leaf being overlapped by the branch)
(10) Daniel: Yes.
(11) Teacher: It's possible – can it rest under these ornaments? (talking about the border around the assignment "Fall poem").
(12) Daniel: Yes.
(13) Teacher: And then I think we'll find –
(14) Daniel: The tone –
(15) Teacher: This tone – /// you and I – find the tone... Here – we can draw this main nerve, right?
(16) Daniel: Yes –
(17) Teacher: And then – you can make this like a double line. One can be thick and the other one can be thinner. It's a little elegant, isn't it? Don't you think so?
(18) Daniel: ///
(19) Teacher: What do you see /// on the leaf when you look on the leaf, what do you see?
(20) Daniel: /// lines –
(21) Teacher: Lines – yes. Little tiny nerves that go – nerves that go ///. Maybe you should try to make nerve threads that go outwards, outwards, outwards there – maybe you should try that? THEN we can start to hatch a little, when you have found the main features of the leaf itself ... (draws lines on the leaf and hatches the leaf drawn by the student in the middle of the drawing, see Imgp.1828).

(FVTFo. no. 3 p. 26, video no. 3: 58.30-59.30)

Analysis of Illustration 8

The teacher responds to the student asking for help in his ZPD (Vygotsky, 1978). He addresses his requirements for competence in hatching, the student wants to develop his drawing by incorporating the teacher's visual traces as part of his drawing. This is another good example of cooperative drawing: the more competent other contributes to the drawing with a model, a drawn product on the request of the student (Illustration 8: 1) (see the leaf, Figure 39). At the same time, the teacher is also a model, demonstrating a drawing process (Illustration 8) in the student's ZPD. During this process he uses the means of assistance questioning (Tharp & Gallimore, 1988 Illustration 8: 7, 11, 19). He knows the answers but wants to involve and challenge the student to enter into dialogue with him about the assignment. At the same time

he demonstrates one of “the tricks of the trade”; the room-making “trick”, hidden line elimination, (Freeman, 1980) (Illustration 8: 9), by drawing the leaf stem underneath the branch ornament. The means of assistance instructions is also part of the dialogue; the teaching of sequence from outer form/contour to inner volume (Goodnow, 1977; Tharp & Gallimore, 1988).

Visual and aesthetic awareness can be improved (Coates, 1984) through such utterances as in Illustration 8: 17 (...“and then – you can make this like a double line. One can be thick and the other one can be thinner. It’s a little elegant, isn’t it? Don’t you think so?”). To help the student see the aesthetic qualities of the drawing he seeks for visual intersubjectivity in the student’s ZPD.

Illustration 9a, 9b and 9c: Creativity and transfers

Various solutions in the assignment “Fall poem”:

Examples of students’ drawings, 7th grade:

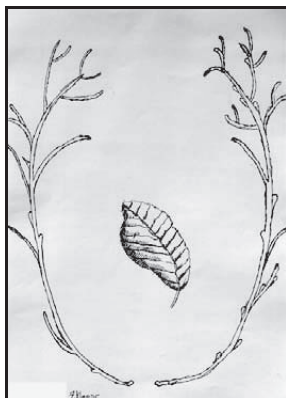


Figure 40: Henry 7th grade,
Imgp. 1886(8FDFo._i)

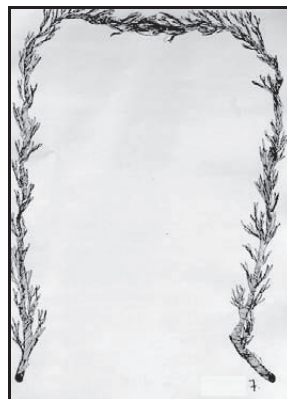


Figure 41: Celine 7th grade,
Imgp. 1888(8FDFo._i)



Figure 42: Camilla 7th grade,
Imgp. 1889(8FDFo._i)



Figure 43: Erika 7th grade, Imgp. 1882(8FDFo._i)

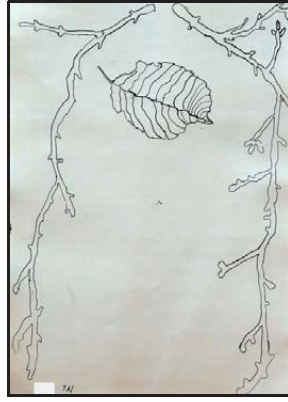


Figure 44: Fred 7th grade, Imgp. 1884(8FDFo._i)

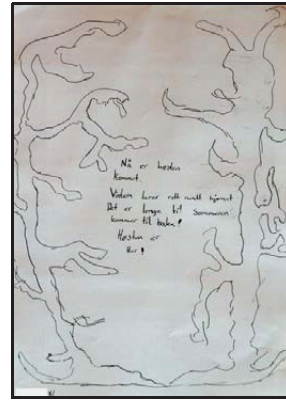


Figure 45: Nataly 7th grade, Imgp. 1881(8FDFo._i)

Illustration 9a, context: Observation of the teacher in the process of talking to the class while comparing various student drawings (see Figure 40-45 above), Chinese ink on chalk paper, 7th grade, 22/10/04:

- (1) Teacher: See how different they are? See how different they are, and see how interesting that is – regardless of this technique or any other technique, it's really exciting anyway.
(FVTFo no. 3 p. 4, video no. 3: 07.40-07.50)

Illustration 9b



Figure 46: Emily 7th grade, Imgp. 1624(3FDFo.)



Figure 47: Emily 7th grade, Imgp. 3504(14FDFo.)



Figure 48: Emily 7th grade, lmpg.1890(8FDfo._i)



Figure 49: Emily 7th grade, informal drawing, lmpg.1521(3IDFo.)

Figure 50: Emily's formal and informal drawings (Figures 46 - 49)

Illustration 9b, context : The teacher is in dialogue with a student, Emily (sitting beside Celine) about “Fall poem”, Chinese ink and chalked paper. The students are given a leaf and branches to study and use as models, 7th grade, 22/10/04:

- (1) Teacher: Use – use these things now – and use your own style. Just continue to use your style, that’s what I want.
 - (2) Emily: I don’t have my own style.
 - (3) Teacher: Yes you do, you do have a style – everybody has their own style.
 - (4) Emily: Not me!
 - (5) Teacher: We have it inside. And what’s so nice/funny (in southern Northern Norwegian dialect: *skøy*) about it, is that we can express ourselves through the things we do...It’s our most valued asset...It’s great! So great!
 - (6) Emily: /// good, get it right // (refers to the teacher being good at drawing)
 - (7) Teacher: Yes, but so do probably you...But you have to believe it... It’s important to believe in what you’re doing.
 - (8) Emily: Oh, no –
- (FVTFo. no. 3 p.3, video no. 3: 05.35-06.00)

Illustration 9c, context: Before the teacher enters the scene to instruct August (see Illustration 1b), his group of four students, August and three girls, sit silently and draw the assignment still-life with ceramics in an A3 format with pastels and pencil, 5th grade, 17/11/04:
(FVTFo. no. 4, p. 23-24, video no. 4: 52.00-56.00, notes p. 52)



Figure 51: August 5th grade, Impg.
3525(12FDFo.)



Figure 52: Audrey 5th grade, Impg.
3526(12FDFo.)

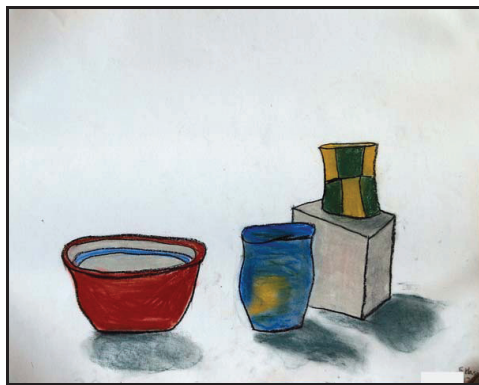


Figure 53: Amanda 5th grade, Impg.
3527(12FDFo.)

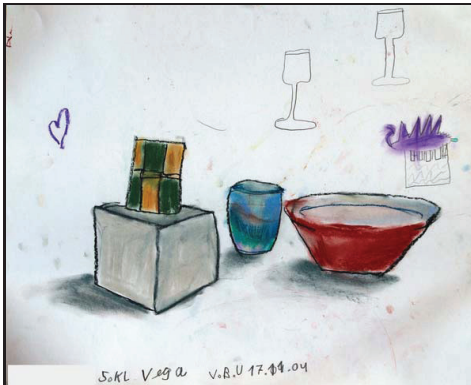


Figure 54: Betty 5th grade, Impg.
3530(12FDFo.)

Analysis of illustrations 9a, 9b, and 9c:

The leaves and branches are objects used as models in this class to solve the assignment “Fall poem”, Illustration 9a. The students are to draw these as accurately as possible, and at the same time make their own composition, using these similes as part of this composition. The assignment given by the teacher encourages the students to work on their visually controlled drawing processes – they are to master the making of the visually perceived branches and leaf, and at the same time are encouraged to have an individual style and make individual solutions

(Illustration 9b: 1-5) in combining these similes. Some of the results can be seen in Imgp. 1886, 1888, 1889, 1882, 1884, 1881 (Figure 40-45).

Vygotsky's (Vygotskij, 1995) definition of creativity can be used here. He emphasizes experience, skills, and knowledge as the presupposition for creativity. Vygotsky does not see childhood as the most creative era in human development, as Lowenfeld does (1947/1957). It is the acquirement of experience that makes it possible for humans to be creative, or to combine and recombine (combining in process in different ways) the already known (Vygotskij, 1995: 19, 20). To be able to recombine, humans have to have a repertoire to draw from, or to recombine with. Here the students practice the sensorimotor "seeing-drawing-seeing-drawing" process, making a simile. Then these similes are composed or mended together by a student-initiated composition. To make this happen, the teacher has to confront the students' lack of confidence in themselves as drawers and visual composers (Illustration 9b). He uses the scaffolds direction maintenance and frustration control (Wood, Bruner & Ross, 1976) to make the students focus on the assignment, giving them assistance and support as individuals so that they take their own trace-making seriously (Illustrations 9a and 9b). Strategies that make the students able to believe in themselves are part of the art teacher's pedagogical content knowledge (Shulman, 1986). Direction maintenance and frustration control (Wood, Bruner & Ross, 1976) through verbal support, or motivational utterances (Coates, 1984), are used to deal with this lack of confidence (see for example Illustrations 6, 7, and 9b). But the teacher also uses the pictures made in class as visual "proof", or as bridging (Wilson & Gudmundsdottir, 1987), by seeking for visual intersubjectivity. He wants the students to see the beauty he sees in the different solutions to the assignment "Fall poem" by using aesthetic utterances (Coates, 1984) praising the drawings he has in front of him (Illustration 9a), and in this way encouraging the creative processes in the students' ZPDs (Vygotsky, 1978), grounded in their own work.

How does transfer as a category occur in the case of formal VC drawing teaching? Bridging as part of the teacher's pedagogical competence can be seen as a teaching strategy that is aiming at addressing the student's informal as well as formal knowledge in the student's formal ZPD. The characteristics of the informal line drawing in the formal assignment "Fall Poem" (Chinese ink and chalked paper), can also be seen as part of a visual echo or style from an informal drawing genre, the line drawing (for more on informal drawing genres, see page 57 and onwards, point 4, in this chapter). But it is when the teacher encourages the students to believe in themselves and the individual characteristics of their VC and semi-VC

drawings, addressing their informal and formal drawing practice, that formal and informal expressions merge. On the formal arena, the teacher encourages an individual style, (Illustration 9b: 3) that can be transferred from formal teaching practice to the informal arena of VC drawing and vice versa, as seen in Illustration 9b (See Emily's drawings from the formal and informal arena, Imgp. 1624, 3504, 1890 and 1521, Figure 46-49). They have a distinct "style", a trace marked by the pressure on the pencil/pen and a way of making lines that are Emily's. Here, the teacher emphasizes this individual style as a motivational utterance in VC drawing teaching (Coates, 1984).

Possible transfers from the informal arena to the formal

In the drawings seen in Illustration 9c, the girls, Amanda, Betty, and Audry are sitting beside each other or opposite one another at a group table of four students. The fourth student is a boy, August. One girl is starting to make the black outline around her still-life, the other girls then do the same, and this process is silent. The informal drawing strategy of looking at each other, using each other as models (see also Illustration 6, page 153 in this chapter), copying features of each other's drawings fully or partly, is seen here in the formal setting. This phenomenon can also be seen as a transfer of making line drawings often found as a feature in the informal drawings (see Smith, 1983; 1985, page 47; Chen, 1985, page 48). Even though the three girls have the 3D model, the ceramic still-life to look at, placed in the middle of the group table, they also look at each other's 2D drawing and each other's way of drawing. It is a phenomenon labeled the expression of a "we"; the wildfire effect, as a result of collective drawing, and is found as an informal drawing strategy (see for example Illustration 16a, page 203, the informal case). August is not affected by the wild-fire among the girls, he continues to draw according to the assignment and in his own drawing style, soon to be helped by the teacher. The wildfire effect can be seen manifested when there are possible social relations to confirm, here the girls sitting and drawing together, confirming each other as a group. The data shows again and again that within this age-group of nine to twelve, the informal wildfire effect as a way of learning to make a simile, is often found among children of the same gender (see also analysis of Illustration 6).

To summarize, the illustration 9c above can be seen as a transfer of a drawing strategy from the informal arena to the formal, the wildfire effect, as well as a possible transfer of features of an informal drawing genre style, with the strong outlines or contours as possible visual traces.

The formal drawing database

As mentioned above, the drawing database is a reference to easily find the formal drawings “in context” that are part of the qualitative comparative analysis in this report, where the data is a merge of observations, interviews, questionnaires and drawings presented in this chapter. The drawing database is, in other words, a part of the groundings of the findings in this study. Tradition in art education research has, as mentioned, been using the drawings, and only the drawings as data material. Here, I do not want to fall into this ditch, but the formal drawing database on the web can also be reviewed to see if there are interesting tendencies when sweeping through the database. There are, as I see it, four purposes for seeing the formal database as a whole:

1) As mentioned, the audience can look at the results of what is regarded as exemplary teaching and 2) see these in context, which means together with the other drawings made at the same time on the same group table, and look for peer influence, or the wildfire effect (see the guide in *The Vega files*; use the search function “drawn with (likely/checked)”), 3) the audience can use the function “search” to see what each child has made/handed in over a year of drawing teaching and to see each child’s personal touch in the bounded visually controlled drawing task, but also their informal drawings when searching on name. 4) It is also interesting to see the lack of visible traces of age differences when formal visually controlled processes are in focus. The formal drawings made with the use of modeling look remarkably alike across the age span of three years in the 9-12 years of age-group (5th to 7th grade).

Summary: The formal case

We can summarize the formal case of exemplary visually controlled drawing teaching through the seven comparative dimensions or categories identified as relevant and interesting in both cases (1) drawing goals, 2) drawing strategies, 3) social arrangements, 4) means of assistance, 5) transfers, 6) creativity/recombinations and 7) drawing genres). These dimensions or categories occur differently or similarly in the formal and informal contexts, and are identified by conceptualizations of features found in context when analyzing the data (Strauss & Corbin, 1998).

1) Drawing goals in the formal case can be formulated as a) learning to see, sensitizing visual perception b) mastering the making of the visually perceived; the making of a drawing

mainly depicting a three-dimensional object on a two-dimensional-surface, but where two-dimensional models used in the teaching processes are also found (see Illustration 6).

2) The drawing strategies used to make the simile, are a) mainly using three-dimensional objects as models, and using direct observation, which means always having the model close at hand to be able to visually check it when necessary; b) when making a simile, part of the strategy is to use the specific sequence of starting from the contour, the outwards, and continuing inwards using tonal gradation of the shape of light and shadow to create a sense of three dimensions, and using shadows to place the object in space; c) using HLE is also taught as a space-making drawing strategy (or device, Chen, 1985) by the teacher; d) helping the students in the process of depicting accurate form, where the teacher emphasizes the strategy of focusing on the spaces in between and using help-lines. These are all “tricks of the trade” as the teacher expresses it. We can label these goals and strategies as part of an observational and analytical approach (Simmons, 1992).

3) The social arrangement around the drawing activities in the formal case involves the use of group formations in class, with about two to eight students sitting in groups with a still-life in the middle of the group table, seeing and drawing the objects from slightly different angles. The students in the group have access to each other’s solutions and collective drawing processes are taking place. The wildfire effect is seen; students here, of the same gender, looking at each other’s drawings and drawing behavior.

4) As means of assistance (Tharp & Gallimore, 1988) when scaffolding (Wood, Bruner & Ross, 1976) in the students’ ZPDs (Vygotsky, 1978), the teacher uses instructions, feedback, questioning, cognitive structuring and modeling. Modeling in the formal case often means using a three-dimensional model, but it also means being a model, showing how to make a drawing of a tree and showing the courage to make an equivalent in social space, working “in public” on the students’ drawing or on a separate demonstration drawing, close to being a graphic dialogue (Wilson & Wilson, 1982a). It also means making a model as a pictorial two-dimensional reference that can be revisited by the students in the future as a reminder of the model-making process and as a visual model. The teacher draws on the students’ drawings as part of a verbal and graphic dialogue. Using Wilson’s (2007) term collaborative drawing as an inspiration, I have labeled this means of assistance specifically found in VC drawing as cooperative drawing. The teacher is cooperating in the making of the drawing in an asymmetric interaction; the teacher being the more competent other in the students’ formal ZPDs. The teacher is also a more competent other when questioning and giving feedback,

guiding the students to awareness, looking for a specific answer or solution to the assignment. He also uses the means of assistance questioning to check for visual awareness, or for what is labeled visual intersubjectivity; that is checking that the student sees what he sees, he is seeking a common visual ground to work from.

The drawing solutions can be assessed by comparing the simile with the model. Negative self-assessment is dealt with in the formal case through motivational utterances (Coates, 1984), emphasizing the individual aspect of VC drawing as the subject's own tracing style, and also by continuing to instruct without addressing the negative attitudes. Thus, we see that verbal instructions are used as frustration control. The teacher also uses the means of assistance instruction to encourage practice or exercise, which can also be seen as part of a strategy to internalize and master the process of making a drawing of the visually observed.

5) The teacher seeks intersubjectivity (Wertsch 1985; 1998) with the students, also transferring (Greeno, 1989; Lave & Wenger, 1991) his own experience and skills learned in his informal learning history. He uses these experiences as part of a bridging process (Wilson & Gudmundsdottir, 1987), or to find intersubjectivity with the students on the grounds of drawing subject content, to help develop their ability to make visually controlled drawings. Each student is encouraged to express the individual formal and informal trace or style in the formal arena, as part of VC drawing teaching, and in this way the teacher encourages transfers from the formal to the informal arena and vice versa. The data strongly suggest that students transfer an informal line drawing style that merges with the teacher's drawing strategies. This style is likely to be rooted in an informal drawing genre with a possible reference to popular culture. The study also reveals that there is a transfer of the informal wildfire effect as a drawing strategy to the formal arena, interacting with the teacher's teaching.

6) To encourage creativity in VC drawing teaching and to motivate the students, the teacher challenges them to use the tight and bounded "seeing-drawing-seeing-drawing" process, the making of a simile, as inspiration in making their own combinations of similes in a composition. They are given the challenge of merging the similes together in a composition "Fall poem", encouraging creativity by combining similes (Vygotskij, 1995).

7) Visually controlled drawing is part of an isomorphic (Kindler & Darras, 1997) tradition (making the same as) and belongs within the sociocultural tradition or drawing genres of classical academic Western picture-making (Bryson, 1990); the still-life tradition where the use of graduated light and shadow is used to simulate 3D on a 2D surface and observation drawing, related to design, architecture and to the natural sciences.

The exemplary teaching activities in the formal case, described through seven comparative dimensions above, are a major part of the teacher's pedagogical content knowledge (the "how" and the "what") (Shulman, 1986). We can see the manifestation of the seven comparative dimensions rooted in a sociocultural perspective in the formal case as a description of an exemplary case of teaching visually controlled drawing were the verbal and visual dialogue with each individual student is a major characteristic.

The informal case of visually controlled drawing

Introduction

The common denominators for the episodes referred to as informal are: 1) the drawing processes are not initiated as part of the visually controlled drawing class; they are not part of formal art education teaching/learning plan. The children and young people draw what they want to draw, what they find interesting to draw; the informal drawings are results of what we can call self-initiated processes among friends, co-students, siblings or parents/relatives at the Vega islands in Northern Norway. And 2) the drawings presented as informal also show that the drawers have had a model at some point, and that the makings has involved various “seeing-drawing” related processes to learn to make the similes.

A description of social arrangements and contexts

Where do these processes take place, and with whom? How can we describe the settings and social contexts? How are these drawing activities arranged informally? The interviewed children place the informal drawing processes in two sites, at home and on the school premises (Illustration 16a). One girl says she draws alone at home in her room when she is bored, others draw at home together with relatives and friends. Two of the girls interviewed refer to older sisters who have chosen to specialize in various art and crafts related subjects at school (Illustration 14). One boy refers to his dad who has taught him how to draw Donald Duck at home (Illustration 17), while another says he saw someone draw Donald Duck on TV and draws cars by looking at pictures in a magazine (Illustration 11) at home.

“Home” for the children is often a house of a fairly high standard and size in rural Norway where parents are working in farming, fishing, the seasonal tourist industry, or public services. Some of the homes are farms where animals can be stabled, and all of them are close to the sea. The families have access to boats for fishing either for recreational enjoyment or as a way of making a living. They often have relatives around them apart from parents and siblings, for example aunts, uncles, cousins, grandmothers, and grandfathers. The older siblings in the family have to move away from the islands to the mainland to continue their education on the senior-high-school level, and they are often only home during weekends or vacations. The distance between the houses at Vega makes a car a necessity for mobility, or a boat to move from island to island. The only real form of public transportation on the main

island is the school bus, so the children are not always flexible when it comes to visiting each other after school.

It is therefore not surprising that the second informal site for drawing referred to by children is Vega public school. As the documentation of informal visually controlled drawing shows (see page 203 and onwards, practice sheets of paper in “Fall poem” classes: 4-9FDFo_i, and table covers in 8IDFo. in *The Vega files*), the formal setting at Vega public school is also an arena for informal drawing processes. Two of the interviewed children refer to drawing informally when they are bored at school. One says he draws together with his friends at school. They also sometimes have what is called “free classes” in Norwegian; a class without teaching at school due to a teacher's sick leave. The students are only supervised and are allowed to draw what they want, read books, do homework and the like. They sit together in groups or beside each other with the possibility to talk informally and with visual access to each other's drawing processes (IVTFo. no. 9, pp. 1-2). Therefore, the drawing activities from these two main setting categories are the sites referred to when describing informal visually controlled drawing processes.

The informal illustrations

The informal drawings presented below are taken “out-of-context” (with the exception of Illustration 16a), and the drawing processes are explored in an observation and interview setting after the drawings were made. I nonetheless characterize the data presented as a case study (See Creswell's 1998 case study based on reconstructions through interviews). The drawing processes in focus are children-initiated as opposed to teacher-initiated, and the drawings are made in an informal context, at home or in school.

In this informal case of VC and semi-VC drawing teaching/learning from Vega, the persons involved in the making of the original drawings are often part of the group interviews and observations of the redrawings. Ultimately, the intention behind the interviews is to detect the crucial aspects that were part of the original informal processes. Examples of informal VC and semi-VC drawings, with observations of reconstructions and simultaneous interviews, are presented below.

Terms used in the analysis of the informal case

Processes in the informal arena covering the phenomena behind the terms often used to describe teaching/learning processes in the formal arena, such as scaffolding, means of

assistance and the ZPD, are used because they cover the same interpersonal or intrapersonal teaching/learning processes as in the formal arena, apart from the fact that the processes are not a direct part of the implementation of a formal education plan initiated by the teacher. An informal scaffold or an informal means of assistance within the informal ZPD means being offered or accepting the help that is necessary to make the simile on the informal arena.

When the children are initiating modeling (either as the making of a simile by looking at a model or as modeling drawing behavior, or both), it is seen as a drawing strategy. Without self-acquired help or help found in context, the drawing would most likely have looked different. The fact that a model is available and is used by the child at some point means that various kinds of help to make the drawing are part of the process. By identifying teaching/learning processes through the terms informal drawing strategies, informal scaffolds, informal means of assistance and informal ZPD, the comparison between the two cases will also be facilitated (Warner, 1971). The term informal zone of actual development (ZAD) is not used, the ZAD is regarded as the sum of acquired knowledge and skills from both contexts.

Illustration 10: Drawing goals: Nice drawings look real

Illustration 10, context: Observation of a dialogue in class on handing in informal drawings for the research project in a “Fall poem” class, 5th grade, 21/10/04:

- (1) Teacher: What were we talking about?
 (2) Bernard: We were talking about the drawings (the informal drawings to be collected by the researcher).
 (3) Teacher: Yes, have you collected drawings from home and...?
 (4) Bernard: I have – I have a drawing as thick as THIS ///
 (5) Teacher: Do you have one thick drawing or a pile that thick of drawings?
 (6) Bernard: Yes.
 (7) Teacher: Yes, have you handed it in here, at school?
 (8) Bernard: ///
 (9) Teacher: So, you could bring this with you to school one day?
 (10) Bernard: Yes –
 (11) Teacher: Yes, because what Nina (the researcher) said, was that you might not want to give them away so that she could keep them, but she can take pictures, you know, so you can have them back/// Do YOU have any, Allan – drawings that you have made at home?
 (12) Allan: Eh – No, my Mom has them!
 (13) Allan: /// (laughing)
 (14) Teacher: That’s good!
 (15) Allan: She draws as nice as – well I don’t know –
 (16) Teacher: Like – almost like a photograph?
 (17) Allan: Yes, almost. She draws...(.....)
 (18) Allan: She has never been to the South (in Norwegian *Syden* which very often means Spain where many Norwegians go for their holidays), and she draws the South, and it looks so real.
 (19) Teacher: (Laughs a little). Yeah.
 (20) Student1: Have YOU been there, so you know it looks real?

(FVTFo. no. 2 p. 8-9, video 2: 16.30-17.35)

Analysis Illustration 10:

This dialogue takes place in the formal setting, but the discussion is about the informal drawings. Without being asked directly, Bernard, Allan and co-student 1 (not identified because of the camera angle), provide information about what they think a nice drawing is; a nice drawing is a pleasant motif that looks real (Illustration 10: 12-20). Allan has a mother who draws in the informal arena and shows her child what she makes. This utterance is interesting because it reveals drawing activity with parents in the informal arena, and it also reveals information about a mother's collection of her child's drawings (Illustration 10: 12), and at the same time we find utterances about what children and young people regard as valuable in drawing. Going to the "South" is regarded in Norway as a vacation event, very often connected with pleasure, so the mother draws something pleasant and draws it so it looks real, according to Allan.

Freeman (2004) and Freeman and Sanger's (1995, see Chapter 2, page 52) findings are echoed in this dialogue. The basis for assessing a drawing as nice in the informal arena relies on the depiction of something pleasant or beautiful, and on the craftsmanship (it looks real). Beauty or niceness is a property of the picture as a theme and the skill of making the picture, creating this beauty and realness, is a property of the artist, here the mother. A co-student challenges and reinforces this view by asking if the realness of Allan's mother's drawing has been checked by the son (Illustration 10: 20). This implies that it could be an imaginative drawing if its realness is not checked. The emphasis on the value of realness (looking real) as an informal drawing goal is expressed in this utterance.

Illustration 11: Drawing strategies, creativity, and semi-VCs

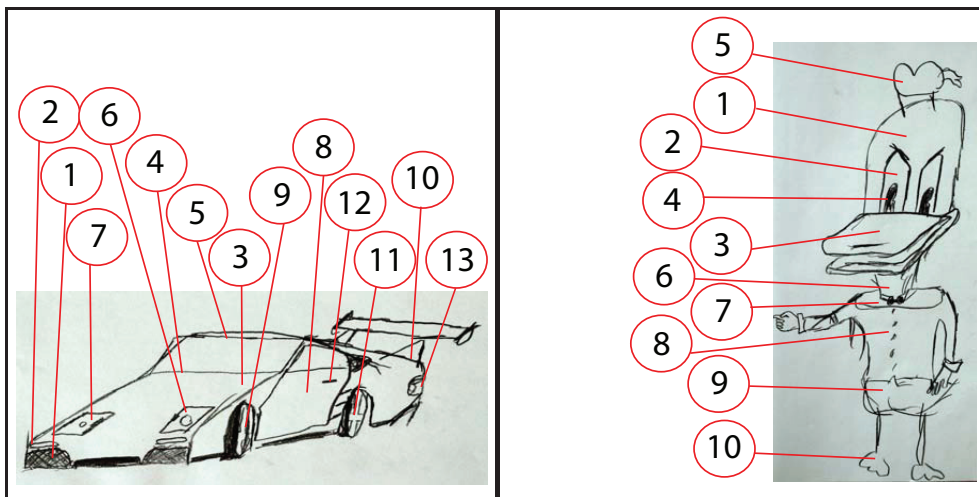


Figure 55: Ernst 6th grade, Imgp. 1727(1IDFo.), and reconstructions of figures in Imgp. 1727, Imgp. 1728 (Donald) and Imgp. 1729 (the car)(1IDFo.), with notations of the sequence the drawings are made in (Goodnow, 1977)

Illustration 11, context: Interview with Ernst, while in the process of reconstructing parts of Imgp.1727 in Imgp.1728 and Imgp.1729. The similes have been learned at home sitting alone, looking at a car magazine and watching TV, 6th grade, 10/03/05:

- (1) Interviewer: Can you tell me how – how you learned to draw the different elements in this drawing? What does this drawing represent? You have made such a fantastic drawing. (Looking at Imgp. 1727)
- (2) Ernst: Well – It’s /// cars –
- (3) Interviewer: What did you say? – You have to talk louder...
- (4) Ernst: I often draw cars like this.
- (5) Interviewer: Yes. You do. –
- (6) Ernst: Then – I invent a lotwhile I’m drawing.
- (7) Interviewer: Yes. I can see you have done that...yes...how did you think when you drew? Where did you learn to draw these figures? And who taught you, do you know?
- (8) Ernst: No – I have learned it from – almost by myself.
- (9) Interviewer: You’ve learned it almost by yourself, yes...have you seen pictures of this (interviewer pointing at the car) before?
- (10) Ernst: It was – not exactly THIS car, but I have learned to draw the same angle – the car has ///.
- (11) Interviewer: You have to talk a little – you have to take your hand away.
- (12) Ernst: I was sitting looking in a car magazine–
- (13) Interviewer: Yes. You were sitting looking in a car magazine.
- (14) Ernst: Yes – and then I started to draw a car.
- (15) Interviewer: Yes –
- (16) Ernst: And that was a long time ago.
- (17) Interviewer: So that was really a long time ago. Can you tell me a little bit – When you drew this car here – What did you do – did you look at a picture then?
- (18) Ernst: Yes.
- (19) Interviewer: So you looked in the car magazine?
- (20) Ernst: Yes – And do you want me to try to draw it?
- (21) Interviewer: Yes, do that...
- (22) Ernst: It’s kind of hard but ...
- (23) Interviewer: So you sat all by yourself and looked at a car magazine, and then you drew it? Yes...Why did you draw like this, flat?...Here...
- (24) Ernst: They’re lights...
- (25) Interviewer: So these are lights that are flat, kind of flat on the hood?
- (26) Ernst: Yes...Yes.
- (27) Interviewer: I see...
- (28) Ernst: It’s really ///
- (29) Interviewer: Like –
- (30) Ernst: Well, I really think it’s a nice car –
- (31) Interviewer: Yes.
- (32) Ernst: It’s really hard to draw this car ...
- (33) Interviewer: Yes, it has these kinds of lights that are flat in the hood or on the hood almost.
- (34) Ernst: This wasn’t too good, it – it doesn’t look to good here (points at drawing Imgp. 1728) -
- (35) Interviewer: I think it looks really good....it’s not easy just to draw like this...when being asked...you have managed to make a wonderful sense of perspective here...so it kind of goes into the scene/picture, really nice...and then you have this spoiler on the rear end, or...? Is that what it’s called?
- (36) Ernst: Yes.
- (37) Interviewer: Yes.... So you make the front first –
- (38) Ernst: Yes, and then I draw backwards.
- (39) Interviewer: So then you draw backwards.
- (40) Ernst: Yes, I think that’s the easiest.
- (41) Interviewer: Yes, that’s the easiest ... Why is it so easy?

- (42) Ernst: I don't know – that's just the way I started to draw (.....)
- (43) Interviewer: Wow... What you've done...it's beautiful!
- (44) Ernst: Yes, this is – I have just been trying to teach myself to draw George W. Bush.
- (45) Interviewer: You have just taught yourself to draw George W. Bush?
- (46) Ernst: Yes, in this kind of funny way.
- (47) Interviewer: In this kind of funny – kind of caricature-like manner?
- (48) Ernst: Yes. And then – and then – yes, and then now /// and then I draw – I kind of want (to make) his car, and -
- (49) Interviewer: So you want Bush's car??
- (50) Ernst: So this is the background, kind of ... and the USA...kind of -
- (51) Interviewer: Yes, what do you have in the background, here?
- (52) Ernst: This is the World Trade Centre and this is the White House, and then -
- (53) Interviewer: Yes...And then you have Donald Duck here too.
- (54) Ernst: Yes.
- (55) Interviewer: Can't you tell me – where did you learn to draw Bush, then?
- (56) Ernst: I learned that...I found that out all by myself. I was just going to draw a man, kind of...and then...it became –
- (57) Interviewer: Have you seen him in a picture or something like that?
- (58) Ernst: I have seen him on television.
- (59) Interviewer: Yeah, did you draw from television, kind of...or?
- (60) Ernst: No –
- (61) Interviewer: By memory, or?
- (62) Ernst: No, just – No, I just drew, and then it became –
- (63) Interviewer: Then it just became Bush?
- (64) Ernst: Yeah.
- (65) Interviewer: Yeah.
- (66) Ernst: Then I found out how I did it.
- (67) Interviewer: Okay. /// So you found out all by yourself, how you should make this face?
- (68) Ernst: Yes.
- (69) Interviewer: Yes. Wonderful ... You have not learned it from anyone, or you have not seen (it done) anywhere.
- (70) Ernst: No.
- (71) Interviewer: Yeah... There he really looks like a real tough cowboy.
- (72) Ernst: Yeah (both laughing)...
- (73) Interviewer: This little Donald (Duck).
- (74) Ernst: Yes, Donald – no, Bush shot him.
- (75) Interviewer: Bush shoots Donald Duck? Yes...I see...Can you tell me where you learned to draw Donald Duck then?
- (76) Ernst: Yes. It's pretty easy. I can just –
- (77) Interviewer: But tell me – How did you draw him? Yes, just tell – you can draw it afterwards.
- (78) Ernst: I saw it...on TV – there was a man who drew him (Donald Duck), so then I just drew ...like that, like – at once afterwards.
- (79) Interviewer: You drew according to what you have memorized seeing – right after you have watched it on TV?
- (80) Ernst: Yes.
- (81) Interviewer: You did?
- (82) Ernst: Yes.
- (83) Interviewer: Yes...I see ... So, you remembered and then you drew?
- (84) Ernst: Yes...
- (85) Interviewer: OK. Can you draw it for me? So I can see...are you looking at the drawing now? Can you just draw it from memory, or...?
- (86) Ernst: Yes...I think so – They don't always turn out that good, but...
- (87) Interviewer: You draw the head first
- (88) Ernst: Yes –
- (89) Interviewer: And then, you kind of – yeah – ...get the shape in place first....
- (90) Ernst: I'm not that good at drawing the body...It's the head that turns out best...
- (91) Interviewer: Yes ...Did you learn (to draw) the body by watching TV, or...?

- (92) Ernst: No.
 (93) Interviewer: So where did you learn to draw the body?
 (94) Ernst: I haven't learned it anywhere –
 (95) Interviewer: You just –
 (96) Ernst: That's why –
 (97) Interviewer: You just invented it yourself –
 (98) Ernst: That's why it's not that good.
 (99) Interviewer: OK (.....).
 (100) Interviewer: When you draw this here, this beak, do you think that this beak should go inwards, into the space, or...? What do you think?
 (101) Ernst: I think it should come outward (out of the space) –
 (102) Interviewer: That it should come outwards, you think it should come out, yes... Yes, it's not... That is really smart/clever (*lurt* in Norwegian) to think like that. Yes. (.....)
 (103) Ernst: I am thinking inwards – With the car I think from the outside and inwards –
 (104) Interviewer: Yes.
 (105) Ernst: But when I draw people, I think it's the opposite – I'm not sure.
 (106) Interviewer: You're not really sure...no...
 (107) Ernst: But I just draw as it comes... –
 (108) Interviewer: You just draw as it comes. Because it seems like you...draw kind of... We can just stop (the video-filming) and see. Then you can watch what you have done, how you really drew. We can watch the film.
 (109) Ernst: Yes.
 (IVTFo. no. 6 p. 1-4, video no. 6: 00.10-15.35)

Analysis of Illustration 11:

Having chosen a sociocultural point of view, I see the informal drawing processes as mediated action (Wertsch, 1998) involving mediated activity which is explained as the way humans use historically and culturally developed tools and signs when interacting with the world (Vygotsky, 1978. 40, 55; Vygotskj, 1995: 11 – 30, see also Figure 1, page 19). From this point of view, drawing alone, like Ernst is doing here, learning how to draw these similes is a social activity, using socially and culturally developed tools, but he is also communicating with the world, even though the social arrangements here are “drawing alone” - he is using magazines and a demonstration on TV to learn to draw. He is learning how to make similes or signs that are part of a common visual repertoire to be seen “out there” in society.

The goal for the informal visually controlled drawing process (the informal goal, Scribner, 1984), is to make a simile, or a “look-alike”; the drawing can be visually controlled against a model and assessed by its resemblance. The mediated activity of drawing a simile in the informal arena is often undertaken in a particular sequence (see Illustration 11, Figure 55). Sequence as part of a strategy, according to Goodnow (1977) and Anning (1999: 169), is mainly culturally learned; it is a rational order for building the drawing. It is part of an efficient, functional and goal-oriented strategy typical for the informal arena's activities,

according to Scribner (1984). We can use Goodnow's (1977: 23, see Figure 5, page 54) notation of sequence to detect part of the strategy used (Illustrations 11, Figure 55).

This drawing, Imgp. 1727(1IDFo.) handed in by Ernst is the topic of the semi-structured interview or conversation/dialogue in Illustration 11. I have chosen to quote as much of the dialogue as possible to give a sense of the interview as a whole, also because there are features in this dialogue that are representative of several of the interviews conducted with the children when talking about their informal visually controlled drawing processes.

One feature expressed by several children is found in Illustration 11: 8 (see also page 238; the interview with Edith in "Students'/children's views on similarities and differences"). Ernst says that he almost learned to draw the simile by himself, the *almost* is then explained by Ernst, and he is specific about how he used a photograph in a car magazine as a model for internalizing the car drawing (Illustration 11: 12-16), and now, it is repeated in this drawing. He was at the time, drawing after a model by looking at a photograph of the car; controlling his drawing against a model. He has then internalized this observation as a drawing skill; he can repeat the making of the car simile accurately without having the model, a photo, in front of him. He has the drawing (Imgp. 1727) in front of him while redrawing, but does not use it - the redrawing is an internalized observation of a slightly different make of a car (Imgp. 1729, Figure 55).

The drawing of the car is an internalized observation. When digging deeper into the simile-making process presented as "learned almost by myself" (Illustration 11: 8), it could mean learned alone without another person present, but with a picture as a model. In a sociocultural understanding this learning process consists of the presence of a visual model and can be regarded as a process within Ernst's informal ZPD. To be able to draw the car, he needed the picture of the car as a model. But the use of a model can not be seen as a direct interpersonal means of assistance (Tharp & Gallimore, 1988) but as a chosen, self-initiated informal drawing strategy involving the competence of "the other" (Vygotsky, 1978) through the photograph of the car. The use of a photograph as a model is an informal self-initiated strategy, but represents other's competence in the making of the car-drawing. In this analysis I choose to regard these processes as informal drawing strategies. When learning to draw cars, Ernst uses this strategy.

Ernst is using a picture from a car magazine, a photo (Illustration 11: 12-16). Chen's (1985: 159-175, see Chapter 2, page 48) inquiry on children's use of life models, photographs and line drawing models when drawing should be looked into more closely when

differentiating the pictorial sources used in the informal arenas. According to Chen it is harder and less common for children to use photographs as two-dimensional models, as opposed to line drawings. This illustration shows a diversity of model sources (photographs and a demonstration on TV) used when describing Ernst's informal "seeing-drawing" learning processes. He uses the culturally determined professional skills activated to present the photograph in a magazine, his model, to make the drawing of the car. Ernst later expresses how he uses a demonstration of a drawing process seen on TV as a model for making Donald Duck (see Illustration 11: 78-99). Thus, the means of assistance modeling as a demonstration on TV (Tharp & Gallimore, 1988) becomes an informal self-initiated drawing strategy. To watch the making of a 2D simile on TV and model it, is to informally take into use a more competent other, using the intended help presented. He is taking into use a means of assistance modeling to learn.

This raises the second interesting feature manifested in this interview – Ernst's information about how he has been watching TV, looking at a drawer producing a simile of Donald Duck. He has internalized a process he has been watching; a sequence (Goodnow, 1977) or a drawing strategy in the presentation of building a simile, and he uses this observation when making the simile by himself, right afterwards. Ernst is explicit about how he drew at once afterwards (Illustration 11: 78). Not only is a simile a model (Donald Duck), or a support in Ernst's informal ZPD in learning to draw a new simile, which most likely is a new skill that was not part of his ZAD before looking at the drawing of the model, but Ernst learns to draw the simile by observing drawing behavior. He is learning by looking at a drawing strategy on TV. This feature supports other research findings focused on learning in the informal arena made (among others) by Scribner and Cole (1972) and recently by Reitan (2007). Informal education or learning/teaching often involves mimesis, or copying/modeling and the "learning-by-looking" process (Scribner & Cole, 1972), or "learning-by-watching" (Reitan, 2007). Ernst self-initiates as a drawing strategy the use of a model and modeling drawing behavior, or how the simile is learned.

He also indirectly confirms that looking at the simile-making process on TV has been crucial to the success of his own making of the simile ("...it's the head that turns out best", Illustration 11: 90). He has not seen how the body of Donald Duck is made and gives this as a reason why he assesses his simile of the body as not that good (Illustration 11: 93-98). The absence of a demonstration of how to make the body is the reason why he does not succeed that well in drawing a "look-alike" of Donald, according to his own judgement. So the body of

Donald Duck is an expression of Ernst's initial imagery (Kinder & Darras, 1997), it is a body drawn without support, or without taking into use the informal drawing strategy modeling.

A third feature expressed in the interview and the videotaped observation of the redrawing process is how Ernst emphasizes the way he thinks while drawing. While he was reconstructing the drawing, the sequence he used was recorded on videotape (see Illustration 11, Figure 55). He constructs the car and Donald Duck by building one part of the simile on the other, always relating to the previous parts made. We can see this in the simile of the car drawn during the interview, reconstructed in Figure 55, with Goodnow's (1977) notation of sequence.

Ernst starts his drawing with the front bumper (1), then he adds the front blinkers (2), draws the front panel (3), then adds the front window (4) and the roof (5) on top of the windshield. Then he goes back and adds the lights on the hood (6 and 7). He constructs the car "inwards" or "backwards", building on the front of the car now drawn, and he states that he thinks inwards when he draws (Illustration 11: 38-41, 103-105). He makes the side door and window (8), adds the front wheel (9) after drawing the contour of the car in one line "inwards" or "backwards", ending up with the rear of the car (10) and adding the spoiler. He then draws in the rear wheel (11), the handle on the side door (12), and finishes the drawing by adding the rear light and rear bumper (13).

The same sequence analysis as part of his drawing strategies can be applied to the making of the simile of Donald Duck (see Figure 55, page 179). The features are similar, Ernst is constructing the simile, relating the new part of the simile to the previously drawn parts. He starts with the head (1), then the eyes (2) and then the beak (3). He then adds details in the eyes (4) and the hat (5). From the beak/head he thinks "downwards", he adds the neck (6), the collar of the shirt (7), the rest of the upper body/shirt (8), the lower body (9), and ends up drawing the feet (10), always building or constructing his simile by adding parts one by one, the new part being related to the previously drawn parts. I have labeled this feature as the drawing strategy *constructing* (also used by Golomb when describing memory drawing processes, Golomb, 1992). The economy of this drawing strategy is based on construction principles, like putting one wood block on top of the other. The strategies used in the informal arena are often efficient, making the processes of achieving a wanted goal as rational as possible, according to Scribner (1984). The building of a simile, or using construction as a drawing strategy, makes it possible to always relate proportions and form to what has been previously drawn, thus making an accurate simile (the goal of making a drawing look like the model) more attainable. Ernst states that he thinks outwards when drawing Donald's beak (Illustration 11: 103-105) and

backwards and inwards (from the outside and inwards) when he draws the car (Illustrations 11: 37-42). He is imagining direction and depth as a strategy to create a sense of space or perspective when drawing.

A fourth feature is the occurrence of the accidental. Ernst is drawing a figure of a man, then he sees after drawing it that it unintentionally looks like George Bush. This is not the typical seeing-drawing process that is the focus of this inquiry; the visually controlled process. But he draws the man as part of his repertoire of initial imagery (Kindler & Darras, 1997) and then sees that it is a look-alike (a Bush look-alike). He memorizes the strategy and the forms he made and has now in his repertoire a Bush-figure, or a Bush caricature. Because the drawing has a likeness to Bush, it is now worth internalizing, according to Ernst (Illustration 11: 66). His intention with the specific drawing used in this illustration (Imgp. 1727) was to make a Bush caricature, according to what he says himself, or as he says: "I've just been trying to teach myself to draw Bush" (Illustration 11: 44).

The fifth feature in this illustration is the manifestation of creativity (Vygotskij, 1995, see page 23) revealed by Ernst when he combines some of his learned similes to make a new visual expression in this drawing (Imgp. 1727). He recombines (Vygotskij, 1995) the similes Donald Duck and the car with a probable memory drawing of the White House, the twin towers and the planes (the later most likely seen many times on TV after 9/11) into a semi-VC drawing; a semi-VC drawing being defined as a drawing with traces of visually controlled similes and memory/imaginative drawings. Some of the similes are learned by using visual control and other equivalents might be a part of his initial imagery repertoire (Kindler & Darras, 1997).

Vygotsky states that being able to recombine already internalized skills according to new needs is the main feature of human creativity (Vygotskij, 1995). Ernst displays his creativity in this drawing consisting of several internalized figures learned separately and differently, but rearranged together in this drawing to narrate or mediate a view on Bush, who is shooting Donald Duck. The new combination of similes make a new and unique expression occur.

Illustrations 12a and 12b: Drawing strategies

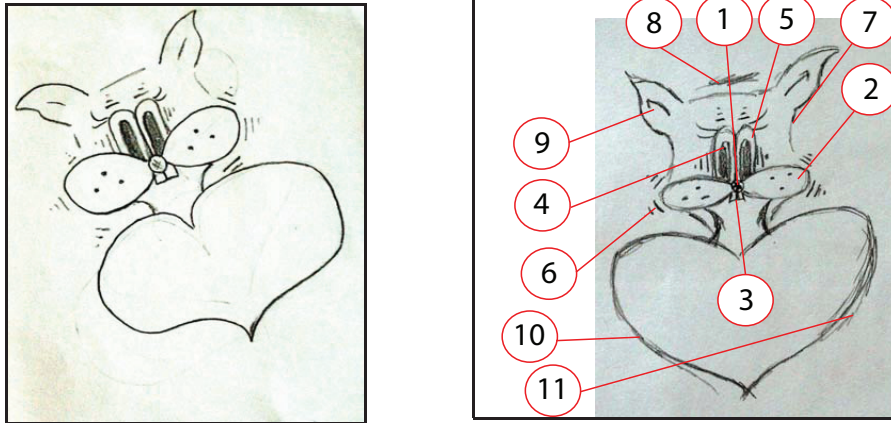


Figure 56: Ellen 6th grade, Imgp. 1742, reconstructed with sequence notation in Imgp. 1743(1IDFo.)

Illustration 12a, context : Interview with Ellen while reconstructing Imgp. 1742 in Imgp. 1743. She says she often draws looking at pictures in magazines and drawing/painting books but this rabbit has been composed on her own, 6th grade, 10/03/05.

- (1) Interviewer: Yes...Great – Can you show me a little bit how you – how you think when you draw this... Tell me then – Draw it over again and tell me just what you’re thinking...
- (2) Ellen: I start with a round (shape) like a nose –
- (3) Interviewer: You start with a round shape like a nose, ah ha ...
- (4) Ellen: Then I make the cushions.
- (5) Interviewer: You make the little cheeks – the cushions. Yes ...
- (6) Ellen: It’s really a stuttering way of drawing, but -
- (7) Interviewer: Mmm...
- (8) Ellen: Here –
- (9) Interviewer: Yes.
- (10) Ellen: So just, just like this – a kind of cross that...many (people) use to draw...
- (11) Interviewer: Yes. Is there a small cross there?
- (12) Ellen: Yes, it’s two lines across –
- (13) Interviewer: Yes, this is something many others draw – you have seen others draw it?
- (14) Ellen: Yes.
- (15) Interviewer: Is it like it’s supposed to look a little shiny? Is that what it is – a kind of a shiny nozzle?
- (16) Ellen: Then you have these teeth ...
- (17) Interviewer: So you kind of build – you kind of build this little figure from –
- (18) Ellen: Yes – it’s ...
- (19) Interviewer: From the nozzle, really...
- (20) Ellen: Yes.
- (21) Interviewer: The little shiny nozzle.
- (22) Ellen: I start in the middle, and then I work my way outwards.
- (23) Interviewer: And you build outwards, you construct this figure of yours, in a way...

- (24) Ellen: I often make many variations when it comes to the eyes – but –
 (25) Interviewer: Yes...
 (26) Ellen: These here... – I have seen these a lot in cartoons.
 (27) Interviewer: Yes, right... You have seen these a lot in cartoons, these right here... Yes, I see (laughs a little) these here...yes...yes... This means – what does this mean then? (Points at small lines on both sides of the figure).
 (28) Ellen: Vibration, I think.
 (29) Interviewer: Vibration, yes. It does... – a kind of vibration...a kind of crunch, crunch, crunch – vibration...
 (30) Ellen: Yes...
 (31) Interviewer: Or something like that – yes...
 (32) Ellen: Now this one looks really angry, but... (refers to Imgp. 1743).
 (33) Interviewer: Yes...
 (34) Ellen: Often you find this line in drawing books – they don't bother drawing it all the way through.
 (35) Interviewer: I see. So you look in drawing books – What kind of drawing books?...
 (36) Ellen: Different kinds (laughs a little).
 (37) Interviewer: Cartoons, or what did you think about when you said that?
 (38) Ellen: Drawing books – where you – or painting books... (commercial coloring books).
 (39) Interviewer: Painting books, yes. The ones where, where someone has drawn a little bit before?
 (40) Ellen: Yes.
- (IVTfo. no 6 p. 14 – 15, video no. 6: 40.50-44.34)

In the interview above, Ellen refers to drawing/painting books such as the popular “My Little Pony” (Hasbro, 2007). Here are examples of common drawing strategies presented to children in these drawing/painting books:

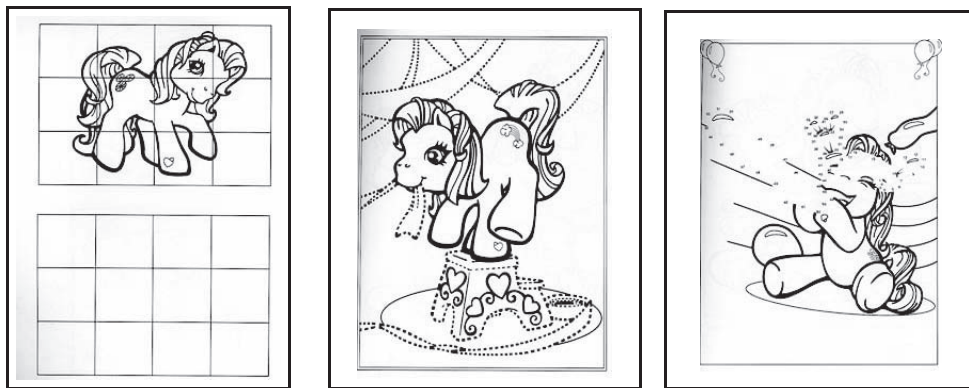


Figure 57: Informal drawing strategies, the “veil” support, the “dotted-line” support and the “follow-the-numbers” support to help the drawer learn to make an accurate simile (Hasbro, 2007, copyrights: Egmont Serieforlaget AS)

Illustration 12b

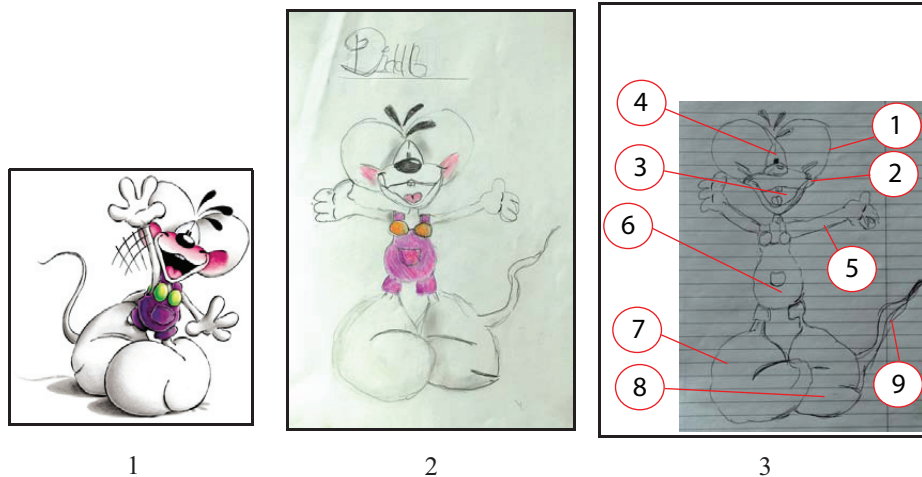


Figure 58: 1.) Diddl on the internet (<http://www.picapicaweb.com/galeria%20dilld/galeria.htm>) (copyrights: Depesche). 2.) The original Diddl handed in as an informal drawing made by Camilla 7th grade, Imgp. 1551(3IDFo.), reconstructed with sequence notation in 3.) Imgp. 1552(3IDFo.)

Illustration 12b, context: Interview with Camilla in a group with three other co-students who also used cartoon-like figures as models. Camilla redraws the figure called Diddl.³⁴ She states she drew the Diddl from a book cover at home, 7th grade, 26/04/05.

- (1) Interviewer: Diddl – OK - ... Diddl – Where did you learn to draw this one then? ...
- (2) Camilla: No, I looked at /// a kind of picture on a cover...
- (3) Interviewer: A picture on a cover. Is this a figure that – that’s really popular, or is it something?
- (4) Camilla: Yes, I have seen it many times, yes.
- (5) Interviewer: I see... Is this one that’s part of a TV show or something – or maybe something else?
- (6) Camilla: No –
- (7) Interviewer: Cartoon?
- (8) Camilla: It’s (a figure) you find on pencil cases, pencils and –
- (9) Interviewer: Okay (.....).
- (10) Interviewer: Yes. So you’ve just looked at a picture on a cover, yes. Can you show me how you build – how you draw, when you make this one? Which, which...can you repeat this drawing?
- (11) Camilla: Yes...
- (12) Interviewer: Yes.
- (13) Camilla: Let’s see –
- (14) Interviewer: How do you look at –
- (15) Camilla: I think I start at the top – (.....)

34.A Diddl is a little mouse, or a mascot, decorating book covers, pencil boxes, pencils and other items often used by children in school, it is part of a commercial school-item series.

- (16) Interviewer: Yes...Then you start on top...You start with the face...
 (17) Camilla: Like this –
 (18) Interviewer: Hmm? What did you say?
 (19) Camilla: No, I just – ...
 (20) Interviewer: What do you think when you – when you're drawing right now? Do you think that you're building the head, building downwards?
 (21) Camilla: Yes.
 (22) Interviewer: So you get the head in place first?
 (23) Camilla: Yes. Then I have something to work from.
 (24) Interviewer: Yeah...yeahAnd then I see that you have put a small shadow right here (points at the shadow on the left foot).
 (25) Camilla: Yes.
 (26) Interviewer: Why did you do that? ...
 (27) Camilla: No, I think it becomes – that it gives a little body (volume), that it looks a little nicer that way.
 (28) Interviewer: Yes, it does give a little body, yes...it does – is this something that IS on the figure, or is it something you added yourself?
 (29) Camilla: No, I added it myself.
 (30) Interviewer: Something you added yourself, yes...where did you learn that? Is this something you learned at school, or is it something you learned –
 (31) Camilla: No, here, in art school.
 (32) Interviewer: In art school, yes...
 (33) Camilla: Yes.
- (IVTFo. no. 8 p. 16-17, video no. 8: 40.28-45.34)

Analysis of illustrations 12a and 12b:

The drawing strategy “the construction principle” or constructing (Golomb, 1992), is identified in Illustration 11, and the sequence “from the middle and outwards” is shown in Illustration 12a, Figure 56, page 187. Ellen starts her redrawing of the rabbit head (Imgp. 1742) with the nose (1), she draws a circle with a double cross, then she adds the cheeks (2), she adds the teeth right underneath the nose (3), and the eyes are then built on the cheeks and the nose (4 and 5). Then she adds the little lines (6) by the cheeks. She defines these lines as vibration or symbols for movement (Illustration 12a: 28). Then she draws the contour of the head in one movement, starting from the left cheek to the right, she adds hair (8) and a line inside each ear (9). She finishes the drawing by making the heart in two lines, first the left half (10), then the right half (11). She defines the sequence (Goodnow, 1977) she uses as “from the middle and outwards” (Illustration 12a: 22), and as shown in the sequence analysis above, she constructs the simile; the new part always built on (or from) the existing parts.

She does not confirm that the double cross on the nose is meant as a symbol for the texture shininess, she says it is a cross many people use to draw (Illustration 12a: 11 – 17), but she does not deny my interpretation of the double cross as a symbol of shininess often used in cartoons. She sees the little lines (6) as a symbol of vibration (Illustration 12a: 28), also found as movement symbols in cartoons.

Ellen draws in a popular-culture drawing genre (Smith, 1985; Wells, 1998), flat line drawing with baby-like faces, that she already has internalized; the rabbit head and the heart. The combination of a rabbit head and the heart is her own invention (IVTFo. no. 6, p. 14), and she also states that sometimes she can alternate the expression of the eyes (Illustration 12a: 24). She recombines (Vygotskij, 1995) already internalized forms into new figures (for similar processes see Nataly's drawings in *The Vega files*, informal drawings folder 5).

Ellen says she uses painting books or commercial drawing/coloring books where part of the drawing is drawn for you (Illustration 12a: 38) to practice her drawing in the informal arena. Hanna, in the 7th grade (IVTFo. no. 9, p. 1), also refers to this when she talks about informal drawing activities at home, as does Edith (see page 238 in this chapter). Looking at the support provided in a drawing/painting book to make an accurate simile is a form of cooperative drawing where part of the drawing is already drawn and the delineations are finished by the child. A model is often presented to draw according to, or numbers are used to walk (instruct) the drawer through a specific sequence, a specific strategy of constructing the simile, as seen in Figure 57, page 188. Here, Albrecht Dürer's (Frayling, Frayling & van der Meer, 1992) old technique, the use of a veil, is presented in a painting book. Painting books are referred to by Ellen as a source of informal drawing, and the content of these commercial painting books is often similar. It is likely that she has worked with the strategies presented in Figure 57 to learn to make a specific simile.

In Illustration 12b Camilla states she learned to draw the simile of the popular figure "Diddl" from a book cover (Illustration 12b: 1 – 11). She uses a model when she draws the Diddl, relying on the skills of the professional drawer of the original Diddl. The use of a model is part of her drawing strategy. A sequence analysis (Goodnow, 1977) of her construction of the simile consists of the same sequence and direction as found when analyzing Ernst's strategy in his making of a Donald Duck simile; "from the top to the bottom" or downward (see Illustration 11, Figure 55, page 179). She explains that she uses this direction and sequence when constructing because it gives her something to work from (Illustration 12b: 30). She starts with the two ears (1), then the chins and nose (2), the mouth with teeth (3), and the eyes (4). Then she makes the neck and the arms (5) from the head, the belly (6), the left foot (7), the right foot (8), and the tail (9), always constructing the one new part in relation to the previous parts.

She also states that she made the shadow on the right foot (Illustration 12b, Figure 58(3), page 189) because she learned to make shadows in art class with the teacher I have

observed in the formal case. To ask the children to remember their drawing-learning history is a challenge imposed on the children by me, as a researcher. Even though the figure later found on the internet has shadows on the feet, the making of these particular shadows, according to Camilla (Illustration 12b: 28-33), represents skill and knowledge transferred from the formal arena to the informal arena.

Illustrations 13a and 13b: Drawing strategies pouncing/tracing/ mimicking/copying (*herme*)

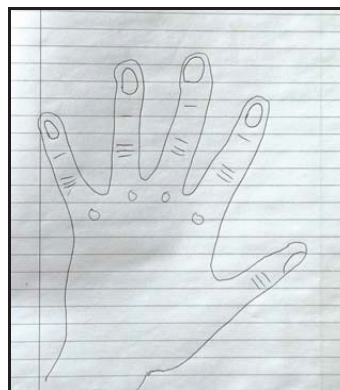
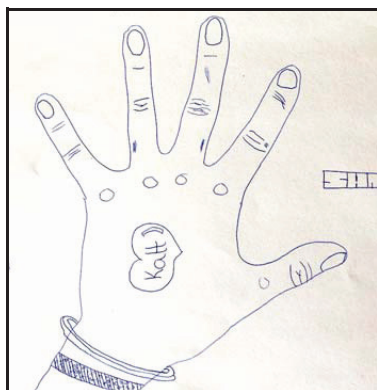


Figure 59: Gina 7th grade, Imgp. 1538, reconstructed in Imgp. 1539(3IDFo.)

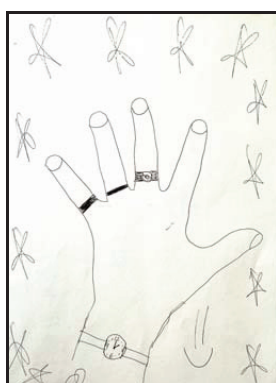


Figure 60: Heidi 7th grade, Imgp.1543 and Imgp. 1541(3IDFo.)

Illustration 13a, context : Interview with Gina sitting together with Heidi while Gina reconstructs Imgp. 1538 in Imgp. 1539(3IDFo.) by tracing around her hand on paper. Gina and Heidi are best friends (as stated on Imgp. 1591 found in 4IDFo.) and they both use the same strategy (see Heidi's drawings Imgp. 1541 and Imgp. 1543 above), 7th grade, 26/04/05.

- (1) Interviewer: Then we can start with you, Gina – ...Can you tell me a little bit about how you made these hands? ...
 - (2) Gina: I have copied (in Norwegian: *herma* which as mentioned above also suggests mimicking in Norwegian) the hands.
 - (3) Interviewer: What did you say? You have to talk a little louder...
 - (4) Gina: I have just copied the hands.
 - (5) Interviewer: Copied –?
 - (6) Gina: The hands –
 - (7) Interviewer: The hands? Your own hands?
 - (8) Gina: Yes.
 - (9) Interviewer: How did you – Did you put your hands on (the sheet of paper), or –? Did you trace around, or what did you do?
 - (10) Gina: I traced around my hands.
 - (11) Interviewer: Show me how you did that...Yes...Have you seen anyone else do this?
 - (12) Gina: Yes.
 - (13) Interviewer: Yes. Who?
 - (14) Gina: Many people in my class.
- (IVTFo. no. 8 p. 17, video no. 8: 26.20-27.50)

Illustration 13b:

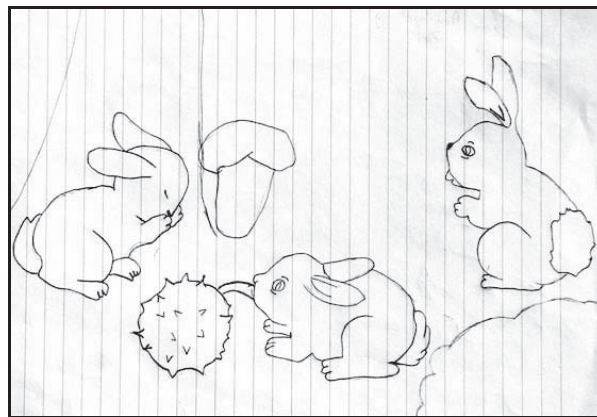


Figure 61: Nataly 7th grade, Imgp. 1506(5IDFo.)

Illustration 13b, context : A majority of the children, when asked in interviews about their informal drawing activities, confirmed that they often used pouncing/tracing as an informal drawing strategy (as for example in the interview with four girls in IVTFo. no. 8, pp. 1-2). But the drawing database does not reflect this major confirmed drawing strategy, most of the children did not hand in these drawings, except Nataly. Her drawing is seen in Imgp. 1506

above. I have chosen to use the interview with Agatha about the pouncing-drawing strategy as a verbal illustration of the use of this popular way of making a simile because she describes in detail how it is used and why. Agatha and others were asked to hand in their pounced drawings, but they never did. Nataly's pounced drawing is therefore used as an example, hence this illustration here, together with Agatha's detailed descriptions of this specific drawing strategy, 5th grade, 10/03/05.

- (1) Interviewer: Have you ever, for example, traced over with wax paper (in Norwegian: *matpapir*) or the like, to draw something you want to learn to draw?
- (2) Agatha: Yes. I have.
- (3) Interviewer: Yes. You have –
- (4) Agatha: I usually do that when/because I can't draw...really, like nicely.
- (5) Interviewer: Yes, so then you do that, sometimes?
- (6) Agatha: Yes.
- (7) Interviewer: Draw over with wax paper –
- (8) Agatha: Yes.
- (9) Interviewer: And then you make your own drawing on wax paper...
- (10) Agatha: Yes. But first I draw on wax paper and then I draw over again on a sheet of paper.
- (11) Interviewer: So, you kind of just turn it around, and then you get the color over then, or? How do you do it then?
- (12) Agatha: No, I just do like this...what I have learned – like I take (trace) very hard, like –
- (13) Interviewer: Yes so you turn the wax paper around – and then you trace really hard over the lines one more time?
- (14) Agatha: Yes (.....)
- (15) Interviewer: Yes, I understand...I see. But that is really smart (in Norwegian: *lurt*).
- (16) Agatha: Yeah...
- (IVTFo. no. 7 p. 8, video no. 7: 26.20-27.50)

Analysis of Illustrations 13a and 13b:

Heidi, Gina (Illustration 13a), Nataly and Agatha (Illustration 13b) together with many others, according to the interviews, (Illustration 13a: 14) use a contour already made as a drawing strategy when making a simile. Heidi and Gina use their own hands as a “pattern” to draw around, providing them with traces on paper that are more or less a print of their own hands. Then they decorate this basic form of a hand with rings, clocks, and tattoos. These hands are informal drawings made in school, one child taking after the other (see Illustration 6, also found in IVTFo. no. 8, p. 17), this learning process can be described as the wildfire effect. The tracing does not involve a direct seeing-drawing process of a traditional way of drawing a hand, but it involves seeing and modeling the craftsmanship of tracing accurately around a seen and wanted-to-master figure. It is a rational learned strategy to obtain the goal of making a look-alike of a hand (Scribner, 1984).

Nataly uses tracing of the Disney-like rabbits in Imgp. 1506 (Illustration 13b) as a drawing strategy to learn to make a simile. This involves copying or reprinting a model directly on paper, using a pouncing-like technique (Frayling, Frayling & van der Meer, 1992, see Figure 62, page 195 below) *without* the traditional seeing-drawing process, having the model at a certain distance, but it is a way of reaching the goal “to make the drawing look real”, that is to make the drawing look like the model - and the strategy does involve a model and the act of drawing. She puts a piece of thin paper over the form she wants and traces around it as she sees through the paper. Then she turns the paper around on a new piece of drawing paper and traces around the contours once more very hard, ending up with a print of the contour on the drawing paper (Illustration 13b). The goal is to make a look-alike or a simile and pouncing is used when needed, as Agatha states in Illustration 13b: 4; when she feels she can not draw nicely. This important reason for using pouncing will be discussed further in the next chapter (see Chapter 4, page 262). Similar pouncing-like techniques are used in the professional cartoon and animation movie-making industry today. But its history as a technique or a strategy goes further back in art history; pouncing as a craft tradition was a way to reproduce a desired form back in the time of the Renaissance (see Figure 62 below). The pouncing strategy is closely related to the common method of copying taken from history of drawing as craftsmanship: the act of piercing holes in the outlines, pouncing the holes with chalk and copying an icon from one surface to another (Frayling, Frayling & van der Meer, 1992).

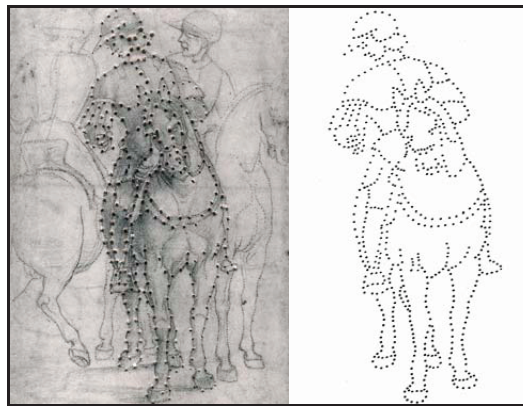


Figure 62: “Three horsemen”, drawing by Luca Signorelli (1441 - 1523). Illustration in Frayling et. al. 1992). One of Signorelli’s copies of a horseman transferred to another surface by piercing holes in the original and pouncing chalk powder into the holes, The Art Pack - copyrights: Van der Meer Paper Design Ltd.

Illustration 14: Repetitions, internalized observations, and recombinations

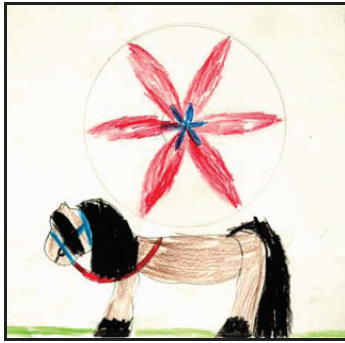


Figure 63: From upper left: Imgp. 1689(2IDFo.), Imgp. 1690(2IDFo.), Imgp. 1691(2IDFo.), Imgp. 1692(2IDFo.) and 1706(7IDFo.): Anita's horse, 5th grade, reconstructed in Imgp. 1686(2IDFo.)

Illustration 14, context. Interview with Anita who has had a horse at home for a year. She says she draws together with her older sister who specializes in art and design in a senior high school on the mainland, 5th grade, 11/03/05.

- (1) Interviewer: This is yours ... And you have made a horse here ... Yes –
 (2) Anita: Yes it's my favorite animal.
 (3) Interviewer: It's your favorite animal – the horse...Can you tell me a little bit about how you learned to draw THIS horse?
 (4) Anita: It's my older sister – Maria.
 (5) Interviewer: Older sister – Maria that has taught you to make a horse. How did you learn to draw a horse///?
 (6) Anita: First SHE drew, and then I started to draw like that –
 (7) Interviewer: Yes.
 (8) Anita: And then I started to draw ///, and then suddenly...suddenly I succeeded...
 (IVTFo. no. 7. p. 2, video no. 7: 09.30-09.55)

Analysis of Illustration 14:

Anita looks at her sister's drawing behavior when learning to make a horse, and is enthusiastic when she talks about succeeding after watching her sister (Illustration 14: 6-8). Even though the model (the sister's drawing) is not available, Anita's assessment of her drawing is that she succeeded in making a simile; it looks like the model. She probably has been given the interpersonal means of assistance modeling in her informal ZPD (Tharp & Gallimore, 1988) or she has taken modeling as a drawing strategy into use. She sees her sister draw a horse, this is part of her intermental plane and transforms the ability to draw the simile of a horse to her intramental plane (Vygotsky, 1978; Greenfield, 1984), she internalizes the observation of the making of the simile and repeats it over and over again, as seen in Figure 63 (page 196). Her sister's drawing can well be a memory drawing, but for Anita, it is a model, and an observation that has been internalized. She draws the simile of the horse over and over again in new drawings containing combinations of different similes. She can reproduce her sister's simile of a horse without having the model present.

The horse as a theme is often popular among girls aged ten to eleven, according to Lowenfeld and Brittain (1979) and Wilson and Wilson (1982a: 64). Anita says she has a horse at home. We can assume that the horse is an important part of Anita's life, as she says; it is her favorite animal (Illustration 14: 2).

We can see they all look alike (Imgp. 1689, 1690, 1691, 1892, 1706, 1686, see Figure 63), even though she places the horse in different settings of mountains, geometrical flowers (learned from the math teacher, IVTFo. no. 7, p. 5), fish (learned from her father, IVTFo. no. 7, p. 3), suns and water. The horse drawing is an internalized observation recombined with other

learned similes and memory drawing into new drawings. Anita's drawings can be categorized as semi-VC drawings with confirmed traces of transfers from the formal arena (the geometrical flower, more on transfers in Illustration 15a).

The graphical approach (Simmons, 1992) close to the formal Chinese and Japanese brush painting tradition can be detected, with such similes as dragons, lotus flowers, and mountains drawn to perfection and used in a variety of combinations according to their meaning as graphs or signs. We see that Thompson's (2002) observations of drawing processes as a learning-from-peers process in kindergarten are also valid in the informal arena among older children. Anita learns from her sister, and perfects the simile of a horse. Köhler's (1981) unintended findings when researching the informal drawing scene are reconfirmed; children and young people often repeat their learned similes, and the similes are perfected through repetition (as Ellen states in Illustration 12a).

Repetition as an exercise and as a trace of the pleasure of mastering the making of a simile, as Anita expresses (Illustration 14: 8), and the construction of the simile in a specific sequence are important features of the process of internalizing an observation. Together with the recombination of these internalized observations, or similes, into new drawings, these are features found in several of the informal visually controlled drawing learning processes.

Illustration 15: Transfers and mimicking/copying (*herme*)

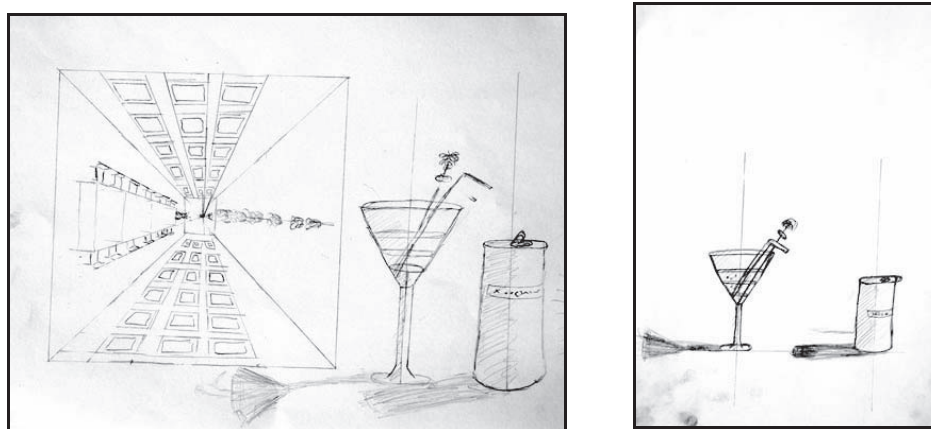


Figure 64: Edith 6th grade, Imgp. 1725(1IDFo.), reconstructed in Imgp. 1726(1IDFo.)



Figure 65: Dorothy 6th grade, Imgp.1730(1IDFo.), reconstructed in Imgp. 1731(1IDFo.)

Illustration 15, context : Interview with Edith and Dorothy while they are reconstructing Imgp. 1725 and Imgp. 1730 in Imgp. 1726 and Imgp. 1731 (see Figure 64 and 65). They are friends, and often draw together in their spare time. These drawings were found among the drawings handed in as informal. Apart from geometrical stars learned in math classes, (see previous illustration, page 196) and drawing of trees with shadows (see *The Vega files*, and search on “transfer” in the keyword list), these drawings were the drawings found indicating a possible transfer of formal visually controlled drawing processes. The girls can not really remember where these specific drawings were made, but they were made informally either at Edith’s home (where they often draw together) or they were made in informal activity-time in school, when the girls often sit beside each other (FVTFo. no. 6, p. 6). 6th grade, 10/03/05.

- (1) Interviewer: So you drew first – you were taught by the teacher.
- (2) Dorothy: Yes.
- (3) Interviewer: And then you, you drew – you just tried to remember what he had said, and then you tried over again? (See Imgp. 1730, the shadows and help lines are not easily detected).
- (4) Dorothy: Yes.
- (5) Interviewer: Without looking – without looking at something?
- (6) Dorothy: Yes.
- (7) Interviewer: Yes. I see...And you managed to get these beautiful shadows right, and...you had seen – done it once before? –
- (8) Dorothy: Yes.
- (9) Interviewer: Together with the teacher. Yes...So you’ve learned. Yes...And you – here then - Edith...Did you sit together when you drew this, or?
- (10) Dorothy: Yes.
- (11) Edith: Yes, we really sat beside each other.
- (12) Interviewer: Oh, you did – you sat beside each other?
- (13) Edith: I tried not to copy (in Norwegian. *herme* also mimic) a lot.
- (14) Interviewer: You tried not to copy a lot (laughs a little) – But you copied a little?
- (15) Edith: Yes
- (16) Interviewer: Yes. So she started first – it was Dorothy that started first, and then you drew after her?

- (17) Edith: Yes (.....)
- (18) Edith: And then....I usually sketch glasses like that, because they're - I think it's awkward to draw glasses that go inwards and out, like...(points at Dorothy's wine glass in Imgp. 1730).
- (19) Interviewer: Oh yes. So it's easier to make these – (points at Edith's cocktail glasses in Imgp. 1725).
- (20) Edith: Yes.
- (21) Interviewer: These glasses. Have you seen this any place else, or is this something you've invented?
- (22) Edith: No, we have glasses like that at home.
- (23) Interviewer: You have glasses like that at home?
- (24) Edith: Yes.
- (25) Interviewer: So you have been sitting and looking at a glass like this?
- (26) Edith: Noooo – not really, but –
- (27) Interviewer: No. But you just remembered it?
- (28) Edith: Yes. I see it in my head...
- (29) Interviewer: You see it in your head...
- (30) Dorothy: Yes. So then I want to steal your (talks to Edith) idea a little –
- (31) Interviewer: You want to steal Edith's idea a little –
- (32) Dorothy: Yes....
- (33) Interviewer: Yes. We steal from each other.
- (34) Dorothy: Yes.
- (35) Interviewer: That's the way it is.
- (36) Dorothy: That's how you get ideas.
- (37) Interviewer: Yeah. What did you say? That's how –?
- (38) Dorothy: ...you get ideas...
- (39) Interviewer: That's how..
- (40) Dorothy: You're allowed to borrow from others...
- (41) Interviewer: Yes. That's true...Yes (.....)
- (42) Interviewer: But this one then, Edith, I have to ask you a little bit about this one (interviewer talks about the central perspective drawing with the use of a vanishing point to be seen from the side, on the left in Edith's drawing, Imgp. 1725).
- (43) Edith: Yes. This was actually learned from my sister – she goes to school in Brønnøysund (the closest larger town on the main land) and has drawn like that – I don't know what it's called.
- (44) Interviewer: No.
- (45) Edith: It's like inwards in a room – (talking about the room with perspective)
- (46) Interviewer: Yes.
- (47) Edith: Yes –
- (48) Interviewer: So you have copied after your sister?
- (49) Edith: Yes –
- (50) Interviewer: You have seen your sister draw like that then?
- (51) Edith: Yes, I have only seen the drawing she has made, but not how she does it.
- (52) Interviewer: You have NOT seen how she does it – and then you have just copied (*herme* also mimicked) her drawing.
- (53) Edith: Yes.
- (54) Dorothy: We've learned, like the vanishing point at Kai's (an art teacher at school).
- (55) Edith: Yes.
- (IVTFo. no. 6 p. 4 – 11, video no. 6: 17.35-17.45, 29.10-30.00, 32.50-33.20).

Analysis of Illustration 15:

Both the original drawings depicted in Illustration 15 have been handed in as informal drawings by Dorothy and Edith (Imgp. 1725, Imgp. 1731). They reveal transfers of “tricks”

used in formal visually controlled drawing teaching. One transfer of formal “tricks”, according to Dorothy (Illustration 15: 1-4), is the teacher’s demonstration of how to use a centre help-line as a scaffold to make a symmetrical drawing, and how to place shadows. The help-lines and the shadows are almost erased in Dorothy’s drawing (see the down left side of Imgp. 1731, Figure 65). The shadows and use of help-lines are repeated in the informal arena by Dorothy in a still-life. She has internalized the use of help-lines and the making of shadows presented to her in the formal arena (Illustration 15: 3-8).

The notion of shame of mimicking or copying (herme)

The girlfriends were sitting next to each other and Edith tried *not* to mimic/copy (she says *herme* in Norwegian). Mimicking is seen here by Edith as something one should try to avoid, but this belief notwithstanding, she had to mimic a little. To be able to learn from Dorothy, she takes into use the possible means of assistance modeling that is offered to her, or modeling as an informal drawing strategy, often found in the informal arena (Scribner & Cole, 1972; Reitan, 2007; Sennett, 2008). But she is uncomfortable using this assistance or strategy, or more correctly, admitting to me - a researcher possibly seen as representing the formal arena - that she uses this assistance or strategy. She has to reassure me, the interviewer, that she really tried *not* to copy, or mimic (*herme*) - (Illustration 15: 13-16).

This example of what is close to “shame” expressed in Edith’s utterance (Illustration 15: 13), when having to admit taking the means of assistance modeling into use, or using Dorothy’s drawing as a model in the informal arena as part of her drawing strategy, is interesting and occurs several times in the data. These utterances will be discussed later as a possible part of The Modernist Narrative (Wilson, 2004). As Strandberg (2006) states, seeking help in one’s ZPD, like copying/mimicking, and modeling, is often seen as either cheating or stealing, while it is in fact, as seen here, often part of a successful learning process. As we can see in Imgp. 1725 and Imgp. 1726, Edith learns the use of help-lines and the placement of shadows from Dorothy (see Figure 64 and 65). Then Dorothy says she is stealing ideas from Edith’s drawing and redrawing (Imgp. 1730) (Illustration 15: 30-40) (drawing a cocktail glass she sees Edith draw during the interview) and she finally justifies this in a dialogue with the interviewer; you are allowed to obtain ideas from others (Illustration 15: 40).

Transfers

Edith has learned to draw a room with the use of central perspective and a vanishing point after looking at a drawing made by her sister who has learned this in senior high school on the mainland, where she specializes in design. Edith has not seen how her sister constructs perspective with the use of a vanishing point, but has seen her drawings, made in a formal arena, and remakes the drawing in the informal arena. The drawing could then be a well remembered memory drawing, Edith is not specific about having her sister's drawing in front of her while she learned to draw the room in perspective.

But there are traces in these drawings (Imgp. 1725, Imgp. 1731, Figure 64 and 65) of transfers from a formal to an informal arena. We can see this occurring twice; Dorothy's formally learned use of a help-line to make symmetry and the use of shadows are learned informally by Edith. Edith's sister's formally learned use of the vanishing point to create a sense of room and perspective (even though it is not the formal case in focus in this inquiry) is transferred to the informal arena when Edith uses her sister's drawing as a model (or perhaps, more precisely, possibly a memorized model) when making Imgp. 1725.

Illustrations 16a and 16b: Informal drawing in formal context, social arrangements as collective drawing - the wildfire effect

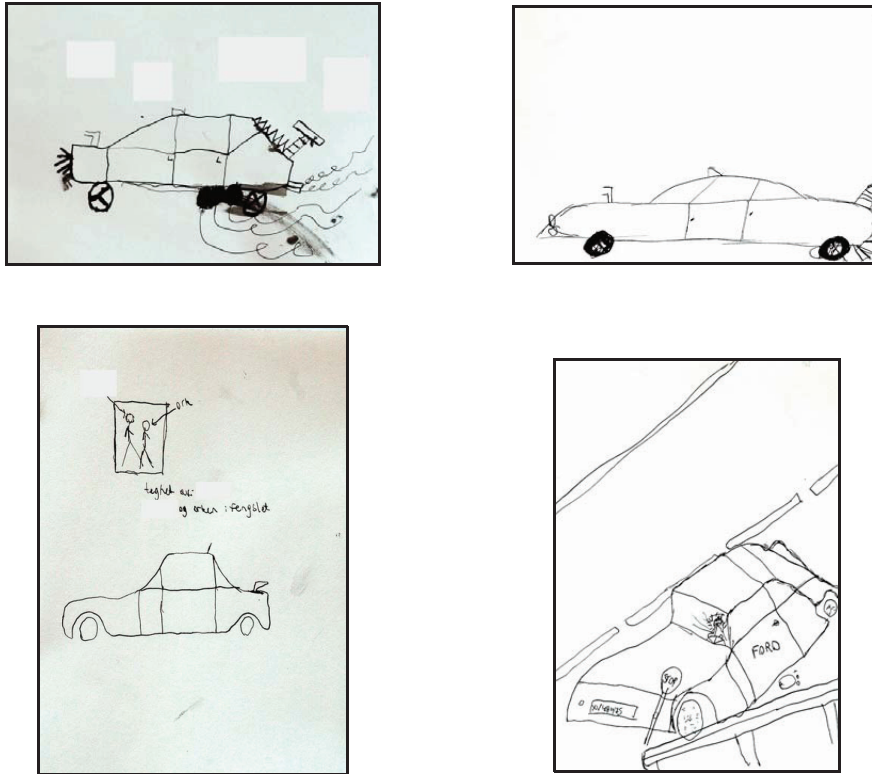


Figure 66: The wildfire effect: Car drawings made by four boys simultaneously in a group on practice sheets of paper, 7th grade, Imgp. 1843, Imgp 1837, Imgp. 1840 and Imgp. 1841(5FDFo._i)

Illustration 16a, context: Four boys are sitting at the same table in a group, drawing on their practice sheets of paper. Suddenly this unexpected informal process starts, when one takes after the other in a spontaneous drawing process. They draw cars while they were supposed to be practicing and exercising with Chinese ink and pen on chalked paper for the assignment “Fall poem”. The teacher is coincidentally walking past the group, 7th grade, 21/10/04.

- (1) Martin: Check this, the world’s coolest car!
- (2) Teacher: The world’s coolest car, what’s it called?
- (3) Martin: ///
- (4) Teacher: Ferrari Martin 2000?
- (5) Teacher: No, let’s say that it’s called Toyota Selica ///–
- (6) Student2: No, Nissan Skyline – (laughs a little) ...
- (7) Martin: Skyline –
- (8) Student2: Yeah, it IS a Skyline ...

- (9) Teacher: Yes.
(10) Martin: Wow! ...
(11) Martin: ///
(12) Martin: Now I'm going to ... – Oh, I need lights up here... /// ... I'm drawing ... IT.
(FVTFo no. 2 p. 9, video no. 2: 20.00-21.00)

Illustration 16b:



Figure 67: Drawings on paper table cover 1 in still-life classes during one day, 5th - 7th grade, Imgp. 3386(8IDFo.), (90cm x 237cm).The four later pictures are enlargements of details found on the table cover

Illustration 16b, context: As part of the method (as mentioned in Chapter 2), the group tables in the art attic were covered with white paper to see if informal drawing processes would occur

without instructions, and in this way possibly capture informal drawing processes. This table cover was left on a group table during a whole teaching day. Different students from different classes on different levels (all within the 9-12 age group, and all participants in this case study) scribbled on this table cover surface during the day. This illustration presents the table cover (among several others, see *The Vega files*, 8IDFo. to view all of them) that shows one figure most clearly, here “the smoker”, passed on from one student to another, 5th-7th grade, 17/09/04.

Analysis of Illustrations 16a and 16b

Both Illustrations 16a and 16b reveal traces of children being inspired by each other in spontaneous informal drawing processes. Both illustrations are from a formal setting (in class) but they are children-initiated informal drawing processes in the sense that they are not related to the teacher’s art and crafts agenda. Context is not only the material and geographical setting, it is also defined by the social interactions. These illustrations are therefore defined within the informal case of VC drawing processes. Here we can see the informal drawings as traces of informal interpersonal graphic communication, or a combination of graphic and verbal dialogues (Wilson & Wilson, 1982a; Wilson, 2007). Both illustrations show traces of being examples of semi-VCs.

As mentioned, the students were given practice sheets of paper (Illustration 16a), and the tables were covered with thick drawing paper to see if that would encourage spontaneous informal drawing processes without any form of verbal cues being given by the researcher or the teacher (Illustration 16b, Impg. 3386). This was done to make it possible to capture informal drawing processes in a natural context among the defined drawing-crisis age-group of 9 to 12 (Lowenfeld, 1947/1957). Both illustrations show how informal VC or semi-VC drawing processes can begin and spread like wildfire; one child after another copying the other’s (most likely to be) initial imagery (Kindler & Darras, 1997), or possibly a simile learned in a VC drawing process.

The term initial imagery is defined as the result of self-learning/teaching drawing processes (Kindler & Darras, 1997, see Figure 4, page 43). When researching informal teaching/learning processes in drawing among peers, there is a need to balance Kindler and Darras’s (1997) term “initial imagery”. We see here that the children, the four boys and the drawers of “the smokers”, are inspired and learn from each other. Kindler and Darras’s (1997) use of the term self-learning (see page 43) to explain the term “initial imagery” then becomes

problematic. What can be seen as initial imagery (drawings made in the ZAD) can be a model, and can also be within the informal ZPD for the young person sitting beside the model, being given the model, or just looking and drawing. This will be discussed in the next chapter.

See, for example, Illustration 16a (Imgp. 1843 and Imgp. 1837, Figure 66). Both drawings have a light on the hood. It is likely that one has copied the other by looking at what the other has drawn. The drawings are then semi-VCs. I have labeled these children-initiated group-drawing processes the wildfire effect as a result of collective drawing (drawing the same theme in a group). They can be seen as graphic dialogues (Wilson & Wilson, 1982a; Wilson, 2007), or as a part of a verbal and visual dialogue. The young people use each other as inspiration and models expressing a common interest both verbally and graphically/visually as in Illustration 16a, where their clearly is a common enthusiasm for cars.

In Illustration 16b one could be inclined to interpret the drawings as demonstrating that smoking is cool, even though the dialogues (if there were any) were not registered. But the graphic traces are clear, the theme “the smoker” occurs in five slightly different versions, most likely drawn by five children, one taking after the other; the theme and drawing activity spreading like wildfire. The theme “the smokers” is also interesting. To draw an activity not allowed in school (or to draw where it is illegal), the rebellious and slightly “dangerous” theme is a feature of informal drawing found by other researchers within the graffiti-genre as well as in lavatory wall drawings (Hedegaard, 2008; Martins, 2008).

Illustration 17: Goals, drawing genre and means of assistance: Modeling, cooperative drawing and instructions



Figure 68: Erwin 5th grade, Imgp. 1678(2IDFo.) partly redrawn in Imgp. 1680(2IDFo.)

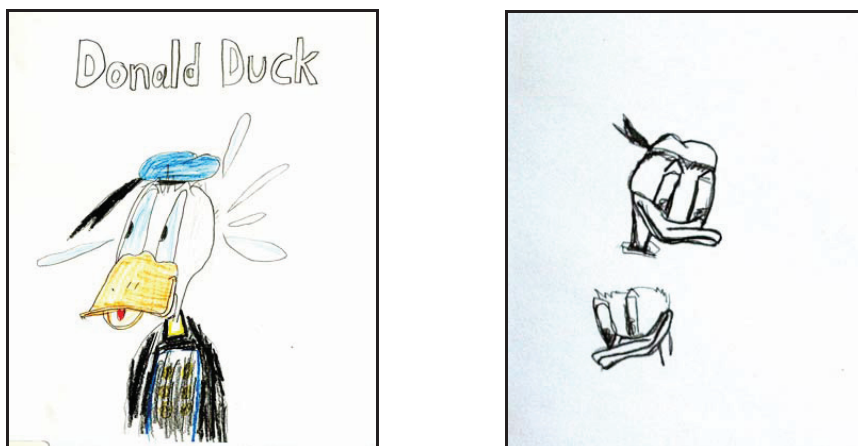


Figure 69: Charles 5th grade, Imgp. 1673(2IDFo.), partly redrawn in Imgp. 1674(2IDFo.)

Illustration 17, context: Interview with Erwin and Charles together, while Erwin is redrawing the first beak in Imgp. 1680, see Figure 68. They are best friends and “hang out” together in their spare time. This is the only informal example of reference to the use of verbal instruction found in the data. 10/03/05.

- (1) Interviewer: Yes, but you know what – now you have to tell me – See if you can manage to ... to – make a role-play, almost, or if we can manage to – I don’t know exactly how we’re going to do it, but we’re going to try to see if we can find out how you taught Charles to draw –
- (2) Erwin: ///
- (3) Interviewer: How did you teach Charles to draw?
- (4) Erwin: // the beak like this, and then – inwards like this – Like this – almost like a J that lies flat – like this – (see Imgp. 1680 above, the beak on top right hand side).
- (5) Interviewer: Almost like a “J” that lies down –
- (6) Erwin: Yes.
- (7) Interviewer: So that was the first thing you told Charles?
- (8) Erwin: Yes.
- (9) Interviewer: Yes, and did Charles do what he was told?
- (10) Erwin: ///// Yes – THIS one first - but – (the beak first) (.....)
- (11) Erwin: Like this – But my Dad can take over – if there’s something I can’t manage, then he takes it (over) (the drawing) a little...
- (12) Interviewer: So what does he do if there’s something you can’t manage (to draw)?
- (13) Erwin: Then he takes – then he just draws that thing, like this, then I learn it.
- (14) Interviewer: I see. So if you can’t do it, he does it for you? ...
- (15) Erwin: Yes. And then –
- (16) Interviewer: Then he draws over a little –
- (17) Erwin: And then I watch how he does it.
- (IVTFo. no.7, p. 15 and 16, video no. 7: 47.25-48.07, 50.00-50.23)

Analysis of Illustration 17:

Erwin guides us through how he teaches Charles how to draw Donald Duck. He uses the verbal means of assistance (Tharp & Gallimore, 1988) instruction when he tells Charles to use the letter-form “J”, a descriptive utterance (Coates, 1984), when drawing Donald’s beak (Illustration 17: 4-10). He makes this verbal description while simultaneously using the means of assistance modeling (Tharp & Gallimore, 1988); drawing to demonstrate how the simile is constructed. He is constructing the simile in a specific sequence, one part of the figure in relation to the previous part, (as in Illustrations 11, 12a and 12b) and at the same time talking his way through how it is done, what drawing strategy to use. He learned to draw Donald Duck from his father (Illustration 17: 11-17). There is an interpersonal domino-effect; Erwin learns from his father, and then he teaches his friend. When his father teaches him, he is near by; when there is something Erwin can not draw, his father takes over and draws what appears to be difficult at the moment on Erwin’s drawing, while Erwin watches what his father does, looking at how he solves the making of the difficult part of the simile (Illustration 17: 16-17). According to Erwin, his father uses what is defined here as the means of assistance cooperative drawing when teaching Erwin in his informal ZPD.

Copying/mimicking (herme) and identity

His description of the use of mimesis or copying/modeling when teaching Charles is consistent with previous research describing typical informal teaching/learning processes (Scribner & Cole, 1972; Sennett, 2008; Reitan, 2007). The process as a whole confirms and develops good personal relations, common interests in drawing, and the interest in the theme of the drawing. Because of this, the informal teaching/learning drawing process can also be seen as an identity builder (Scribner & Cole, 1972). We can say that the transfer of skills is person-related (Scribner & Cole, 1972); Erwin learns from his father, and transfers these skills to a good friend, as is the case with Anita and her sister (Illustration 14), and Edith and Dorothy (Illustration 15). The process described in Illustration 17 is collaborative (Scribner & Cole, 1972; Wilson, 2007), or what is labeled the use of the means of assistance cooperative drawing and modeling (the father drawing on his son’s drawing). Erwin “learns by looking at”; by watching his father delineate what he finds difficult, as he says, “And then I watch how he does it” (Illustration 17: 17), the last of Scribner and Cole’s (1972, see page 37) characteristics of informal learning processes; the “learning by looking”. Cooperative informal drawing does not

only aim “to help out the drawing” so to speak, to make the simile complete by drawing, but also functions as an informal means of assistance, as informal teaching.

As seen here in Illustration 17, the mode of approach (Simmons, 1992) often found in the informal arena, the graphic approach, can be characterized by internalized observation of the simile and the simile-making, the strategy, repetitions of these similes (the making of a simile over and over again) *and* the use of contour as a space-making and form-making device (the line drawing, Smith, 1983, see page 47). These are features found as characteristics in several of the informal drawings handed in. This making of a graphic vocabulary or a visual language is close to features in Chinese and Japanese brush paint tradition, the same similes are internalized to perfection and repeated (see for example Ernst’s Donald Duck and car in Illustration 11, and Anita’s horse in Illustration 14). We can also detect society’s popular visual culture in the informal image making. Cartoons and animated movies also often (but not always, as for example seen in recent PIXAR movies, the line drawing is *passé*) have the feature of line or contour as a space-making and form-making device. The intensions behind the internalized observations or the similes are not as in Chinese and Japanese brush-painting, part of an ancient cultural common visual symbolic alphabet or language, but are part of a larger visual commercialized common Western popular culture oriented towards children.

The informal “we” as an informal goal

The similes are made in context, as Thompson (2002) and Lidén (2000) also confirm in their studies, they have a clear social reference to a smaller community or a smaller interpersonal significant “we”, as seen here in this illustration. The similes have meaning on the interpersonal plane as confirmations of common interests and good relations, among significant others, and because of this “we”, it can be strongly suggested that the similes made in this genre are often loaded with meaning for the drawers. The appearance of the similes are close to the same as in popular culture, but the goal for making these similes in these contexts are not to tell stories to children and make money. The data strongly indicates that expressing togetherness in drawing processes and in the learning of making similar drawings, can be seen as an underlying informal goal.

Illustration 18: Drawing genre, drawing strategy: Drawing 3D-models, drawing alone



Figure 70: Imgp. 1651(7IDFo.), Karen's, 6th grade, drawing of her fish made when looking directly at the fish in her aquarium

Illustration 18, context: Retrospective telephone interview with Karen in the spring of 2008 about her drawing Imgp. 1651 made in 2004/2005 at home.

- (1) Interviewer: Can you try to tell me how you went about it when you drew the fish?
- (2) Karen: I sat by the aquarium and watched the /// (a kind of fish) that was there.
- (3) Interviewer: You looked at a fish?
- (4) Karen: Yes.
- (5) Interviewer: And then you sat down and drew it, did you have your drawing tools right by your side then?
- (6) Karen: I had (it) right by ///, and I was going to try to draw it (the fish).
- (7) Interviewer: I understand.
- (8) Interviewer: Was it fun to have fish, then?
- (9) Karen: It wasn't really that much fun, because they all died.

(IVTFo. no. 10, pp. 3-4, notes)

Analysis of Illustration 18:

After sorting out and verifying through interviews that the informal drawings selected were to various extents VC drawings (marked `vc_checked_i` or `semivc_checked_i` in the database, see *The Vega files* under the search function keywords), said to be made fully or partly in direct “seeing-drawing” processes, or as internalized observations, I then looked at the drawings left,

where it was possible that “seeing-drawing” processes were involved. The portraits, the interiors and the animals that had a level of accuracy and detail suggesting there could have been an informal “seeing – drawing” process, were studied, and a random selection of these drawings was checked by interviewing the drawer over the phone.

Karen confirms that her drawing was made while she was sitting looking at her fish; the informal drawing is made while watching a 3D “live” model. It is likely that the possibility for visually controlling her drawing against a model, drawing-by-looking, provided Karen with details such as proportions, the gill, and placement in space (see the precise overlaps between the fish, the plant, and the aquarium decoration). She stated during the phone-interview that she used construction as a strategy to build the drawing (see notes in IVTFo. no. 10, pp. 3-4).

It is likely that she drew fish because they were important to her. As Scribner and Cole (1972) maintain, informal learning often merges emotional and intellectual domains. Karen learned to draw her fish by looking. This sober observational drawing of her fish is likely also to be an expression of interest and care; she states that it was no fun losing them (Illustration 18: 9). The model can have lifted her drawing from what Kindler and Darras (1997) label initial imagery to a drawing that reveals isomorphic tendencies (Kindler & Darras, 1997) as she initiates and arranges a learning process; drawing by herself alone at home after a model as a drawing strategy. This illustration can describe a “drawing-alone-at-home” process. The drawing process of making pictures of pets and animals at home is referred to by several participants, such as Ann, who talks about how she studies her rabbits and then draws them (FVTFo. no. 8, p. 2), and Anita drawing horses in Illustration 14.

An informal observation drawing genre?

It is likely that Karen has produced a drawing she would not have been able to produce without the model, the model can supply her with new visual information (Coates, 1984; Smith, 1983; Wilson & Wilson, 1982a). Karen self-initiated the use of a 3D model in the informal drawing arena. It can be suggested that she initiated the use of a 3D model as part of an informal drawing strategy *when* this 3D model is important to her.

The drawing strategy used in the informal 3D model drawing example also consists of an extensive use of contour and delineation without shadows, but the precise overlaps still give the drawing a sense of depth and space. Even when the model is a “live model” the contours (it is a line-drawing) define the drawing in form and space, as suggested by Smith (1983, see page 47). As genre, the study of the fish has features of both the observation-drawing genre,

often found in the formal arena, and as a line drawing, it has features found in popular culture as genre. Can this suggest (as described by Smith, 1983) that there is an informal observation-drawing genre with these features? This informal VC drawing genre has the content and goal of making an object, theme, person or animal of interest - in a line-drawing style - with construction as a drawing strategy, structure or technique (Bakhtin, 1986).

The informal drawing database

In this inquiry a notion of frequency in using visually controlled drawing processes informally among nine- to twelve-year-olds is in itself part of the findings of this inquiry, and is seen as a justification for exploring and analyzing VC-drawing processes in depth. When asking for informal drawings I did not specifically ask for VC drawings because I wanted to get a notion of the frequency (or lack of frequency) in using VC-drawing in informal learning/teaching drawing processes. Still, I am using the cautious term “a notion” of frequency when referring to the quantity or frequency of informal VC or semi-VC drawing processes detected in the informal drawing database. For example, the informal drawing database does not reflect the large occurrence of the strategy pouncing (as seen in Illustration 13b) that a majority of the children refer to as a much used strategy when asked during interviews. A plausible reason for not handing in these pounced drawings as informal drawings could be that the children do not see them as genuine drawings, as their own handcrafted or invented drawings. The informal drawing database reflects the children’s own *selection* of drawings, apart from availability. The database reflects their understanding of what an informal drawing is and also their motivation for participating in the inquiry. The informal drawing database is part of the reconstruction of the informal case - as are the redrawings combined with interviews. Most of the informal drawings have not been collected by the researcher as they were made on site, as in the formal case, apart from the informal drawings observed being made in formal contexts (for examples see Illustrations 16a and 16b). But there are notions, or tendencies I would like to comment on:

1. It is interesting to look at the informal drawing database as a whole (all the drawings handed in as informal, see *The Vega files*, informal drawings). The Illustrations previously presented are mainly elaborations of drawings taken from this informal drawing database where there are a number of informal visually controlled drawings (about half, see page 92 and page 93). The observations of informal visually controlled drawing processes caught on the formal arena are also part of the description of the informal case.

These two sources of information strongly suggests that various visually controlled related drawing learning/teaching activities are taking place in this age-group, and that it is an important part of the drawing activity scene. The drawings are made by using 2D models more often than 3D models, such as photographs, friends' and relatives' drawings and commercial drawings from popular culture. They are often drawn in a direct "seeing-drawing" process, the drawer is able to control the drawing visually by looking at a present model. Many of the drawings are internalized observations often repeated to perfection. Approximately half of the informal drawings (not including the formal_i drawings), have traces of these processes.

2. The other main tendency in the other half of the informal database is the presence of memory drawing, and drawings that could be narrations. Their characteristics are x-ray pictures as in Imgp. 1658 and other characteristic features of individual drawing processes from the schematic stage as presented by Lowenfeld & Brittain (1979). It is likely that the drawers have not been given the possibility to use visual control while drawing. It could also be that visually controlling the drawing against a model was not interesting for the drawer or it was not an aim of the drawing process. There is also a possibility that some of the schematic looking drawings have been learned from peers and are in fact similes of other's schemes learned by modeling, as suggested by Wilson & Wilson (1982b). Copying a peer's scheme or part of a scheme is possible, as seen in Illustration 16a, where four boys are drawing cars, copying each other thematically and learning from each other, as seen when making the lights on the hood of the cars in Imgp. 1843 and Imgp. 1837 (see Figure 66).

The drawings from the informal database that look like memory drawings or schemes (Lowenfeld & Brittain, 1979), fantasy/imaginative drawings, or narrations are not included in the inquiry as objects of further investigation (but they can be seen in the database, marked not_used). This does not mean that there are no semi-VC or VC drawings left among the "not used" drawings, but it does mean that they do not look like VC drawings. As seen in Illustration 16a, what looks like an initial image (the cars) or a scheme can be modeled or partly modeled. I have chosen to leave them in the drawing database due to the uncertainty described above and because the accuracy of the hand-ins is also not likely to be totally reliable. There is a chance that some of the drawings found at home might have been produced at school as a result of previous assignments in art and crafts, but have been handed in as informal drawings (some were detected in the interviews, see keyword informal_f in *The Vega files*).

The transparency of presenting all the drawings handed in enables the reader to explore the drawings as traces of process and to control (and dispute) my categorizations. The drawings used as part of the illustrations in the informal case presentation in this report, have been for the most, secured through interviews as products of various visually controlled drawing processes (VC- or semi-VC drawings); the presence of a model and/or modeling behavior being an essential part of the process.

The questionnaires

Introduction

The informal case participants (the students in the formal case) were given the why and model questionnaires two and three years later (now being about 11-15 and 12-16 years of age), in the spring of 2007 and in the spring of 2008. This was done to inquire more about the reasons for drawing informally in general, as the drawing database as a whole was based on informal drawings in general (not specifically VC drawings). The answers given will then include (as with the drawings) reasons for initiating VC drawing processes. I also wanted to inquire more for the use of sources of models *if* they looked at something directly when drawing outside art and crafts classes by giving them the model questionnaires. This was done to substantiate or challenge my previous analysis of the drawings, the interviews, the observations of redrawings and the observations of informal drawing processes in the formal setting.

After my first elaboration and analysis of the data, the informal “we” was detected (as seen in Illustrations 6, 9c, 13a, 14, 16a, 16b, 17) as a feature in the data. I then decided that I wanted more information as to why drawing was taking place informally to see if the “we” could be detected as an explicit part of the answers given by the children. In a sense, this methodological approach is a continuation of the interviews conducted in 2004/2005, but now with open-answer questionnaires (see Appendix 8). The answers are given two years later, and according to previous studies, drawing activity diminishes within this age span according to Nielsen (2000). But the answers given in 2007 can still be interpreted as a confirmation of the finding of the “we” in the data from 2004/2005, as presented below.

This part of the investigation is seen as a surplus, and has given me additional sources of data to strengthen my analyses. Being able to go back to the participants when there was a possible need for more data has been an asset in this investigation. It has been part of the

inductive ongoing research approach, in the deductive-inductive overall approach, being in dialogue with the data as phenomena are conceptualized and further investigated.

Results of the why questionnaires

The questionnaires were handed out during the school day, and 41 out of 61 participants from 2004/2005 were present when these why questionnaires were handed out. The answers from the why questionnaires were grouped into two main response categories; the children that answered that they draw informally; the drawers, and the students that do not draw informally; the non-drawers. The quotes below can be seen as representative for the range of answers:

Category 1, the drawers : Out of the 41 participants answering the why questionnaires, 27 participants represent answers ranging from “It’s fun to draw” (20) to “I draw when I’m bored” (7). The gender representation in this category is 23 girls and 4 boys.

“I draw because I like to draw. I draw a lot in my spare time. I often draw without realizing it, if I’m on the phone, or by coincidence have a pen in my hand. It’s fun to draw! Everything from cars to models. It’s fun to draw with friends. Drawing is exciting, when you start on a drawing you never know what the result will be before you’re finished.”. Dina, 9th grade (at the time of the interviews 6th grade) (why questionnaire no. 13)

Category 2, the non-drawers: Out of the 41 participants answering the why questionnaires, 14 represent the responses expressing “I don’t draw in my spare time”. The gender representation is 5 girls and 9 boys.

“I don’t draw in my spare time”. Greta 10th grade (at the time 7th grade) (why questionnaire no. 35)

“I don’t draw in my spare time, I’m on my computer”. Isak 10th grade (at the time 7th grade) (why questionnaire no. 39)

To summarize the why-questionnaires results, 27 out of 41 draw in their spare time, and many of them are girls at this time. Boys tend to draw less than girls in the group who now are 11-15 years of age. When they draw, they draw because it is fun, it is social, it “passes the time” and as Dina quoted above says: “It’s fun to draw with friends”. The fun and social aspect of the why-questionnaire answers are interesting when triangulated with the informal illustrations where the children-initiation of drawing together, labeled collective drawing, the “we”, and the wildfire effect are identified as part of my analysis. These answers underpin the previous analysis.

Results of the model questionnaires

The informal case participants were given the model questionnaires in the spring of 2008; 51 of 61 participants were present when the questionnaires were handed out. The participants were given three options of models, all found as models in the informal drawing database in *The Vega files* and during the interviews with the children in 2004/2005 on their informal VC-drawing processes: 1) real objects in 3D, 2) photographs, 3) drawings from magazines or drawings made by other people (see Appendix 9). These categories have also been used in Chen's (1985) experimental investigation (see page 48).

Models	8th grade 14 participants	9th grade 18 participants	10th grade 19 participants	Total 51 participants
3D	11	6	9	26
Photographs	3	5	6	14
Drawings	7	6	7	20

I don't VC draw	5	7	11	23
-----------------	---	---	----	----

Figure 71: The model-questionnaire results

The answers from the model questionnaires show that about half the participants draw according to various models (28 (51 minus 23) out of 51, see Figure 71 above). This is to a certain extent consistent with the size of the group, and the named children making informal semi-VC or VC drawings in the database three years earlier (the 26 interviewed children). The use of model sources revealed an emphasis on 3D-things, drawings from magazines/drawings made by other people (see Figure 71).

With regard to the amount within the various categories, when triangulated with the informal drawings handed in (see *The Vega files*, informal drawings), and even though the use of 2D models is confirmed (14 + 20 answers, see Figure 71), I find a lack of consistency. Even though the questionnaires reveal that 28 out of 51 participants use 2D and/or 3D models, 26 answered that they use 3D models. It has been hard to identify this tendency in the informal drawing database and in the interviews; many drawings made in a direct seeing-drawing process with real things in 3D as models. These drawings are likely to reflect a certain level of detail and "realness" as opposed to more schematic drawings (Pedersen, 1999).

It is possible that I have overlooked visually controlled drawings using 3D models in the informal drawing database, or that the question has been misunderstood. The participants

could have answered that they draw real things (not abstract pictures) without considering that they might not have (or might have) a model present to visually control the drawing. Fixed answer categories can also make important information slip, as they can be misunderstood (Ilstad, 1989: 47-48).

There are sources of uncertainty regarding the answers. Time has gone and remembering three years back can provide inaccurate data, and drawing patterns and sources of models can also change over time. Both questionnaires are additional resources to strengthen or correct the analyses of the data sources from 2004/2005; the observations, the interviews and the drawing database. As presented above, the main tendencies in the answers given can be interpreted as confirmations of the already existing analyses; the illustrations of the informal case. As mentioned in the introduction, I regarded the possibility of going back and giving the participants these questionnaires two to three years later as a resource and a unique opportunity, still having the participants available, interested, and willing to contribute to an ongoing research process.

Summary: The informal case

To summarize the informal case from a sociocultural point of view, the informal expressions of the identified comparative dimensions 1) drawing goals, 2) drawing strategies, 3) social arrangements, 4) means of assistance, 5) transfers, 6) creativity/recombinations, and 7) drawing genres are used as analytical categories to describe the range of VC and semi-VC drawing activity found in the data.

1) There are two drawing goals in the informal case of visually controlled drawing: a) making the drawing look real; that is, making the drawing as close to the model as possible, often perfected through repetition, internalizing the observed; b) expressing an underlying goal, a “we”. The themes often express togetherness as much as they express a common interest in the drawn simile.

2) The drawing strategies used to attain this goal include modeling peers’ drawings, photographs and drawings from magazines, and real objects to visually check in a “seeing-drawing” process. Modeling drawing behavior (the how) is also a drawing strategy. Being able to check the likeness is what legitimates the drawing as a nice visually controlled drawing. The strategy of pouncing or tracing is used to make the drawing contour accurate, if it is technically possible, as when depicting a hand or figures from cartoons.

The use of contour is a main depicting device. The strategy *constructing* is used to build the drawing in sequences, either from the top and downwards, or from the front inwards or from the back outwards, always building on and relating to the previous part of the drawing on paper. HLE (Freeman, 1980) is used in the informal arena to depict space. The use of graded light/shadow and help-lines is close to absent, apart from where graduated shadows and the use of help-lines occur as confirmed transfers from the formal arena.

The drawings from the informal arena are often repeated until they are perfected and become internalized observations. They can be placed on the intramental plane (Vygotsky, 1978) as results of drawing according to a model, but they are “learned by heart”; they can be produced accurately without the model. Painting/drawing books are referred to by participants as an informal drawing learning activity (see Illustration 12a). Even though the drawing strategies in painting books are not represented in the drawing database, the reference to their use in the data is interesting. By investigating the drawing strategies presented in painting books such as “My Little Pony” (Hasbro, 2007) more closely, we can see that the informal arena offers Albrecht Dürer’s veil strategy (Illustration 12a) as drawing support when making a simile. Also the “dotted-line” support and the “follow-the-numbers” strategy are given to help draw an accurate simile. The last two can also be seen as cooperative drawings, mixing the professional drawer’s delineations with the child’s line drawings.

3) The social arrangements around the informal VC-drawing processes are found both as collective and individual events, where the main features are either drawing with significant others or sitting alone drawing and scribbling as a pastime. Drawing processes as collective events can spread like wildfire, one person in a group taking after the other (as seen in Illustrations 16a and 16b), using each other’s drawings and drawing processes as inspiration and models. Some of these drawings and drawing processes can be seen as semi-VC drawings, where part of the drawing is visually controlled and parts can be seen as memory or fantasy/narrative drawing. The wildfire effect can be seen as graphic dialogues (Wilson & Wilson, 1982a) and can be accompanied by verbal dialogues - but they are also tacit, as seen in Illustration 9c (the line-drawing). The common themes express a “we”, a common interest (in for example cars) or a common possible rebellious stand (about smoking). The phenomenon of looking at each other, being inspired by each other as a result of physically sitting together, is labeled the wildfire effect.

4) The interpersonal modeling process as a means of assistance (Tharp & Gallimore, 1988) is given in the children’s informal ZPD, watching a friend or relative demonstrating the

particular strategy for constructing the drawing. The demonstrations can be accompanied simultaneously by the verbal means of assistance instructing, where practical, descriptive utterances are used (Coates, 1984; Tharp & Gallimore, 1988). The use of cooperative drawing as a means of assistance is also present in the informal arena to facilitate the making of difficult parts of a simile and at the same time model how the difficult parts should be drawn (see Illustration 17).

A sense close to shame is expressed when the children and young people reveal that they learn to draw in their informal ZPDs by watching what others do; copying (*herme*), using the means of assistance modeling, or by looking at a model made by others as a drawing strategy, or an inspiration (Strandberg, 2006).

5) For transfers also see point 2. Transfers from the formal to the informal arena do occur as teaching of learned still-lives to a friend, as the making of geometrical flowers learned formally. The transfers are manifested as the formal arena leaving traces in the informal arena when help-lines are taught and used and the placing of shadows are learned (Illustration 15a).

6) Creativity as combinations and recombinations (Vygotskij, 1995) of internalized observations occur several times in the collected informal data (see for example Illustrations 11, 12a and 14). Recombining learned similes or internalized observations are clearly part of the informal use of VC drawings, and recombining is a way to repeat and learn. It is also part of an informal process to make new, unique expressions.

7) The main features of the informal drawing genres found can be justified as being related to one of Simmons's (1992) formal modes of approaches; the graphic approach. Specific symbols of texture and movement found in popular culture are used repeatedly, as are the figures Cornelia, Diddl, and Donald Duck. They are drawn as flat-line drawings, with overlaps (HLE) as a space-making device. In this sense, this informal drawing genre is related to a larger visual popular culture by its line-drawing features and its figures/themes.

The graphic approach is described as images that can be repeated as expressions of specific meanings attributed to the simile itself (Simmons, 1992). The data indicate that the meaning behind the similes made on the informal arena seem to be of a more relational nature; confirming and reinforcing good social relations and common interests in a local context, a "we", as much as they are made as a representation of the simile itself. Part of what characterizes the graphic approach is the repetition of similes, as in the Chinese and Japanese brush painting tradition. Repeating a simile is also a way of learning a simile in the informal arena, as Köhler (1981, see page 49) detected. An informal VC-drawing genre can be seen as

related to the visual genre of popular culture. It is dominated by internalized observations made as line drawings, VC drawings learned by heart after a model, 2D but also 3D, and repeated and recombined according to the drawer's wishes in new semi-VC drawings. Finally, drawing after a 3D model such as pets, using line drawing, could suggest that there is a possible informal observation drawing genre (Smith, 1983).

The presentation of the two cases by using the seven comparative dimensions as analytical tools can now be summarized in abstracts as follows - answering the question "What are these cases of?": The formal case of exemplary VC drawing teaching is characterized by the quality of the dialogue and the use of cooperative drawing. The informal case is mainly characterized by learning VC drawing by peers - described as the wildfire effect (*herme*), modeling each others drawings and the way they are drawn (drawing behavior). This is seen as part of the children's own epistemology in VC drawing learning. Further, in the next sequence the cases will be compared - using the comparative dimensions as tools to structure the comparisons.

Comparisons

The seven comparative dimensions

The three main goals of this inquiry are to 1) shed light on, describe, and analyze exemplary visually controlled drawing teaching practice among nine- to twelve-year-olds, 2) shed light on, describe, and analyze the informal visually controlled drawing practices of children from nine to twelve years of age and 3) compare these drawing practices with a focus on the formal and informal teaching/learning processes (see Chapter 1, page 7). Contrasting or comparing the two teaching/learning arenas in focus can help make the unseen visible, according to Erickson (1986). It can also be a source for understanding teaching/learning better; in this inquiry, the pedagogy involved in the skill of learning to draw the seen, and the pedagogy for acquiring drawing as a means of expression. When elaborating on the data, this focus has resulted in seven comparative dimensions that can help to pinpoint crucial aspects of teaching/learning in the two cases according to a chosen sociocultural perspective. These seven dimensions have been described and illustrated in the formal and informal case and will now be compared.

As mentioned, part of the findings presented here are based on the data found when researching the informal field of visually controlled drawing, working mainly in retrospect. Apart from the observations of informal drawing processes occurring in the formal arena I am reiterating the processes “second hand” so to speak by interviewing and asking the participants to redraw their informal drawings, with the original drawings as a point of departure for the visual reconstructions and verbal explanations. It is likely that there is more to be found when it comes to interpersonal communication in informal contexts. This does not devalue what has been found because the children as participants in the informal case reveal their interpretations and refer to their own experiences. As such they are a source of data. The comparisons as presented are rooted in these data collected by using the chosen methods.

Comparative dimension: Drawing goals

Similarities

The main similarity between the drawing goals in the formal and informal contexts is, not surprisingly, that the emphasis is on making a drawing that looks like the model, the more the drawing looks like the model, the closer the drawer is to the teaching/learning drawing goals in

both cases. The success of the drawing is measured by comparing the drawing to the object, 2D or 3D, as Allan's co-student says in the informal case, Illustration 10: "Have YOU been there (the South), so you know it looks real?" (referring to Allan's mother's drawing). Comparing a real model to the drawing is one criterion for the informal assessment of it. One could suggest that there is a discourse within the nine- to twelve-year-olds' informal VC-teaching/learning culture that says the drawing should look like the model.

When in a formal visually controlled drawing class, the task for the class is to draw according to a model. The possibility of comparing the drawing to a model is the essence of the teacher-initiated drawing processes. One of the main goals for teaching visually controlled drawing formally is to learn to see. The results (the drawings) have involved a basic seeing-drawing process, and one of the desired goals in both cases is to teach/learn to make a "look-alike" or a simile; the drawing should look like the model.

Differences

The strategies and means of assistance are often interwoven as part of the process of achieving a goal. The data found in the informal arena can document an extensive use of modeling; both looking at a model and drawing a simile, or looking and mimicking drawing behavior (*herme*), as shown in Illustrations 11-18. A feature in the informal data, as opposed to the formal, is the voluntary aspect of the drawing processes, as they are children-initiated (see students'/children's views on similarities and differences in drawing formally and informally, page 236 in this chapter).

Modeling informally can also be seen as an expression of a "we". We draw the same and in the same way because we are friends or we have a good relation to each other, and because we like the same things. The object or picture drawn has a value for the drawers in this children-initiated process; it can be seen as a symbol of togetherness in interests for the objects drawn, such as cartoon figures, animals/pets and cars. With the data provided, this interpretation can be stretched as far as to say that one informal aim or goal is to express this togetherness by learning to draw the same things often in the same way (as in Illustrations 14, 15, 16a and 17). An informal drawing goal can be said to express an informal and social children-initiated "we", or valued togetherness.

Drawing goals are defined as the aims of the teaching/learning drawing process. One goal found in the informal arena is to depict objects of affection, such as horses, rabbits, and fish (as in Illustrations 14 and 18). This can also be seen as another side of drawing what is

valued, and as an informal drawing goal; to learn to draw objects of interests, love and affection.

An explicit formal drawing goal expressed by the teacher is to learn to see. Seeing a three-dimensional object, studying it and discovering its shape, volume, and placement in a room or in space is one main goal for the teacher in these classes, and the drawing process is seen as the training of visual awareness and sensitivity. Being able to draw a three-dimensional object and training visual awareness as an explicit drawing goal is not found in the informal data, even though it is found as a process, as in Illustration 18 (where Karen is drawing her fish, which she values). Studying pets and drawing them in a seeing-drawing process is like looking at a three-dimensional model, but the main aim is to draw something of value to the drawer, whether it is 2D or 3D. There is an explicit feature of developing a sensitive awareness towards 3D-depiction requirements as part of the formal goals, not found as a goal in the informal arena.

Comparative dimension: Drawing strategies

Similarities

The drawing strategies are seen as the knowledge required and the actions taken to attain the goal; the final making of a simile that does not involve direct interpersonal communication with the intention of helping (scaffolding), and therefore differs from the interpersonal category “means of assistance”. Hence, the content of the teacher’s presented strategies, “tactics” or “tricks” as part of his skills and knowledge taught as subject content in visually controlled drawing, and the children’s strategies or solutions as children-initiated actions when learning to draw informally, are labeled “strategies” and are compared below. The teacher’s strategies can be seen as scaffolds or support when they are communicated or instructed as means of assistance to the students, but for comparative purposes they can also be justified as strategies *in content* (Freeman, 1980).

As the boundaries for the inquiry are VC-drawing processes, there is an obvious similarity in the use of models in a seeing/drawing process, having the possibility to check the drawing according to a model. It is interesting to see how often this happens in the informal arena, and that there is a substantial informal VC-drawing practice (*The Vega files*, see the menu: guide, and page 92 in Chapter 2).

Taking modeling of drawing behavior, that is how to construct a drawing, including the sequence used to build the drawing, into use as a learning strategy *without* this being given as an explicit interpersonal intended means of assistance by the person being modeled is a feature found in the informal arena. In the formal arena, modeling is given as a specific means of assistance so there is a similarity “in action”. Hence, modeling as an informal strategy (either drawing after a model or copying drawing behavior) is similar to the given formal means of assistance modeling. Parts of the informal category “drawing strategy” overlap parts of the formal category “means of assistance”.

In both cases we find the use of repetition as a drawing strategy, the teacher advocates practice which also has a repetitive side when the students are working on, for example, mastering the media (tools/technique) Chinese ink and pen or the skill tonal graduation. The children in the informal case learn to master a simile by repeating the drawing process over and over again until the observed model is internalized as a simile and mastered without the model being present, as an internalized observation.

In the cases of informal and formal learning/teaching we find the use of hidden line elimination (HLE). Formally this is a strategy taught by the teacher to make an illusion of space. This space-making strategy is taken into use informally by the children. Often the HLE is already defined in the informal model to be drawn as a 2D model. It is also found in the use of a 3D model, as in Illustration 18; Karen’s fish overlapping the plant in the aquarium.

Differences

The extensive appearance of a drawing strategy using drawings from popular culture, other’s drawings and photographs as models in the informal arena is a marked difference. There is a careful but present use of 2D models in the formal arena (see Illustration 6). In fact, the teacher has to limit and stop the students from using his 2D drawings given as a means of assistance modeling of drawing behavior. The students want to use his drawing as a model as a drawing strategy, instead of looking at the actual 3D model given to them by the teacher, the still-life. There is also extensive use of the strategy pouncing/tracing to make similes look like the model in the informal arena. Pouncing/tracing is not used as a drawing strategy in the formal case.

As a taught and learned space-making and volume-making device, contour together with HLE is extensively used in the informal arena as opposed to the teacher’s strategy of graduated light/shadow to give a feeling of space and volume in the drawing. The result is a

marked difference in the drawings from the two cases, informal line drawings as opposed to formal drawings where light and shadow are crucial features of expressing form and volume (see Figures 75 and 76, page 234) even though several of the student's formal visually controlled drawings still have the informal flair of line drawing or the marked contour. Further elaboration on this point is conducted when focusing on the comparative dimension transfers (see page 231).

The teacher advocates strategies that can “trick” or support the eye and mind to make an accurate simile, like the use of help-lines and the trick of focusing on “the spaces in between” or negative space (Edwards, 1987). Apart from the transfer of the use of help-line strategy learned in the formal arena (transferred to the informal arena as shown in Illustration 15), the use of help-lines is not an extensive informal strategy. The reference to the informal children-initiated use of painting books where Dürer's veil is presented as a strategy can be seen as taking help-lines into use. But it is defined and given as a strategy by the makers of the painting books. The formal strategy focusing on negative space advocated by the teacher is also not found as a drawing strategy in the informal arena.

The informal drawing strategy labeled construction (Golomb, 1992), building one form in relation to the already drawn part of the simile (as shown in Illustration 11), is not a strategy advocated by the teacher. He teaches the sequence of capturing the main outer form, then making volume by using light and shadow, and finally placing the object in a room on a surface by using shadows (as seen in Illustration 1a). These strategies are from the outward (the main form as contour) to the inward (the volume), as opposed to the informal strategies constructing the drawing “from the inward to the outward” or “from top to bottom” as shown in Illustrations 11, 12a and 12b (Golomb, 1992; Goodnow, 1977).

Comparative dimension: Social arrangements

Similarities

Informal learning drawing processes are detected in two major social arrangements; “drawing together with peers and family” and “drawing alone in my room”. It is interesting to see how the informal VC-drawing process the wildfire effect as a result of collective drawing occurs in the formal setting mainly because of this way of organizing the students - the social arrangements. This is seen when the cars are drawn (Illustrations 16a), when the smokers are drawn (Illustration 16b), when the still-life with ceramics (Illustration 9c) and when the trees

are drawn (Illustration 6). Thus the impact of the social arrangements is traceable. One could say that there is an extra bonus in formal teaching/learning when we take into consideration the social aspect of learning by organizing visually controlled drawing into groups. Modeling peer drawing behavior and peer drawing style by looking at each other and each other's drawings takes place on the formal arena.

Social interaction as part of the informal drawing scene is well documented in the data material. The aspect of the informal drawing processes where drawing and learning to draw are a social event (drawing together with other peers or relatives) is documented in Illustrations 13-17. Organizing formal visually controlled drawing processes in groups can be seen as a similar way to socially arrange the formal drawing activity.

Differences

“The lonely drawer” is found in the informal drawing scene, as in Illustrations 11, 12a, 12b and 18. The drawing processes can take place at home in the children's rooms, in concentration and in solitude as repetitive or innovating practice (as in Illustration 11) and as a means of passing time. The lonely intense study of a model, and the focused making of a simile often associated with formal visually controlled drawing among artists are not socially arranged for in the formal case presented here. The students do not stand or sit alone by an easel and draw or paint without being able to look at or speak to other co-students. But this solitude when drawing is echoed as a social arrangement or setting found in the data of informal drawing processes.

Comparative dimension: Means of assistance

Similarities

Modeling as a conscious means of assistance is used in both cases, which includes providing the opportunity to model an object, picture, or another drawing, and also consciously giving modeling/copying drawing behavior as a means of assistance, as in Illustrations 3d (formal) and Illustration 17 (informal).

Verbal instruction is often found in the formal teaching situations (Coates, 1984; Tharp & Gallimore, 1988). The high level of close-up dialogical instruction aimed at each individual, adjusting his instructions to each student is a main feature in the formal observations; the teacher instructing one student at a time. Reference to verbal close-up instructions following the learner's informal ZPD as an interpersonal conscious means of assistance is also found in

the informal case as seen in Illustration 17, when Erwin is explaining how he taught Charles to draw Donald Duck.

The use of verbal instructions is found in both cases, so is cooperative drawing (Illustration 17). This is not a common feature in today's art education scene, but in the presented formal case it is seen as exemplary. It is often used in combination with verbal instructions and seeking for visual intersubjectivity, and functions as part of the means of assistance modeling of drawing behavior. Cooperative drawing has two functions in both arenas; 1) To contribute to the final product as a simile, and in the process to 2) show how parts of the simile are made (as for example in Illustrations 3f and 17).

Descriptive and practical utterances (Coates, 1984), as referred to in Illustration 17, are found in the informal arena. In the informal arena, the children express admiration for each other's drawings. They admire the skills and results of the more competent other, as Allan states in Illustration 10 about his mother's drawing abilities. Having the skill to draw a certain theme, object or simile has status, Anita's sister knows how to draw a horse (Illustration 14), and Allan's mother knows how to draw "the South" so it looks *so* real (Illustration 10, my italics). They are both talked about with respect and admiration for their special competence in drawing specific themes, and can be, *if* expressed during the drawing process, motivational utterances as verbal means of assistance (Coates, 1984). The teacher also encourages his students with motivational utterances, as in Illustration 7.

Differences

Feedback, cognitive structuring, direction maintenance, and frustration control, seen here as typical for scaffolding in the formal arena (Tharp & Gallimore, 1988; Wood, Bruner & Ross, 1976), are a marked difference between the two cases. These differences are discussed as results of methodological choices in the next chapter (see page 256). But the voluntary aspect of informal drawing, and the energy that lies in self-initiation and spontaneity, is detectable as utterances, as expressed in the interview with a student as to his views on similarities and differences (see this chapter, page 236). This voluntary aspect of informal drawing can seem to eliminate the type of scaffolding or means of assistance mentioned above.

There is a tendency to express shame by making excuses during the interviews when the children reveal that they have mimicked/copied (*herme*), using modeling as a strategy or as a given means of assistance when drawing informally (see Illustration 15). This shame is not detectable in the formal scene, where the goal is to draw what is seen. The formal drawing

strategies are taught by the teacher through the various means of assistance used. The students do not question the use of modeling, even though on several occasions, as in Illustration 2a, a student asks if he/she can trace the contour around a leaf (to use the informal drawing strategy tracing, as seen in Illustration 13a), going even further than using modeling as a scaffold, and on this occasion, is not allowed to do so by the teacher.

Modeling is found as a means of assistance in both cases and as an informal children-initiated drawing strategy, but the feelings around using modeling as a means of assistance and drawing strategy can differ. In the formal setting, this is part of the conditions for the class. Informally, it is used as means of assistance and a drawing strategy, but when the children talk about their informal drawing processes, including the use of the means of assistance modeling or the use of the children-initiated strategy modeling, they feel embarrassed having to admit that they use it. The utterance “learned *almost* by myself” (Illustration 11, my italics for emphasis) can be seen as an expression of several children’s uncertainty about the legitimacy of their informal drawing processes when visually controlling the drawing against a model.

The idea of skills acquired in the informal arena being learned by the children themselves is also referred to in Greenfield’s (1984) research comparing informal learning of language in Los Angeles with informal learning of weaving among Indians in Mexico. When asked, the teachers in the informal arena in Los Angeles and Mexico (often significant relatives) claim that the children learn to speak and weave by themselves. The unconscious use of the informal teaching/learning strategy or means of assistance modeling is traceable in the informal case, in such utterances as “...learned it almost by myself”. For example, it is likely that Ernst found a model by himself as a strategy, the learning process being self-initiated, but he learned to draw the simile of a car by modeling/looking at a photograph in a car magazine, or watching TV, to see how Donald is drawn and then modeled this drawing behavior (Illustration 11).

Taking support into use informally is based on a close visual, non-verbal and verbal communication in the informal arena. The flow in the informal scaffolding when using various means of assistance is rooted in the physical closeness (sitting beside each other, looking and talking) as referred to in Illustration 17. Then there is no need for waiting or asking for help, as seen in the formal arena (see, for example Illustration 1b).

Comparative dimension: Transfers

Similarities

Humans are whole persons moving from one setting to the next. The issue of transfer of learned skills between formal and informal contexts is interesting, the ideal being that what we learn can be manifested from one context to a similar context; wherever the skills are experienced as useful (Greeno, 1989). Transfers as a category in an inquiry focused on teaching/learning is especially interesting when looking for answers to the third research question; the similarities and differences between the cases of teaching/learning VC drawing. The findings revealed by using this comparative dimension as a tool also underpins the motive for asking the third research question - can the formal arena possibly take some of the informal VC drawing findings into use?

The data show transfers from the formal arena to the informal arena. The informal use of what is learned in school is certainly a teacher's dream, as seen in Illustration 15. It shows that what is learned about light and shadow and the use of help-lines as a drawing strategy in class can also be traced as drawing activity in the informal arena. Another transfer of strategy detected is the informal phenomenon, the wildfire effect, occurring in the bounded visually controlled 3D-model drawing assignment in the formal arena; peers taking after one another in drawing behavior and drawing style by looking at each other's drawing, making the still-life assignment in the same way, as seen in Illustration 9c.

Line drawing is seen as a feature described as part of the informal drawing genre (see the up-coming comparative dimension). Several of the students' visually controlled drawings made by this age-group still have the informal flair of line drawing. Erwin's still-life shown on Figure 78, page 242 (Imgp. 1629 in 1FDFo.) is a representative example of this mix of line drawing and light and shadow drawing found as visually controlled drawings in the formal arena, and this feature could be seen as a transfer from the informal to the formal arena. Hence, transfers as pictorial expressions (the use of light and shadow and the use of line drawing) go both ways, from the formal to the informal and from the informal to the formal.

A transfer from the informal to the formal context detected in the data is "out of" the informal case described here. But I have chosen to present it here because it is documentation of a transfer often found in art education. When interviewed, the teacher expresses (Illustration 1a) how informal learning during his childhood now is part of what he teaches professionally in the formal arena. This is not uncommon in art and crafts. Skills, such as knitting and sewing,

can be learned informally and eventually become skills that play an important part in professional teaching in the formal education arena. The world famous architect Frank Gehry refers (Pollack, 2005) to the impact playing with wooden blocks with his grandmother and drawing together with his father as a child had on his love for drawing houses as an adult. Gehry describes the beginning of a transfer process from informal learning contexts that eventually end up in a formal profession, as the teacher states in Illustration 1a. According to Scribner and Cole (1972, see page 37) these informal learning processes are often part of positive, close interpersonal relations with significant others.

Differences

Major differences in the essence and quality of the transfers from formal to informal and from informal to formal can not be detected in the data. But there is a difference in frequency, or in quantity. The line-drawing feature suggested as a possible transfer from the informal to formal arena, occurs often, while the strategies (for example, the light and shadow gradation) seen as a possible transfer from the formal to the informal do not occur frequently in the data (see *The Vega files*, search under keyword “transfer”).

Comparative dimension: Creativity and recombinations

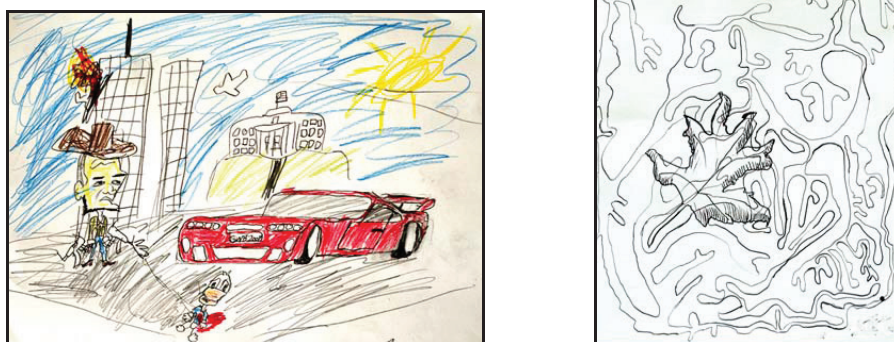


Figure 72: Ernst's 6th grade recombined informal drawing, Imgp. 1727(1IDFo.), and Erika's 7th grade recombined formal drawing, Imgp. 1882(8FDFo.)

Similarities

When it comes to the comparative dimension creativity, combinations, and recombinations, based on Vygotsky's understanding (Vygotskij, 1995) of creativity as combinations and recombinations of the known according to new needs, it is interesting to see that creative processes are found in both formal and informal contexts. These similarities are found, as in the formal assignment "Fall poem" (see Figure 72, Imgp.1882(8FDFo.)) given by the exemplary teacher and, for example, in Ernst's informal drawing and explanation of process in Illustration 11 (see page 179 - or Figure 72, Imgp.1727(1IDFo.)). This can also be seen in Anita's drawings (Illustration 14, page 196) and in the interview with Ellen in Illustration 12a (see page 187) where she tells us about the process of making variations, changing the eyes of her figure.

In the formal arena the teacher challenges the students to observe the branches and the leaves when making similes and simultaneously making a free self-composed drawing with these elements as part of the framing for fall poems, expressed either in writing, or as dried leaves or drawings (see for example Illustration 9a, page 165, Figures 40-45). Both Ernst and Anita use the same creative process of combining and recombining, playing with internalized similes and schemes to make new drawings, and in Ernst's case, in my opinion, a new strong visual expression (see Figure 72).

Differences

The differences are found in the repertoire of similes used. In the formal arena similes are taught and learned then and there, as part of the drawing assignment, and then used. In the informal arena, they are often already internalized, chosen similes and schemes played with and recombined in a new expression, as with Ernst's drawing, Illustration 11, or experimented with, as Anita does when she places her internalized horse in different settings, together with different similes and schemes she is adept at making, like the sun, the moon, a geometric flower, mountains, water, and a fish (Illustration 14).

Comparative dimension: Drawing genres

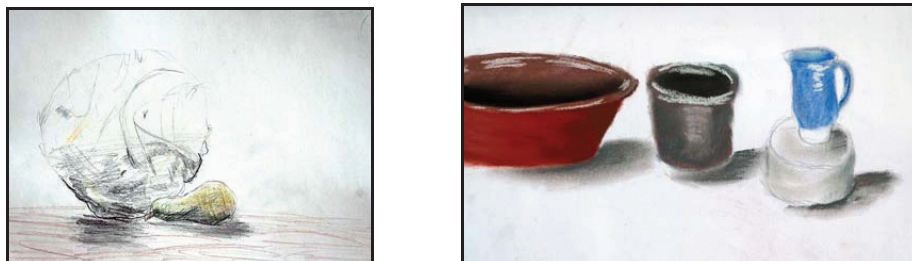


Figure 73: Formal VC drawings. Charlotte's 5th grade still-life with cabbage and pear, Imgp. 1636(1FDFo._i), and Norman's 7th grade still-life with ceramics Imgp. 3502(14FDFo.)



Figure 74: Informal VC drawings. Karen's 6th grade informal VC drawing of fish, Imgp. 1651(7IDFo.) and Erwin's 5th grade VC drawing of Donald, Imgp. 1678(2IDFo.)

Similarities

According to sociocultural theory genres are learned, and different VC drawing practices can be connected to identified genres found in historically-rooted social practices in society. In studying the drawings as pictorial traces and part of visual dialogues in their respective contexts for specific purposes, the drawings can be seen as specific drawing genres. They would then have a history, a past as genres, a communicative presence in context, and a potential future as similes (or artifacts) in context (Bakhtin, 1986). As Bakhtin (1986: 60) points out when writing about speech genres, a genre is formed as an artifact with an intention in context over time and has three features: a similar content (theme), a similar style and a similar structure or construction (Bakhtin, 1986). Both the formal and informal drawings can

be detected as visual traces with connections to historical and contemporary drawing genres. This is a similarity between the formal and informal case. As associated with historical drawing genres, the formal and informal VC drawings are different in expression (see below), but are similar in function; they can both be cultivating and educational, encouraging the learning of making a simile, as previously shown. The often repetitive and relatively anonymous aspect of drawing-making based on visually controlled drawing processes, is a similar feature of the informal drawing genre related to popular culture and the formal drawing genres related to still-life making as teaching and learning - and observation drawing.

Differences

Line drawing is a distinguishable feature of most of the informal drawings handed in (see *The Vega files*, informal drawings), including the transfers (Illustration 15), as they are partial line drawings. As seen above with Karen's fish, page 211, the 3D-2D VC informal visually controlled drawings are also examples of line model drawing (see Figure 74). This line drawing feature is also a distinguishable part of cartoons and animation movies aimed at children (Smith, 1985), and is as such part of a style connected to a genre. The informal drawings mirror some of the forms of expression, for example the line/contour style, found in society's visual culture in general, aimed at children. It is visible in the data that this line drawing feature can be found in most of the children's style of drawing. It is also found as line-drawing in the formal arena in the "Fall poems" drawing assignment, but here the light and shadow emphasis is found, so is the drawing strategy belonging to the formal arena.

The informal line model drawing (Chen, 1985) is not a distinguishable part of the teacher-initiated formal drawing strategy, even though the teacher initiated two line drawing assignments when introducing the Chinese ink and pen/"Fall poem" classes (see the "Fall poem" Illustration 8 and 9a, page 163, page 165, and the drawing of the tree, Illustration 6, page 153). It is the visually controlled drawing tradition as the still-life etudes, that is mainly echoed in the formal arena. The still-life genre can be rooted in art education history as a visual study and exercise in depicting form, texture, volume, room, composition, and color. Historically, these exercises were a pure necessity for acquiring the skills of picture-making before photography was invented, cultivating and showing skills of, for example, texture-making, rather than inventive compositions. As an autonomous pictorial genre in Western society's art history, the still-life is thought to have been invented in the 16th century to display the wealth of the owner of the picture, showing the possibility of material waste and having the

means of acquiring such goods as for example exotic fruits - as found in the North European renaissance and baroque era (Bryson, 1990; Rowell, 1997).

The objects to be drawn are then not indifferent in an art history context; there is an educational aspect and there is a social “identity” aspect to the still-life as genre. One could even be inclined to suggest that there are here two still-life genres. The objects chosen by the teacher here (see for example Figure 73 and Figures 13-20, page 143, and Figure 21, page 145) show how the students work on form, texture, space, color, and volume (light/shadow) and constitute part of the still-life genre that can be related to a historical art education context; the educational skill-cultivation aspect of the still-life genre.

Differences can also be detected in the format used and the tools used as part of how the drawings are constructed or structured (Bakhtin, 1986). In formal drawing lessons the students are given A3 and A2 paper formats to work with, informally the students often work on either A4 or A5 formats (see *The Vega files*). Apart from different drawing strategies (the outwards-and-in and construction), formal tools, such as pastels, encourage the creation of graduated volume and the making of texture, while informally, line making tools such as felt pens, ball point pens, pencils and color pencils are preferred (see for example Figures 56, 59, 60, 61, page 187 to page 193).

As traces of approaches (Simmons, 1992) also substantiating how the drawings are taught and learned, the formal case belongs mainly in the observational approach, with minor tendencies towards the analytical approach, structuring the objects to be drawn in basic forms, such as the cabbage being a large circle and the ceramics being seen as ellipses (see for example Illustration 1b). The informal drawings have characteristics close to the formal graphic approach (Simmons, 1992). The similes made can have a meaning beside their actual representation, expressing a “we”. They are learned by heart as internalized observations and are repeated as icons or symbols, also found as a feature in the Chinese and Japanese brush painting tradition (Simmons, 1992).

Students’/children’s views on similarities and differences

Six students were interviewed on their views about similarities and differences, they had all handed in formal and informal drawings, and four of them were from the interviewed group of 26. One girl and one boy from each class level with different drawing practices, were chosen to represent the collected drawings found in the database. Erwin was chosen but was not present at school when these interviews were conducted. Charles, his friend, was then asked to do the

interview (see Illustration 17, page 207). Charles and Aurora were in the 5th grade, Didrik and Edith were in the 6th grade and Henry and Camilla were in the 7th grade at the time of the main inquiries in 2004/2005. They were interviewed separately on the first of February 2007 as to their views and experiences on the theme “similarities and differences” when drawing formally and informally. They have their own formal and informal drawings from 2004/2005 in front of them when they are interviewed.



Figure 75: Informal drawing of a rabbit made by Didrik 6th grade, Imgp. 1641(6IDFo.)

Didrik emphasizes the voluntary and compulsory aspects (student folder 12, p. 4), when drawing informally and formally. He plays more when drawing informally, and he refers to his rabbit drawing (Imgp. 1641(IDFo.) seen above as an example (the rabbit drawing is not a VC drawing). The same aspect is raised by Camilla (student folder 12, p. 6) and Henry (student folder 12, p. 8). Camilla points to the seeing-drawing strategy, the visually controlled drawing process, as similar, looking at the Diddl she made, shown in Illustration 12b and the still-life she made in class, see Imgp.1616(3IDFo.). Aurora emphasizes the difference in the objects/topics drawn (student folder 12, p. 9). Charles confirms that the instructions his friend Erwin gives him when teaching him to draw are verbal (student folder 12, p. 12), (see in Illustration 17, page 207), and as such can be classified as the means of assistance verbal instructions and as descriptive, practical utterances (Coates, 1984). He states that these instructions could be seen as a similarity between the formal and informal arena.

Edith's informal drawings made in a formal context:

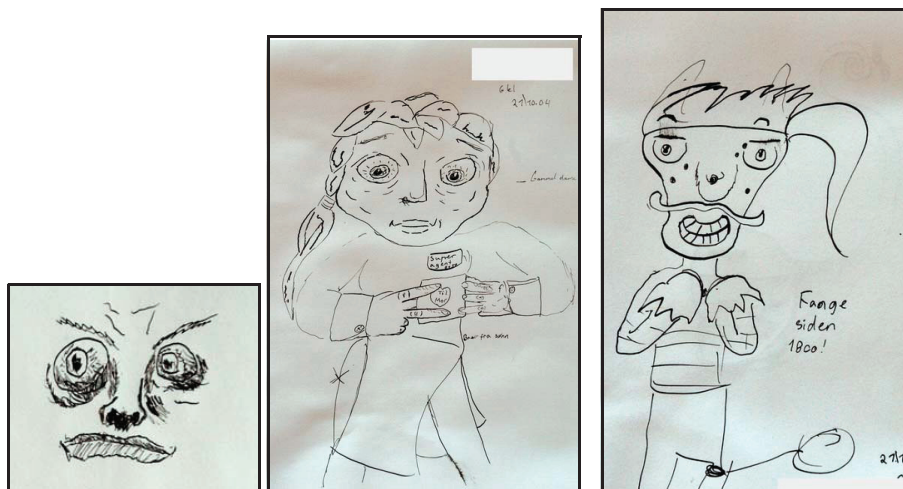


Figure 76: From the left: Ernst's 6th grade, drawing, Imgp. 1780, modeling the teacher's self-portrait hanging in the classroom, Edith's 6th grade, drawing of an "old lady", Imgp. 1793, and the off-spring of Imgp. 1793; the convict, Imgp. 1794, all found in 6FDFo._i

Edith had made two informal drawings on practice sheets of paper in the Chinese ink and pen/ "Fall poem" class. A self-portrait made by the teacher was hanging in the art attic (seen on video no. 2, 38.00-39.00). Edith and Ernst were sitting in a group, facing the portrait. Ernst self-initiated to informally draw a copy of the teacher's portrait on his practice sheet of paper (see Figure 76, Imgp. 1780), most likely to practice the pen and ink technique, since this was what was going on in class. Edith looked at the portrait and began making a drawing of an old lady (Imgp. 1793, "old lady" is written on the drawing in Norwegian, see Figure 76), most likely, inspired by the self-portrait made by the teacher (they have a resemblance). Then she made a new drawing (Imgp. 1794) inspired by the drawing of the old lady that she entitled "convict since 1800" (written on the drawing, see Figure 76, Imgp. 1794). If we look at the eyes in the drawings, we can detect a chain of semi-VCs combined with a playful, easy going making of form. She compares and comments on her formal and informal drawing processes as follows, 01/02/07:

- (1) Interviewer: What are the differences and the likenesses, in your opinion?
- (2) Edith: Nah, I don't know...yes, what I learned from the teacher, I also do at home. There I try to explore... (see Edith's informal drawings in Illustration 15, Imgp. 1725).
- (3) Interviewer: You do?
- (4) Edith: At home, I just use more imagination.
- (5) Interviewer: You have more imagination?
- (6) Edith: Yes.

- (7) Interviewer: Yes. What do you mean by more imagination?
 (8) Edith: Hmm?
 (9) Interviewer: What do you mean by more imagination?
 (10) Edith: Nah, well...I draw a lot of strange things – you see this lady here? (pointing at Imgp. 1793 as an example of an informal imaginative drawing)
 (11) Interviewer: Yes, right.
 (12) Edith: My God! (Edith seems surprised by her own drawing activity).
 (13) Interviewer: (You) Draw more freely?
 (14) Edith: Yes.
 (15) Interviewer: So you...so you...you draw more what you like to draw?
 (16) Edith: Yes.
 (17) Interviewer: I see...and here...so that is what you do...THAT is what you do, so this is a difference, in your opinion; the fact that you draw more what you feel like at home?
 (18) Edith: Yes.
 (19) Interviewer: I see, but at school the assignments are more fixed?
 (20) Edith: Yes, or we can choose between different assignments. (.....)
 (21) Interviewer: ...So this one here (referring to the old lady Imgp. 1793, see Figure 76), did you look at something – THIS – (Pointing at the face Imgp. 1793) did you look at something – this face?
 (22) Edith: Eh – I remember – was I in the art attic then?
 (23) Interviewer: Yes. I remember you were there.
 (24) Edith: Yes – No – I don't know.
 (25) Interviewer: I remember there was a picture there – do you remember? One – with a black background and a white (lined) drawing of a face that looked a lot like this one.
 (26) Edith: Eh – No, I don't know if I – yes, maybe...I DID copy (mimic – in Norwegian: *herme*) the face a little.
 (27) Interviewer: You copied the face a little?
 (28) Edith: Yes, I think I copied it, yes. (The drawing sequence referred to and the teacher's self-portrait used as a model can be seen on video no. 2, 38.00 - 39.00) (.....).
 (29) Interviewer: What do you think about when you say “mimic” (*herme*)?
 (30) Edith: Copying.
 (31) Interviewer: Copying, yes. Yes.
 (32) Edith: Yes.
 (33) Interviewer: Is it all right to copy?
 (34) Edith: Yes.
 (35) Interviewer: Yes?
 (36) Edith: It's fun (in Norwegian: *artig*) (.....)
 (37) Edith: And at home, I have – I look at magazines, and there are drawing schools (lessons/courses) all over, so I also sit and draw those too.
 (38) Interviewer: I see, so you sit and draw in magazines – (or) from magazines?
 (39) Edith: Yes, not from – we make stick-people (in Norwegian: *fyrstikkfigurer av folk*).
 (40) Interviewer: Yeah?
 (41) Edith: Then we make things that I have made here. And I drew horses before, too.
 (42) Interviewer: Yes, so you look for courses in drawing, then? Is that what you're saying?
 (43) Edith: Ah hah –
 (44) Interviewer: Drawing school, schools you said...
 (45) Edith: Yes, there's - /// - drawing schools (in) magazines, we can draw and send it in to the magazine if we want to.
 (46) Interviewer: Yes. Oh, yeah – so there is a magazine that has a drawing school in it?
 (47) Edith: Yes.
 (48) Interviewer: Do you know which magazine?
 (49) Edith: It's W.I.T.C.H. (see Figure 77 below)
 (50) Interviewer: W.I.T.C.H., yes. OK. So there you can find a drawing school, in W.I.T.C.H.?
 (51) Edith: Yes.
 (52) Interviewer: And then you send in (the drawings)?

- (53) Edith: No, I don't think I've sent in anything.
(54) Interviewer: No, but you follow (the courses)?
(55) Edith: Yes.
(56) Interviewer: So when new assignments arrive, you do them?
(57) Edith: Yes, it's quite fun.

(Student/children folder 12, p. 1-3, minidisc 4)

Apart from confirming the transfer of drawing skills learned in the formal arena to the informal arena (dialogue line 2, see also Illustration 15), Edith also confirms, as did the other students/children when interviewed, that a major difference between formal and informal drawing activity is that she uses more imagination and draws more freely when drawing informally (dialogue line 2-10). As an example of her informal free, imaginative drawing, she points to "the old lady" drawing and "the convict" drawing (dialogue line 10, Imgp. 1793 and Imgp. 1794, Figure 76).

When we investigated together during the interview, trying to reiterate the drawing processes around the making of these above-mentioned drawings, she remembers how she in part modeled her drawing according to the self-portrait hanging in the classroom made by the teacher (dialogue lines 21–36). What is first referred to by the drawer as an imaginative informal drawing possibly made at home (dialogue line 10), is then suggested to be a semi-VC drawing. By being able to capture the informal drawing processes on videotape, as was done here, the revelation of visually controlled processes as an informal drawing strategy occurs even though the drawer is not aware or remembers that he or she was using these strategies, and that the drawing process consisted of VC processes together with imaginative drawing; here labeled semi-VC drawings.

As a difference between the formal and informal arena, Edith also refers to drawing courses in the magazine *W.I.T.C.H.* as fun, voluntary drawing activities in the informal arena (dialogue lines 37-57). An abstract of these drawing courses is shown below, see Figure 77.

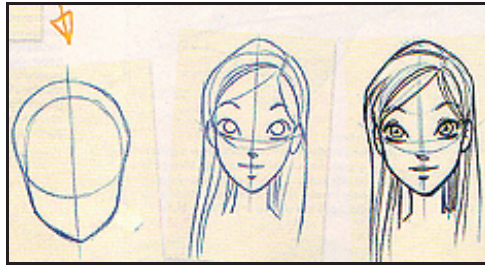


Figure 77: Part of a drawing course: “How to draw Cornelia” - in W.I.T.C.H. no. 3, 2005, p. 72 - 74, (Walt Disney Company, 2005). Copyright: Disney & co

The Disney cartoon figures Cornelia, Will, and other figures from the magazine “W.I.T.C.H.” occur several times in the informal drawing database and are popular figures to draw. See for example Imgp. 1694, Imgp. 1697, Imgp. 1703, Imgp. 1704, Imgp. 1707 in 7IDFo. and Imgp. 1660, Imgp. 1661, Imgp. 1665 in 2IDFo (*The Vega files*). The Disney magazine W.I.T.C.H., mainly aimed at young girls aged 9 to 12, has drawing courses as part of the activities offered to the readers. It is likely that the drawing courses offered in W.I.T.C.H. can take some of the credit for the substantial appearance of semi-VCs made with these Disney cartoon figures as inspiration in the informal drawing database.

The teacher’s views on similarities and differences

The teacher was interviewed about his views on similarities and differences in comparing Erwin³⁵ and Aurora’s (5th grade), Didrik and Edith’s (6th grade), and Henry and Camilla’s (7th grade) formal and informal drawings (for all of their drawings, see in *The Vega files* and search by marking “name” on the search menu and write: Erwin, Aurora, Didrik, Edith, Henry, Camilla in the search box). Apart from confirming some of the major features of the findings described in this chapter (for transcriptions see the teacher folder, p. 15-19) when they were presented to him for a preliminary review, the teacher pointed out one important similarity between the formal and informal drawings when commenting on Erwin’s formal and informal drawings. Two of Erwin’s drawings, one from each case are shown below.

35.The interview with the teacher was held the day before the interview with the children. Erwin’s drawings were then included as part of the section of students/children from 5th grade.

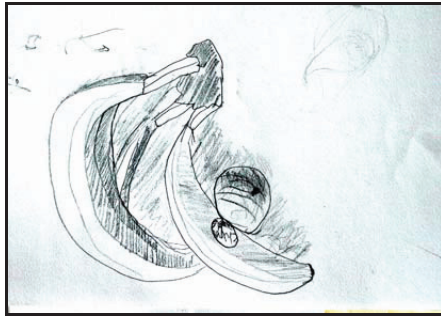


Figure 78: Erwin's 5th grade formal still-life, Imgp. 1629(1FDFo.), and informal drawing of Donald Duck, Imgp. 1678(2IDFo.)

The teacher is looking specially at Erwin's drawings above when he states the following, 31/01/07:

- (1) Interviewer: In general, the likenesses and differences. Both special and general. If you have any comments...(with all the students drawings in front of him).
- (2) Teacher: Yes...I can see his line – he transfers that – (pointing at Erwin's drawings seen above, Figure 78). We have the finger print we talked about – the finger print is here, right? There's no doubt about that. And I can see that he uses these cartoon figures as practice/training. It is obvious that he really loves using these. And that you know, reminds me that I also used to do this. I used the line drawing style from cartoons to learn some quick ways to draw. I saw how it was done, and you take it with you, you know – So I'm really sure that one will find some of the...because he practices...he wants to make them alike, this one (pointing at Donald Duck, Imgp. 1678), is well developed (.....). He is pretty fluent (in Norwegian: *dreven*), and I can see that he takes some of this flair in tracing over here (looking at the formal still-life, Imgp. 1629).

(Teacher folder 11, p. 1, minidisc 3)

The teacher highlights and emphasizes again (see Illustration 9b, page 165) that each student has his or her own style. Here he refers not only to a creative composition as in Illustration 9a, but goes so far as describing the traces and lines made in these model-bounded visually controlled drawings as "finger prints." Drawing and making traces is an individual feature, even when learning to draw according to models. He uses Erwin's formal and informal drawings as examples, and points to his flair as a similarity. With reference to Erwin's drawings, the flair can be understood as the pressure or ease on the pencil, the security in tracing fluently, how internalized a simile is, the way a line and form is made, the way the shadows are made and the level of seeing-drawing "intensity". These visual characteristics are seen by the teacher as unique as a finger print. They can be detected as individual features in

both formal and informal VC drawing learning processes, according to the teacher and he uses this awareness of individuality as a motivational utterance and frustration control when teaching the students (see Illustration 9b).

Peers' views on similarities and differences

The peers were given a transcription of an interview with the teacher from 2004, a selection of transcriptions of interviews with the children about their informal VC drawings from the spring of 2005, and the transcriptions of the interviews made in 2007 with the six children referred to above, together with their formal and informal drawings (for the detailed list, see Appendix 15). When triangulating the results of the peers' comparisons with the theoretical analysis and the comparison presented in this chapter, the content in the major features was confirmed, but was described with other words (see the peer reviews translated into English, Appendices 16 and 17). The peers also added two important aspects to the comparison, these are as follows.

Similarities

One peer reviewer points to the similarities between the teacher's open almost playful visual investigation (what is labeled seeking or checking for visual intersubjectivity and bridging in the inquiry) together with the students when he is in dialogue with them about their visually controlled drawing processes, and the reasons given for drawing informally by several of the children. They state that they draw for fun, as it is play and it passes the time (with reference to Didirik's statements in this chapter, page 236). This playfulness around informal drawing learning matches the teacher's playful and child/youth oriented verbal teaching approach. He uses words like "tricks", and "cheating", matching the students'/children's preference for rational solutions when working on their visually controlled drawing processes (Scribner & Cole, 1972). This formal but playful verbal approach can be seen as matching an important aspect of informal drawing processes, according to one peer.

Differences

The second aspect emphasized by one of the peers points to a difference. The children in the informal arena learn from each other. The transfer of skills from teacher to student acquired at school, such as the making of shadows, is transferred informally between Edith and Dorothy,

as seen in Illustration 15, page 198. The formal drawings show asymmetry between students in solving the same assignment. But the teacher does not explicitly encourage verbally student-to-student teaching/learning in visually controlled drawing classes, even though he places them in groups when teaching drawing (see social arrangements, Chapter 3, page 131). The peer points to that informally, the children seem to enjoy the role as tutors for each other (referring to how Erwin describes his teaching approach when teaching Charles to make Donald's beak, Illustration 17).

Summary

The informal visually controlled drawing processes are seen as traces of wanted, voluntary visual expressions. This aspect of informal drawing processes is stressed by all six students/children interviewed about similarities and differences. The compulsory aspect of what happens in the formal arena can not be disregarded, compulsory public school being bound to the national curriculum at all times. But the learning goals in the national curriculum can be attained in different ways, and learning goals can change as discourses in art education change. This can possibly give room to work within a compulsory school context and still aim for "the flow". The flow being where students feel they work on gaining a wanted skill and at the same time are given challenges and help that makes these wanted skills attainable (Csikszentmihalyi, 2002). The web database *The Vega files* exhibits the formal drawings made in a case seen as exemplary visually controlled drawing teaching, with goals being within the compulsory national curriculum in art & crafts in Norway, and can be seen as a reflection of concepts found in the inquiry.

In my opinion, this qualitative inquiry would not be that interesting in an art education context if the informal VC-drawing activities in this age-group were not to be quantified to a certain extent. If informal VC drawing learning/teaching was a rare or practically non-occurring activity, the comparison, based on qualitative methods of inquiry, with the aim of describing the qualities of formal and informal VC-drawing teaching/learning activities, would not rest on one of several features of informal drawing activity. The drawing web database is one reference for detecting the informal VC processes (see *The Vega files* and page 92 in Chapter 2). What has been detected as VC processes and semi-VC-processes - resting on the drawing database, the interviews and the observations shows that substantial informal VC-drawing learning (but also teaching) activities are taking place.

The third research question can be the basis for the summary, rounding up this inquiry's main results when comparing the two previously presented cases by structuring the comparisons using the comparative dimensions:

- *What are the similarities and differences between these formal and informal visually controlled drawing processes?*

Similarities

- 1) Teaching drawing in the formal case is based on visually controlled drawing processes, one drawing goal is to make a “look-alike” of a seen model. The visually controlled drawing processes (VC drawings or semi-VC drawings) are also a substantial part of the various drawing processes going on informally, the same drawing goal when learning to make a look-alike is found. The inquiry shows that the children are not always aware of their own level of VC drawing activity or how they learn to draw specific similes. They can feel embarrassed when revealing the use of modeling as a self-initiated learning strategy or as a use of means of assistance.
- 2) The rationality of using modeling (Scribner & Cole, 1972) in both senses, as modeling an object or another drawing, or as modeling drawing behavior as a drawing strategy in the informal arena, and the teacher's use of modeling as a means of assistance in the formal arena, is identified as part of the description of both the formal and the informal case.
- 3) In both cases drawing can be found as a joint social arrangement involving groups of two persons or more.
- 4) The scaffolds identified as means of assistance instructions and cooperative drawing are found in both cases.
- 5) Creativity seen as combining and recombining similes in the process of learning one or several similes is found in both cases. Using recombinations as part of the formal teaching process is found, and learning to make new compositions, expressions and similes as part of an informal VC drawing process is found. Combining and recombining can also be part of a “how” to internalize similes.
- 6) Connections to visual genres in society are found in both cases. Genres that have features close to what is taught and learned in both cases are suggested to be; the formal still-life genre, the formal observation drawing genre, an informal approach close to the Chinese and Japanese brush painting genre and the animation/cartoon genre found in popular culture. These genres have as a visual basis, or a term in simile-making to repeat 3D or 2D-form on a 2D surface as

part of their core repertoire, either as a visual exercise or as similes to be internalized and repeated as icons. Features in the data suggest that there is an informal observation drawing genre based on line-drawing used by the children when learning to draw, for example their pets.

Differences

- 1) The informal themes chosen and learned have meanings beyond their “visuality” or form, they express a “we”, a common interest in cartoon figures, for example, or a common love of horses. An informal drawing goal is identified as the expression of this “we” by using the strategy manifested here as the wildfire effect. A formal goal not found in the informal case is to sensitize the students to see, to be more visually aware.
- 2) The informal models learned tend to be 2D models more than 3D models, the opposite is found in the formal arena.
- 3) Drawing strategies such as tracing and pouncing are commonly used as rational ways of learning to make a visual “look-alike” or a simile informally. These drawing strategies are restricted in the formal arena. Sequence as part of the drawing strategies is manifested differently; construction being an informal strategy while the “from-the-outwards-to-the-inwards” sequence is taught to the students by the teacher.
- 4) The informal similes are elaborated on until they are internalized as observations, the informal use of repetitions and exercise to learn a simile differs from the formal use of practice and repetition aimed at mastering tools and techniques.
- 5) It is likely that there is no need for frustration control of voluntary informal VC-drawing teaching/learning processes, as seen in the formal arena.
- 6) The informal scaffolds move with the learner’s ZPD, the informal teacher and learner sitting close to each other and following each other’s construction of similes. Even though the teacher walks systematically from one student to the other and engages in dialogues of high quality (such as instructions, checking/seeking for visual intersubjectivity and cooperative drawing) with each of them about their drawing, the students also have to ask and wait for the formal scaffolds when they are needed because they are part of a larger group.
- 7) Informally the children and young people use each other and relatives as teachers. There is a strong collective aspect in informal VC and semi-VC drawing processes (seen as strategies and means of assistance). The wildfire effect is detected as an informal feature and it is a result of collective drawing. This modeling process as a drawing strategy is used in non-verbal and

verbal group drawing processes. Informally, the children also sit and learn to draw specific similes alone.

8) The drawing genres related to features found on the formal and informal arena belong in different socio-visual dialogues as part of different sociocultural and historical contexts. The main drawing genres found to be associated with the two cases are close to the formal still-life rooted in 16th century picture teaching and learning, observation drawing rooted in art, design, architecture and the natural sciences, and the informal animation/cartoon-line model drawing as part of today's contemporary visual media. The formal approach can be identified as mainly observational and analytical, whereas the informal approach can be seen as close to the graphical, as in Chinese and Japanese brush painting tradition (Simmons, 1992).

The differences are as important as the similarities, but the later are the most interesting in an art education context, as I see it. By focusing on the similarities I can see the possibility to develop VC drawing teaching in compulsory school based on the exemplary teacher's contribution and using the resources from the informal case, the differences, as a possible inspiration and reference for developing visually controlled drawing in cooperation with the field of visually controlled drawing teaching practice.

Chapter 4 - Discussions and conclusions

Introduction

In the case analyses of formal VC-drawing teaching processes and informal VC (and semi-VC) drawing learning and teaching processes, I have identified seven comparative dimensions (Warner, 1971) in a deductive-inductive data-analysis process to help describe the formal and informal cases as separate units. These comparative dimensions have then been the theoretical basis for comparing the two cases.

A discussion on the issues connected to the results of this qualitative comparative case study will consist of reflections on constructivism as the chosen theoretical paradigm, generating a close to non-dualistic ontology and a defined understanding of epistemology and methodology (Becker, 1996; Denzin & Lincoln, 2005: 21; Postholm, 2005; see also Chapter 2, page 16). The methods used will be discussed as the results are only as good as the quality and relevance of the data. Finally the possible significance of the results of this investigation for the field of art education will be discussed. Recommendations will then be given for further elaboration, with the results serving as the point of departure for developing the field of pedagogical content knowledge (Shulman, 1986) in drawing teaching. The results can inspire new inquisitiveness within the field of drawing and encourage further investigations into connected contexts and topics.

Constructivism as paradigm

The sociocultural academic community has debated whether the sociocultural approach should only be seen as epistemology (defined by Packer & Goicoechea, 2000: 227 as “...the systematic consideration in philosophy and elsewhere, of knowing: when knowledge is valid, what counts as truth, and so on.”). As the sociocultural philosophical stance or basic set of beliefs (Creswell, 1998) is non-dualistic, it is argued by Packer and Goicoechea (2000: 227) that this necessarily would incorporate the being, the understanding of what it is to be human, the ontology (“ontology is the consideration of being: what is, what exists, what it means for someone – or somebody – to be”, Packer & Goicoechea 2000: 227). Without taking a stand on this discussion, I have found here that ontology and epistemology can be defined as Creswell (1998: 254) does, within a paradigm or a world view that includes ontology, epistemology, and

methodology (also found in Denzin & Lincoln, 2005: 24; Postholm, 2005: 20-21, see Chapter 2, page 16).

Rooted in the constructivist paradigm, the sociocultural theoretical assumption is that learning takes place in the social space; from the interpersonal space to the intra-personal space (John-Steiner & Mahn, 1996: 192; Vygotsky, 1978). The sociocultural aspects of being color us and form us as humans, and humans create, develop, and color the sociocultural aspects of being, again coloring us as humans in an ongoing process. Denzin and Lincoln (2005) categorize constructivism as a paradigm with a chosen substantial-formal theoretical reference (the understanding of truth as subjective and inter-subjective, in development, and transformable) often using interpretive case-study approaches as part of the methodology, and with criteria for assessing the inquiry, such as trustworthiness, credibility, and transferability (Denzin & Lincoln, 2005: 24, see also Chapter 2, page 112 and onwards). With Denzin and Lincoln's definition, this comparative case study is placed within the paradigm of constructivism.

The sociocultural theoretical analysis of the formal and informal VC-drawing teaching/learning emphasizes the social or dialogical aspect of being. The investigation has revealed a need for concepts that mirror the phenomena found when looking at visually controlled drawing from this understanding of the world, for example seeing-drawing as socio-visual processes exposing the collectiveness in the craft of drawing a simile. As an example is the description of one of the informal goals in VC drawing, the underlying "we" (see Illustrations 6, 9f, 13a and 13b, 14, 15, 16a and 16b, 17); without sociocultural "glasses" it is likely that this aspect could have been overlooked.

Seeing VC drawing as socio-visual processes would then *not* define drawing as a basically motoric process, just as making music is not seen as basically a motoric process but as socio-auditive communication, even though both mediated aesthetic expressions involve refined motoric skills that have to be learned through the teaching of specific strategies and techniques, with an immense amount of exercise and practice. As the study shows, exercise and repetition are an important aspect of simile making, both formally and informally (even though in different ways, see Illustrations 5a and 14). Emphasizing VC drawing as mainly an expression of motoric and cognitive development would belong within a cognitive and developmental-oriented paradigm, also labeled idealism (Postholm, 2005: 21).

I have used sociocultural pedagogical theory as a tool to describe, analyze, and possibly develop practice; the pedagogical content knowledge in art education (Moen & Postholm,

2008; Shulman, 1986). As the results reflect in Chapter 3, the social aspect of formal and informal VC drawing in teaching/learning is of much greater importance than what I have previously anticipated. Even in formal drawing classes, while looking at a still-life, the informal “we” is manifested through the wildfire effect as a drawing strategy, and as a direct result of collective drawing, or drawing the same theme in groups (see for example Illustration 9c). Without sociocultural theoretical glasses, these important social aspects of VC drawing in teaching/learning would not necessarily have been seen. To be able to structure these aspects of VC-drawing processes, the need for a functional vocabulary for the findings has been part of the research project (Hannula, Suoranta & Vadén, 2005; Engeström, 2004).

Only the field of practice in art education will determine if concepts such as the comparative dimensions, visually controlled drawing or semi-VC drawing (semi-visually controlled drawing) as process and goal, collective drawing, the wildfire effect, cooperative drawing, internalized observation, and checking/seeking for visual intersubjectivity are functional as collaborative concepts (Engeström, 2004) within the field of art education – or if they can be used as a point of departure for developing even better terms. For now, they have made phenomena “come alive” in formal and informal visually controlled drawing teaching and learning.

Formal scaffolds in the students’ zone of proximal development (ZPD)

The sociocultural assumption is that learning takes place in social space (Vygotsky, 1978), in our ZPDs, and often in interaction with the more competent other. Cooperative drawing as a term covers the teaching means of assistance or the act of drawing on students’/children’s VC drawings. In art education this act can still be seen as a destructive intervention into the students’ personal production of a drawing with the assumed prevalence of Lowenfeld’s (1957) influence. As the inquiry reveals, there is a fine line between the act of lifting a drawing through cooperative drawing, most of the time on the request from students as seen in Illustration 8, page 163, as part of an instructive means of assistance, and as modeling, and the above-mentioned destructive intervention. Cooperative drawing involves contribution and support from a more competent other that improves the VC drawing as a look-alike and at the same time teaches the student, without changing the main structures of the draftsman – here – the student or child being helped.

Who owns the drawing?

When seen connected to genres, the formal and informal drawing processes are not “person fixed”; that is the formal genres of still-life and observation drawing, historically often drawn as unsigned exercises and observations, and the informal drawing genres, one of them are related to the popular culture industry that does not emphasize the creators, even though, for example, animation experts would know who the draftsmen are.

But is it appropriate to ask who owns the cooperatively drawn formal and informal VC drawings? Is it the teacher, the student, the peers or all of them? Dialogical theory (in this inquiry this would include visual communication) as understood by Bakhtin (1986, see also page 34 in Chapter 2) sees specific verbal utterances as genres (defined by content, style and structure) placed in specific historical and social contexts for a specific purposes. When utterances (here the drawings can be seen as utterances, page 34, Chapter 2) are placed in their social and historical context, we can assume, according to Bakhtin, that they incorporate several voices from the past and present with a potential for pointing to the future. The formal or informal teacher’s contributions to the drawings can be seen as part of this multi-voicedness in drawings seen as utterances in dialogues.

But more important, in the formal case (the informal case being an arena for voluntary teaching/learning processes) it is very likely that the students saw the result of cooperative drawing as part of their own drawing. The only documentation is the experience I had when collecting the formal drawings. It was not always easy for students to give away their formal still-life drawings for research purposes. Several students wanted to take their drawings home to give to their parents. This was most likely because they were pleased and proud of the results and felt an ownership of their valued drawing. Fortunately, now they are displayed on the internet as a digital exhibit in *The Vega files*, accessible to anyone who wants to look at them.

Is there a hidden underlying formal VC-drawing teaching agenda?

I have interpreted the data found in the informal case as revealing an underlying informal goal or agenda; to express a “we”, that is togetherness among peers. The act of cooperative drawing and of modeling undertaken by a more competent other in the formal case can communicate a hidden underlying formal teaching agenda. Learning from a more competent other can be experienced as an act of power; an act between master and apprentice. To manifest this

inequity in an authoritarian way could have been found as part of a hidden, tacit formal teaching agenda. But in looking at the master/apprentice relations in the informal VC-drawing case, the competence of the other is seen as one of the presumptions for being able to learn a simile; a sister who knows how to draw a horse, a dad who knows how to draw Donald Duck. The teacher in the formal case is valued as a more competent other in the difficult process of drawing a still-life (the documentation being students asking for assistance as seen in Illustration 8), and as one of the peers emphasizes (see peer review no. 1, second paragraph, Appendix 16), the teacher's dialogical playful teaching approach trying to reach the students by bridging with such words as "tricks", "cheating", "kick", "exciting" and "fun" does not indicate that the master/apprentice relation (the teacher being more competent and involved in their drawing processes as such) is likely to be experienced as negative by the students.

Methodological reflections

The research strategy

Methodological choices are part of the chosen paradigm according to Denzin and Lincoln (2005: 24), and within the paradigm of constructivism, several research approaches could have been considered, for example an ethnographic approach or a phenomenological approach. The reasons for choosing the case study are explained in Chapter 2. Within the case-study approach we also find many possible research strategies based on how the field of research is understood and what the aim of the research process is. One could be seeing the formal and informal processes as several small cases, or together, as one case of visually controlled drawing; all of them studied by using the case-study approach. One could have grouped the data into three cases, a formal case, the informal case in a formal setting, and an informal case in informal setting(s). Another possibility is to group the representative examples and the varieties of examples from the formal and informal social contexts into one formal VC-drawing case and one informal VC-drawing case, as has been done here.

As the comparison between the two contexts rests on an understanding of "context" as the interpersonal communication and intentions as essential to the definition, (see Chapter 1, page 12), the later approach was found to be the most suitable. A formal case and an informal case were bounded or framed so I could make the crucial comparison. In this sense they are instrumental, or instrumental cases (Stake, 1995) for something else, here, to facilitate comparison. I needed to make cases within formal and informal boundaries, which means to

accurately describe and analyze the formal and informal VC-drawing scene for the sake of comparison. The use of Warner's (1971) concept of comparative dimensions as part of a research strategy, with identification of the seven comparative dimensions as theoretical categories when analyzing the data in both cases, has at the same time covered major sociocultural features in teaching/learning in each case, and structured the comparative process. The case-study approach which emphasizes multiple data sources and theoretical interpretive analysis together with a focus on contexts with defined geographical and time boundaries (Creswell, 1998; Hannula, Suoranta & Vadén, 2005) has been a suitable research framework for studying the two compared cases.

Multiple data sources

The inquiry has shown the importance of having multiple data sources³⁶ to be able to describe, analyze, compare, and secure the results by making triangulations. On their own, the drawing database, the transcription of interviews, the questionnaires, and the observations do not necessarily give the full picture of each case. The use of questionnaires on their own does not give the researcher the possibility to verify what is meant by the responses, as experienced in this inquiry. The observations are single, short, and limited events, and provide good data for an in-depth analysis of the event. But the diversities exposed, for example in the drawing strategies in the informal case, could have been overlooked if not for the large informal drawing database.

Bearing this in mind, the drawing database does not reflect the statements found in the interview transcriptions, for example, that many children use pouncing and tracing as a drawing strategy; as Gina answers when she is asked who uses tracing: "Many people in my class" (Illustration 13a: 14, page 194). I also know from my own childhood and my son's pictorial production as an eight- and nine-year-old that pouncing was a popular way of making similes. Here, only one drawing reveals pouncing as a strategy (Nataly's Imgp. 1506) and five drawings reveal tracing as a strategy (Imgp. 1526, Imgp. 1536, Imgp. 1538, Imgp. 1541, and Imgp. 1543 made by Evelyn, Frida and possibly one other unknown student, the drawing being un-named, see Imgp. 1526 in *The Vega files*). I can only anticipate, are these three or four children the only "many kids", or could it be that similes made by means of pouncing/tracing were not handed in because they were censured by the students themselves as "not really

36. At least two, here mainly the drawings placed together with the observations, notes, interviews, and questionnaires, then finally compared to two peer reviews.

theirs”, or were they not seen as possible valuable drawings to the researcher, and therefore might not have been handed in?

Another example of the importance of having multiple data sources is found in the detections of the use of semi-VC drawing processes when making an informal drawing. The drawing as one source of data is triangulated with observations and semi-structured interviews (often together with observations of redrawings). As separate expressions the drawings could easily have been categorized as memory drawings or fantasy drawings, as seen in Edith’s informal semi-VC drawings made in a formal setting (Imgp. 1793 and Imgp. 1794, Figure 76, page 238). If I had not videotaped the drawing process in context, the drawing and the interview would not reveal that these drawings are semi-VC drawings. This is a valuable experience for an art-education researcher as there is a strong tradition within this field for analyzing the drawings separately, and mainly as traces of biological and cognitive development (Eng, 1959; Lowenfeld, 1957), then overlooking the contextual (social, visual, and material) aspects of the drawing process. I would argue that the contextual aspects of drawing processes are the most essential for an understanding of teaching and learning. In the cognitive, developmental tradition, as pointed out in the introduction, various visually controlled drawing strategies have been overlooked, as strongly suggested by Wilson and Wilson (1982b), and at worst have been seen as “un-creative” and damaging (Lowenfeld, 1957: 14-18; Lowenfeld & Brittain, 1979: 51-53, see also page 4 in Chapter 1).

Informal drawings as visual examples of child and youth culture

The transcription of the interviews with the children as a separate data source is also, in its content, not always sufficient, as the children may want to say what is “right”; what they think adults expect of them (Andersson, 1998; Thomas & O’Kane, 1998). How do we describe the essence of informal VC-drawing processes in this age-group without “messing up” the field of research through our presence? In art-education research, Matthews (1984), Pedersen (1999; 2004), and Wilson (2007)³⁷ (all referred to in Chapter 2, page 46 and onwards) solved the dilemma by using their own children, children of friends, and/or grandchildren as participants. Obtaining the insider’s perspective (here, the child’s perspective) by involving family and friends for observation purposes in natural settings is also recommended as a method by Mitchell and Reid-Walsh (2002) when they present research strategies for investigating

37. Here Wilson does not only observe, he describes and is himself involved in the collaborative drawing processes together with his grandchildren.

children's popular culture. Just as important is the use of one's own childhood experiences, according to Mitchell and Reid-Walsh. The third method suggested by Mitchell and Reid-Walsh is interesting in connection with my study; to involve the children themselves as data collectors or co-researchers by giving them a camera so they can take pictures at home, visualizing and documenting their valued toys, comic-strips, and so on.

In my study, as was the case with the photographs taken by the children in the studies referred to by Mitchell and Reid-Walsh (Mitchell & Reid-Walsh, 2002: 79-111), the informal VC drawings can be seen as visual "prints" often mirroring informal activities, relations, and values as part of the documentation of the insider's perspective – the children's perspective, including their world of informal teaching and learning drawing. These informal VC drawings are then used as a starting point for the redrawings simultaneously with semi-structured interviews – with the learning (and teaching) processes in focus in this inquiry.

Previous studies (for example Greenfield, 1984, also referring to other studies such as Chomsky, 1965) show that informal teaching/learning can often not be seen as teaching and learning by people in general. The idea that teaching and learning takes place in school, formally, stands strong, according to Greenfield. The need for me as a researcher to inquire personally around the informal teaching/learning processes by explicitly looking for these has therefore been a necessary part of the method. Using reconstruction (in this case: redrawings and semi-structured interviews) as a method in the informal case, as Wilson & Wilson (1977), Pedersen (1999) and Creswell (1998: 357-373) did, was as I see it, my best option as I for the most was not able to be present to observe the drawing processes in natural settings, in context (similar to Creswell, even though the cases otherwise are fundamentally different. His case study involved reconstructing the events, feelings, and actions around a campus shooting). When informal VC-drawing processes occurred in the formal setting, they were "caught" or observed when possible³⁸, as seen in Illustration 16a.

Limitations

The presentation of the sociocultural analysis of the informal part of the inquiry has evolved from a drawing database (see guide and search in *The Vega files*), questionnaires, the video-taping of redrawings, transcriptions from interviews, and transcriptions of observations of informal VC-drawing processes in the formal setting. It is likely that the case-study approach

38. These events were video recorded and transcribed, and the drawings were put in the database *The Vega files* as formal_i drawings – that is informal drawings made in a formal setting.

using multiple data sources has given a broad picture of the diversity of drawing strategies within the informal VC-drawing scene. The informal illustrations are descriptions of the diversities of informal drawing strategies as a comparative dimension. The verbal means of assistance used informally among the children and relatives is also referred to in the data (see Illustration 17).

But to describe the diversity within the informal means of assistance, direct observations as a technique would have been more effective than the redrawings together with semi-structured interviews, in revealing the informal verbal and non-verbal nuances. Direct observation of informal VC-drawing processes could have been undertaken by observing the students in their free-hour activities. The free hours are when the students are left with only supervision because the teacher has called in sick. This is one of the settings for informal VC drawing, according to the interviews with the children (for example IVTFo. no. 9, p. 2). These free hours do not occur often, fortunately for the students, who normally receive subject-specific teaching as they should according to the national curricula. This use of observation as method would require the flexibility to “jump in” when a free hour is given, and a longitude study of a close to ethnographic approach would capture drawing processes in a natural setting, spontaneously occurring among other activities, such as working on a computer, reading books from the library, doing homework, and so on. This amount of time, flexibility (and free hours) was not available in this study.

Making alliances with teachers at school to be observers and video-tapers could have possibly been an option, but there is always a fine line between asking too much and doing research as a joint activity (Postholm, 2007: 12). This could also have taken focus away from the teacher’s main task, to teach or to supervise. If the teacher would conduct such an activity, the researcher then would have had to ensure that the observations would benefit the teacher in his or her teaching, in my opinion. When asking the teacher to conduct one of the research tasks, the researcher’s “I” (see Chapter 2, page 62 and onwards, Punch, 1994; Peshkin 1988; Gudmundsdottir, 1998a) would still not be present in the natural environment where informal VC drawing can occur. To be able to be an “I” in the informal research field, I have mainly used the semi-structured interview, the interview being the most used method to catch the insider’s perspective, according to Stake (1995). But I have also used observations of redrawings and direct observation of informal drawing processes caught in the formal setting when they occurred.

The study of the formal case was focused on describing exemplary VC-drawing teaching. The informal case was studied to describe the competence and competence acquisition of nine- to twelve-year-olds in VC drawing – in itself worthy of at least two separate case studies or research projects without the aim of comparing the two. Comparing a formal and informal case of VC drawing is one of the three focal points in my study, and in my opinion the most interesting when it comes to bringing impulses to the art-education arena with respect to the research-based development of pedagogical content knowledge in visually controlled drawing.

Reflections on the findings

The formal case

The essence of the findings in the formal exemplary case of visually controlled drawing teaching is first of all important as 1) a description of the requirements (teacher's competence, class-size and social arrangement of students into groups), and 2) exemplification and verbalization of good drawing education, with the main emphasis on a dialogue between a teacher wanting to meet each student individually “at home”, bridging, with competence in drawing so that he can give and share his skills and knowledge as verbal dialogues, and visual traces in the students' zones of proximal development (ZPDs). This is not only verbalized and visualized in dialogues instructing, describing, and managing frustration, but also in the competence to be in an active visual dialogue with the students as a more competent other while using cooperative drawing.

This verbal and visual dialogue includes the way the teacher manages despair or frustration (Wood, Bruner & Ross, 1976); the “I can't” among students. The analysis reveals his use of the means of assistance cooperative drawing, checking/seeking for visual intersubjectivity while simultaneously instructing, together with verbal bridging where he uses such words as “tricks” and “cheating” when managing frustration. The teacher is always looking at the student's work as an interesting start to be elaborated on together, followed by encouragement, as a kind word communicating faith in the student's ability to draw (see Illustrations 3b, 3f, 5a, 6, 7, 9a, 9b). He manages frustration through his competence as a draftsman/artist and his experience as a teacher/educator (Darling-Hammond & Youngs, 2002; Wood, Bruner & Ross, 1976).

Thus, effective visually controlled drawing teaching is in my opinion not possible to implement by handing out a picture or a drawing to copy, or having one model sitting on each table for students in large groups, and for the teacher then to withdraw. The teacher in the formal exemplary case has about eight to thirteen students in two forty-five minute classes, giving each student individually on average about five to eight minutes of his time. The amount of time and the quality of the visual and verbal dialogue in relation to the goals for his teaching, making a still-life drawing and learning to see, is the essence of the exemplary teaching described as the formal case. These requirements should be noted for political considerations.

The informal case

An important finding in the informal VC-drawing case is the surprising amount of VC- and semi-VC drawing activity found (very likely a minimum of 50%) when working with the drawing database as background material and a data source in this qualitative study; also encompassing the interviews, the redrawings, and observations after catching some of these processes on videotape in natural contexts, found as formal_i in *The Vega files*. The term semi-VC helped to detect the “mixed” drawing processes, making the visually controlled part of the drawing process visible. Also, if I had not used the terms “likely” when sorting out the drawings in the database (first done before interviewing, or as an interpretation rooted in the database, seeing similar drawings or parts of drawings as similar in the same age-group)³⁹ as an informal semi-VC drawing category, the whole drawing process could have been classified as a memory drawing.

The two cases involve the same participants as students and as children. Using the same children in the formal and informal case has made it possible to get the views (the insider’s perspective) on similarities and differences. It has also made it possible to see the important (in a teaching/learning context) comparative dimension “transfers”. But they are also students in a school that has had (and has) an emphasis on drawing within the school subject of art and crafts in general over the years, merging compulsory art education with art-school activities and competence. It is certainly appropriate to ask if this has affected the approximate minimum of 50% outcome of VC and semi-VC drawings informally, and made

39. Search on the keyword `semivc_likely_i` and `vc_likely_i` in *The Vega files* to see what drawings are left as VC or semi-VC likely after the interviews (see guide to search functions for instructions). The informal drawings confirmed as holding elements of visually controlled processes during the interviews are found by searching for `vc_checked_i`.

the informal case an exceptional case. The comparative dimension “transfer” from the formal to the informal case could also differ in size and quality in other exemplary cases.

The findings as a results of the qualitative analysis mirror other similar studies of informal drawing. With the support of several other studies involving a close look at different dynamics and aspects of informal drawing processes among children and young people (Goodnow, 1977; Köhler, 1981; Nielsen, 2000; Pedersen, 1999; 2004; Smith, 1983; 1985; Thompson, 2002; Wilson & Wilson 1977; Wilson, 2004), I claim that the informal drawing database is descriptive and trustworthy as part of a database for analyses, and can serve as a recognizable repertoire of informal drawing processes among nine- to twelve-year-olds, giving the possibility for naturalistic generalization (Stake & Trumbull, 1982). For recognizability, the exhibit of the informal drawings can also be seen on the internet.

Modeling as part of children’s epistemology in drawing

Most of my findings, for example that children often use others’ drawings or figures from popular culture, found as toys, pictures in magazines, on TV or in animation movies, and that they learn to draw specific similes from relatives and friends, confirm previous research mainly undertaken by the pioneers within a sociocultural understanding of drawing processes; Wilson and Wilson (1977; 1980; 1982a and b; 1985), Wilson (2004), Kindler and Darras (1997), Darras (2000) and Thompson (2002). The informal case shows that they also work with 3D models (though in a line drawing fashion, using construction as a strategy, as seen in Illustration 18), depicting meaningful objects of interest, such as pets, in a seeing-drawing process. They often internalize a simile to perfection so they can make it without looking at the model, and that is when the competence of making the simile is established as an internalized observation.

As Jerome Bruner refers to in his collection of articles *The culture of education* (1996, see also the introduction by Vibeke Grøver Aukrust in the Norwegian version of 1997), the children have experiences in learning, they have their own epistemology, that is an acquired learning theory based on experiences they have on how they learn. Here, we can say that modeling is an important part of the children’s own epistemology in drawing.

The data strongly suggest that there is an underlying collectiveness in informal VC drawings. These drawings are carriers of the underlying intended meaning of confirming relations. It is not *only* the drawings’ isomorphic qualities the children of this age-group are working on, they are also working on their social connections to valued persons around them

through the making of the VC drawing; mirroring common interests, togetherness and friendships, also shown in studies from kindergarten by Thompson (2002). I claim that if the social-relational side of informal VC drawing is not seen and understood, then part of the essence of informal VC drawing activity among nine- to twelve-year-olds is not understood. Informal VC and semi-VC drawing processes often occur, as seen in the informal case, among friends and relatives, and can therefore be seen as carriers of these relations.

Another important finding is the detection of creativity and transfers in the bounded activities rooted in VC and semi-VC drawing. It has been documented that once a simile is learned, it can be “played around with”; combined and recombined in new expressions (see Illustrations 11, 12a, 14 and informal drawings, folder 5 in *The Vega files*). This recombination process can also be a “how” to learn; to practice and internalize a simile. Knowing how to make a simile is having the basic skills to carry out the making of new visual expressions by altering and recombining (combining in process) this simile with other learned similes and/or memory drawing. This seems to be a common practice among the children in the informal case. The process of alternating and recombining learned similes is also found in kindergarten (Frisch, 2005; 2006; 2008) and is the essence of creativity, according to Vygotsky (Vygotskij, 1995); his understanding of creativity being a process of combining, recombining, and adapting the known according to the need and drive to learn to make new things.

Popular culture, materialized as toys, activates personal and interpersonal narratives among children (Mitchell & Reid-Walsh, 2002; Thompson, 2002), as does the drawing process. This is well documented in studies by Wilson and Wilson (1977; 1980), among several others (such as Lidén, 2000). The results from this inquiry support these previous studies and show that the symbiosis of VC drawing and semi-VC drawing combined with verbal narration, narrative drawing, and memory drawing (as seen, for example, in Illustration 16a) is part of informal VC drawing processes. These drawing processes are seen as results of the wildfire effect among nine- to twelve-year-olds.

The informal wildfire effect (modeling or partly modeling as a drawing strategy), seen in a child’s/young person’s drawing as traces of looking at others, is strongly represented in the data (Illustrations 6, 9c, 16a and 16b,13a, see also the drawing database and use the search function “drawn with”). It is seen as a transfer from the informal to the formal when this phenomenon occurs in the formal case, for example when making the still-lives. Transfers can take place often, as we are complete persons moving in different contexts. Transfers from the formal to the informal, for example the act of teaching a friend who likes to draw what has

been learned in school (Illustration 15), and transfers from the informal to formal, as for example the wildfire effect, watching another peer and drawing a still-life in the same way (Illustration 9c), are promising findings for further elaboration on the content of VC drawing in art education, as long as the transfers are experienced by the students as meaningful (Greeno, 1989). Transfers from one context to the next take place, according to Greeno (1989, see Chapter 2, page 35), when experienced as meaningful and when there is a sense of recognizability across contexts.

Transferability: Controversial informal drawing strategies

The strategies found in the informal case when wanting to make a look-alike or a simile, such as tracing and pouncing, are controversial in an art education context. These tricks or techniques are a rational way of making a look alike often found in the informal arena (Rogoff, 1984; Scribner & Cole, 1972; Scribner, 1984) and can sometimes prevent the child from trying to use his or her visual sensitivity and motoric skills to draw a simile by looking at the model. This is a genuine concern, as the teacher expresses in the interview in Illustration 1a, and can be a way of avoiding the challenge of getting into a seeing-drawing process (as expressed by Agatha in Illustration 13b). The description and analysis of the informal case show that these tricks or techniques can also be used creatively, combining them with other approaches in drawing, as the girls do in Illustration 13a, where the hands are traced and then decorated freely.

The staff in preschools in Reggio Emilia in Northern Italy use tracing with overhead projectors as an interpersonal means of assisting children aged from three to five when they want to make a simile of a chosen figure. The figure is laid down under the overhead light and projected onto a larger paper surface on the wall. The children then trace around the shadow of the three-dimensional or two-dimensional figure to get an accurate contour they can work on, adding decorations and composing new pictures with these given forms by rearranging or recombining them (Vygotskij, 1995) in their own picture. Thus these pouncing-like and tracing-like techniques, as seen in Nataly's drawing *Imgp. 1506*, are strategies used in the formal and informal arenas, and they are deeply rooted in the history of art and picture making (Frayling, Frayling & van der Meer, 1992).

The comparisons

Ragin (1987) points to the comparative process as a way of coming into view; likenesses and differences “come alive” in the contrasting process of comparing. Not all likenesses and differences are relevant in an inquiry about teaching/learning VC drawing. By rooting the analysis of the cases in learning theory (here sociocultural learning theory) the study can be limited to meaningful comparisons according to the aims of the study (Warner, 1971). The results of the comparison have established and described the links between formal and informal VC drawing teaching/learning, and have helped to describe where formal and informal VC drawings differ.

As there are some important similarities in goals, strategies, and means of assistance, it could be implied that VC drawing in the formal arena can be seen as a meaningful learning activity from the students’ perspective. From society’s perspective, being able to communicate with “visuals”, including similes is part of being a visual literate. Visual literacy is defined as “...the use of visuals for the purposes of communication; thinking; learning; constructing meaning; creative expression; aesthetic enjoyment” (Baca & Braden, 1990: 65), and should, in my opinion, be one of the basic skills taught in compulsory public school (Frisch, 1994).

According to Nielsen (2000), being visually literate is being able to depict and read visuals for everyday needs, such as an overview of a house, descriptions as images, sketches of wanted objects to make, or visualizations of theories and processes in academics, and it is part of an overarching democratic project, involving lay-people to understand and being able to communicate accurately in processes involving visuals in society. The democratic project is then to be complete participants in society as communicators and readers of visuals. And for some, this will evolve into becoming part of an aesthetic professional practice.

Detecting informal VC drawing as different from formal VC drawing relating to genres, but at the same time similar in goal and some use of means of assistance is an interesting result. So is also finding and identifying informal drawing strategies as partly overlapping the formal means of assistance modeling given in the exemplary case of VC drawing teaching. If we regard children-initiated strategies and the use of means of assistance in the informal arena to be voluntary, preferred, and at the same time challenging, they are as such “in the flow” (Csikszentmihalyi, 2002: 74-75, see Chapter 2, page 28). The voluntary aspect of the informal drawing processes can not be underestimated, and the formal compulsory aspect of the formal case can not be denied. But there are traces of recognizability (Greeno, 1989) from the informal to the formal case, as mentioned above. I can not describe

the formal case as being “with the flow”, but the exemplary teacher in the formal case works on essential drawing issues seen as important and plausible to the children informally. For further elaboration on the possible consequences of the comparisons, see the concluding recommendations to be tried out, at the end of this chapter, page 276.

The Modernist Narrative

If we hold the term modernism up to the light, we can see that it is based upon a paradox; the ambition to catch something that is changing and to put it into a defined and determined category. What should have renewal and change as its essence, has, in the term modernism become a definition, and in this way, discredited its core as a rebellion against definitions. At the same time it has eliminated all opposition, since it already includes in its agenda the right to define what change is. (Iberg, 2007, translated by Nina Scott Frisch)

The quote above is written by the Norwegian philosopher and musician Helge Iberg. The article this quote is taken from mainly focuses on modernism as expressed in the aesthetics. Modernism in the visual arts evolved once the need to depict models (objects, people, landscapes, houses and so on) disappeared after the invention of and common access to the camera. Picture-makers were challenged to develop what the photography at the time did not have; color, interpretations through imaginative and emotional visual expressions, as the expressionists represented, and interpretations of visual perceptions, as the impressionists represented (Glambek, 1990). These various visual languages or “isms” (impressionism, expressionism, fauvism, cubism, abstract expressionism, formalism among others) within the pictorial repertoire of the Western art world have broadened the acceptance of a diversity of human visual expressions. In this sense modernism’s contribution to today’s art scene as part of our art history, is extremely valuable. If we accept that art reflects us as humans, or is the objectification of human sensitivity (Marx, 1975), more of us as humans can be reflected in art after the contribution of modernism as an epoch.

In its early days (the late 1800s and early 1900s) there was tremendous resistance against these new expressions. This can be seen in (quasi)-academic literature produced with such titles as: *Contagious psychiatric diseases then and now with an emphasis on the new trends in art* (Salomonsen, 1919, in Danish: *Smitsomme sindslidelser før og nu med særlig henblik paa de nyeste kunstretninger*). As the title above implies, modernist expressions have been developed in stormy environs. Then, the resistance so necessary for survival can in part explain the need for the strong establishment of modernism in various institutions, such as art schools, museums, and so on. But as the quote that opened this section implies (Iberg, 2007), fixed strains are also found within modernism, as expressions in architecture, literature, music,

educational theories, and art. Iberg (2007) sees the essence of modernism as artistic expression in retrospective. He sees the straight-jacket or the mold that only allows a specific repertoire of expressions; and by restraining and defining, also contradicting itself.

These are, in my opinion, “un-creative” limitations, and these limitations apply to modernism in art education as well, according to Wilson (2004; 2007) and Kindler and Darras (1997). These fixed views are manifested through the art-education book grounded on Piaget’s (1973) stage theories of development aimed at teacher training: *Creativity and mental growth* (first edition came in 1947, Lowenfeld, 1957; Lowenfeld & Brittain, 1979). This leads us to the Lowenfeld-initiated discourse on modeling in art education found in the above mentioned curriculum book for students to become art teachers - previously quoted in Chapter 1.

Lowenfeld on visually controlled drawing and modeling

Never give the work of one child as an example to another! Never let a child copy anything. (Lowenfeld 1957: 15)

I have heard many teachers and parents say, “But my children love coloring books.” This is quite true. Children in general, however, do not discriminate between things good for them and things detrimental. That they love things is not always an indication that those things are good for them. Most children prefer sweets to vegetables, and without doubt would always prefer them. This, however, does not mean that we should adjust their diets to sweets. (Lowenfeld 1957: 18-19)

As also written in the introduction, Lowenfeld is seen as one of the main discourse-providers of The Modernist Narrative in art education (Wilson, 2007). Lowenfeld (1957: 14-18) compares children’s wishes to look at one another and copy, and color in coloring books to the desire for candy. Coloring books, painting books and drawing books are all understood as synonyms in this inquiry, and are still popular among children in the age-group in focus here, as seen in the informal case. These books have two major components: they are 1) commercial products and they 2) present modeling challenges such as looking at a model, other’s drawings, pictures, or at other drawing strategies (see for example *My little pony* in Chapter 3, on page 188). Lowenfeld compares the children’s voluntary interest in these books with their taste for candy. It is something they want but it is bad for them, and we as responsible adults have to control and suppress this “urge”.

Suppression of part of children’s epistemology: to copy (*herme*) and model

Children should not be given the possibility to copy, according to Lowenfeld. This is damaging (as candy is), and ruins their ability to express themselves visually. In the Danish version

(Lowenfeld & Brittain, 1979: 51-53), the candy metaphor is dropped, but the strong warning against painting books, coloring books or drawing books with copying/modeling as part of the main drawing strategy is still highly prominent. It is intriguing that one of the most used informal learning strategies and means of assistance in the world, observed by researchers among native Indians in South America, as well as between mother and child in Los Angeles (Greenfield, 1984; Scribner & Cole, 1972), is categorized as damaging.

The results of this inquiry also reveal that modeling as a drawing strategy is a substantial part of the informal drawing arena, and that the children express notions of shame when admitting that they use this drawing strategy. To me, this is alarming, and it is in its place to ask: Can this expressed shame be traced back to The Modernist Narrative?

Another interesting aspect of The Modernist Narrative is the appreciation of nature or the natural, the genuine, the original, and the primitive, which is expressed, for example, by copying/modeling African art as the icon and representative of Modernism in painting, Pablo Picasso did. African expressions, similes, or forms most likely made in a semi-VC drawing process can be seen in his famous painting *The ladies from Avignon* (Picasso, 1907, found in The Museum of Modern Art in New York, MoMa).⁴⁰ When using the VC process, modernists can use such modernist expressions as models – the model does not have to be naturalistic, it can mean making similes in VC or semi-VC drawing processes that are “modern art”, as the girls in the 5th grade at Vega did, (see *The Vega files*, Imgp. 1669, 1670, 1671, 1672, 1688). In this way Picasso also used informal teaching/learning strategies applied by the so-called “primitive” or “natural” people.

I interpret Lowenfeld’s text quoted above as being highly authoritative, and as a consequence modeling as a drawing strategy and as a means of assistance in the formal and informal teaching/learning arena is in a sense made invisible within this discourse. This prevalent feature is unique for the pedagogy of the visual arts. In the pedagogical field of music, dance, and drama the balance between the joy of learning to master and interpret what has been made by others together with others, and the open space for creating new expressions is seen as a natural approach to nurture quality in expression. Acknowledging VC drawing processes does not mean underestimating or suppressing other drawing processes; the narrative drawing process, the imaginative drawing process, or the memory-based drawing process, all important parts of the joy of developing visual aesthetic expression. On the contrary, VC

40. Another likely modernist VC process can be seen at MoMa; Pablo Picasso’s *Ma jolie* (1911-12) and George Braque’s *Man with Guitar* (1911-12) (Gariff, 2008: 156-157).

drawing strengthens these often creative pictorial expressions, as thoroughly documented by Pedersen (1999) and as seen in Illustration 11 (page 179, Chapter 3). The concept of creativity is essential in Lowenfeld's writings, his understanding of the concept being the space where new expressions and continuous explorations can flourish (Lowenfeld & Brittain, 1979: 55-72). But it is set up against the reproductive aspect of learning to make a simile that Lowenfeld advocates for a break with informal learning practices. This voluntary informal model-based learning practice, as seen in the informal case of VC drawing is more in line with the history of learning by modeling within visual art, as seen in the formal case, and in contemporary teaching/learning practices in other aesthetic fields, such as in music and drama.

The issue of creativity

As mentioned above, it is not difficult to agree with Lowenfeld that art and crafts as a subject can give students the possibility to develop their abilities to be creative, and to make new expressions or products (as other school subjects can). But his polarization of some of the main features of visually controlled drawing against other drawing "drives", such as narratives and memory/scheme drawing, is expressed in the quotation below. Lowenfeld is here referring to an unpublished doctoral dissertation written by Russell and Waugaman (1952-1954):⁴¹

Research has experimentally proven that such imitative methods have a detrimental effect on the child's creativeness. (Lowenfeld, 1947/1957: 16)

Here, Lowenfeld bases his assumptions (referring to the use of drawing after each other and the use of drawing/paint/coloring books) on an unpublished dissertation (Russell & Waugaman, 1952) that builds upon a close to experimental research approach, executed in a formal arena in the early fifties. Unlike this inquiry, drawings made spontaneously in natural informal contexts were not the starting point for the inquiry, and looking for the insider's perspective and for context by interviewing the children was not one of the research goals. When reading Russell and Waugaman's (1952) research and results from the early fifties, I see the publishing of these results in context, as a protest against using simplified stick pictures of the human figure, houses, birds (the example used by Lowenfeld), animals ect. as models to copy in reading- and arithmetic- exercise-books (in my opinion, these models are underestimating the children - and can not be compared to what is found in coloring books on the informal arena today). The results can be explained by the children's response and

41. In the Danish 1979 version of *Creativity and mental growth* it is found in the reference list as an article, see Russell and Waugaman (1952).

understanding of what is expected of them in context on a formal (and often very strict) arena at the time, and can not be used as proof of modeling being of universal damage to children's drawing development in art teachers' training at all times. King (1991) has examined Lowenfeld's basic arguments and academic sources for seeing coloring books as detrimental (including a review of Russell & Waugaman, 1952), and on the contrary, strongly suggests that coloring books today can be seen as useful teaching tools that can learn children art appreciation.

Lowenfeld (1957/1975/1979) also refers to his doctoral student Heilman's (1954) dissertation found as article (see Heilman, 1954). This article is of such poor academic quality, it is hard to take this text presented as research, seriously. There is not one theoretical reference - and I would disagree with his conclusion - the drawing shown to be made after working with a coloring book found on the informal arena is much richer in details than the "untouched" drawing shown. These are the two sources from the fifties Lowenfeld has to support his view on copying (*herme*), modeling (*imitative methods* is his expression) and the use of drawing strategies related to cooperative drawing as means of assistance found in coloring books, as harmful.

But the fact that these studies from the early fifties are referred to in the Danish version of *Creativity and mental growth* (Lowenfeld & Brittain, 1979, a translation of the American 6th edition from 1975) is surprising. Lowenfeld polarizes drawing according to models against creative drawing processes, and unfortunately this view on drawing according to models is still prevalent as part of The Modernist Narrative or discourse (Wilson & Wilson, 1977; Wilson, 1985; Wilson, 2007), and in my opinion still undermines art-education practices. Lowenfeld's most extreme utterances on model drawing have been moderated somewhat over the years. This development is seen from the American/English version from 1947/1957 to the Danish version from 1979. The Danish version was used in Norwegian teachers' training up until the mid nineteen-nineties (Nielsen, 2000). But the essence of his ideas, the derogatory depiction of modeling contrasted with the concept of creativity, are in my opinion, still prevalent within the Norwegian public compulsory school system today.

By looking closely at sociocultural definitions of creativity (Vygotskij, 1995) and exemplifying this term in practice (see Illustration 9a, page 165 and Illustration 11, page 179), as is done in this inquiry, the common-sense use of the term creativity as "untouched" artistic practice (with as few recognizable visual-reference features as possible) can be challenged. The common-sense concept of creativity is, in my opinion, unfortunately often misused, worn

out and watered down so that it has no real content. The concept of creativity can be explained and understood by using theoretical definitions closely linked to documented processes and practices.

The theory/practice exercise of documenting and defining creative practices has also been undertaken by Lindström (2006). Seven criteria for evaluating creative performance were developed by Lindström and his team for Sweden's National Agency of Education in 1998. One of these is the ability to use models, or when, and I quote: "the student actively searches out models to emulate" (criterion 6: Lindström, 2006: 56), which would include the ability to use models and elaborate on them by for example, making new combinations and recombinations of the models. In a drawing practice the models must then be part of a repertoire, either as internalized observations or as wanted objects (2D or 3D) to draw. Modeling in drawing (in both senses), as the teacher in the formal case teaches, is then one of the prerequisites for creativity.

Vygotsky (Vygotskij, 1995: 11-13) sees human actions as two fundamental activities, the reproducing and creative or combining/recombining activities (see Chapter 2, sociocultural theory on creativity, page 23). Reproduction is a condition for the ability to create new artifacts, the new artifacts being rooted in elements of the previously reproduced. The more previous experiences, here, for example, a wide repertoire of internalized similes (or the ability to make similes), the more significant and productive the creative actions, here, drawing expressions, will be (Vygotskij, 1995: 20). The combinations and recombinations (combinations in process) are well documented in the data, but being in an informal drawing genre related to line drawing often associated with visual popular culture aimed at children in form and content, the creative processes can easily be overlooked, as in Nataly's development of figures in 5IDFo. (*The Vega files*), or as seen in Illustrations 12a, 13a and 14.

Michl (2001: 12) introduces the concept of redesign and advocates the use of the term for covering what we usually would call design processes in the professional world of product development and product making. He argues that we always build on others' inventions and contributions, that this is a feature in all trades, and that by using the term "redesign", the contributions of others to creations or design products are acknowledged. And, most important in relation to the formal and informal cases of VC drawing teaching/learning, he concludes with the consequences of this insight: it is important to encourage the will and motivation to learn from others, without feeling that you are ruining your artistic integrity. If the contributions of others are acknowledged (or the fact that the designs of others have been

modeled or partly modeled in VC or semi-VC processes), we are more in control of the work being done and of our own combinations and recombinations in the making of new creations.

The “tweens’”⁴² perspective

One of the sources of modeling used by the children in the informal arena are models from popular culture. The informal drawing strategies often involve making similes with figures from popular culture as models, such as the W.I.T.C.H. figures, Donald Duck and Diddls. Roughly, the analysis reveals that there is some coherence between modeling (in both senses, modeling objects or images and modeling drawing behavior) as an informal children-initiated drawing strategy and means of assistance, and the formal means of assistance modeling. This is part of my findings. Having a good description of the diversity of informal children-initiated drawing strategies and the diversity of formal means of assistance not only describes the two cases, but also describes the similarities and differences in this coherence across comparative dimensions. This similarity across comparative dimensions is especially interesting; one being children-initiated - the other being part of formal teaching, if the child’s/young person’s perspective is valued.

In their book *Researching Children’s Popular Culture*, Mitchell and Reid-Walsh (2002: 13-45) refer to how adults have a tendency to either trivialize or neglect the children’s relations to and involvement in popular culture or, on the other hand, to make the children’s popular culture a damaging risk zone (comparing it with junk food) without really inquiring about what this popular culture world means to the children.

When interviewing the children while redrawing, I experienced, as other researchers have before me (Sørenssen, 2008), how positively surprised these nine- to twelve-year olds, or the tweens, were when my interest was focused on their world of informal simile-making. And as the results show, the layers of informal drawing reveal that making a simile is not necessarily only about learning to make a simile. The data strongly suggest that these learning VC drawing processes are motivated by the will to express togetherness, friendship, social alliances, family relations, and common interests in various forms.

42. “Tweens” is the word used for in-between-childhood-and-teenager age-group, eight to twelve, by toy producers and marketers (Sørenssen, 2008).

Marxism on art as objectification

I can not overlook the tendency to use 2D models from popular culture in the informal VC drawing case without reflections on this model reference as being part of big business in a capitalist society, and I can not overlook the classical “old-fashioned” bourgeois content of the formal VC still-life drawing, especially when Vygotsky is one of my main theoretical references. His theory is based on Marxist perspectives (dialectical-historical materialism, Cole and Scribner in the introduction to “Mind in Society” Vygotsky, 1978: 6-8, and Vygotsky 1978: 94, 120, 123; Postholm, 2005: 20) with an understanding of human consciousness as growing out of the socio-economic and material conditions in society.⁴³

Duarte (2006) discusses the dichotomization between reproduction and creativity in the field of psychology of education (with reference to Rousseau and Piaget among others) and quotes Marx (1992) when he argues that the arts (such as a drawing) are the objectification of human subjective sensitivity. As Marx’s “Early Writings” from 1992 are not available, I quote the same passage from the 1975 edition of Marx’s “Early writings”:

Only through the objectively unfolded wealth of human nature can the wealth of subjective *human* sensitivity – a musical ear, an eye for the beauty of form, in short, *senses* capable of human gratification – be either cultivated or created. For not only the five senses, but also the so-called spiritual senses, the practical senses (will, love etc.), in a word, the *human* sense, the humanity of senses – all these come into being only through the existence of *their* objects, through *humanized* nature. The *cultivation* of the five senses is the work of all previous history. (Marx, 1975: 353)

Marx claims that the school system reproduces capitalism (in values, ideals, socio-economic structures, the need for skills and knowledge and so on) and bearing this in mind, schooling under capitalism also has an alienating nature for most people; as part of the superstructure, it alienates and suppresses the majority of the people who do not own the means of production or the wealth created by the majority (Marx, 1975). Popular culture represented by Disney figures and bourgeois drawing themes represented in traditional still-life drawings can be seen as part of this same superstructure or cultural hegemony (Gramsci, 1978). Hence, the content of art education knowledge is on the one hand the objectification of human sensitivity or humanized nature, according to Marx (1975), while on the other hand it is part of the oppression machinery under capitalism, in the formal as well as the informal arena, according to Gramsci (building on Marx, Gramsci, 1978).

⁴³Human consciousness can also change these conditions (Marx, 1975).

To understand the necessity of the reproduction of knowledge and skills passed on as cultural treasures from one generation to the next through an education system, Duarte (2006) argues that it is important to understand the dialectical processes here,⁴⁴ that is fruitful oppositions merging and generating new knowledge according to new needs, between objectification and appropriation (the making and adjustment) in social history. He points out that schooling then also reproduces the contradictions of the capitalist society, challenging human creativity, as the evolution of human societies has shown historically. Duarte (2006) echoes Vygotsky, (Vygotskij, 1995) as he claims that historically produced knowledge reproduced in the school system can contribute, form and develop creativity:

Paradoxical as it may sound, if the richness of human subjectivity is formed by means of appropriation of the richness objectified in human works, then even creativity is formed and develops in human beings by means of reproduction of the creativity historically developed by humans. There does not exist, therefore, a conflict between the reproduction of historically produced knowledge and the valorization of creativity and of intellectual and moral individual autonomy inside the educative process. (Duarte, 2006: 219)

In other words, it is from the reproduced, also developed in a creative historical process, that the ability to combine and recombine and create new art, knowledge, and technology, according to new human need, has to arise. To conclude, reproducing fixed or objectified human activity such as contemporary cartoon-inspired line drawings or working with the still-life tradition, and learning to reproduce or make similes, are skills with their own value as objectified human sensitivity that will also prepare the way and will be used for new future creative expressions, according to Marx (1975), Vygotsky (Vygotskij, 1995), and Duarte (2006). To allow and encourage recombination processes in an open, accepting atmosphere, as the exemplary teacher does in the assignment “Fall poem” when teaching (see Illustration 9a, page 165), can be one way of securing this recombining playfulness in VC drawing in the formal arena.

Another relevant Marxist-oriented educator, the Brazilian professor in education Paulo Freire, advocates that we must overcome the feeling students have of being voiceless in the formal school system (this notion is closely related to Marx’s concept of alienation), by empowering them. One way to do this, according to Freire, is to find contexts that blur the distinction between high culture and popular culture in education (Freire & Giroux, 1989: xii). Related to my study, this would mean to blur the distinction between formal and informal VC drawing. Merging the findings from the formal and informal VC drawing cases in meaningful, new, possible approaches, trying out different combinations of the seven comparative

44. The thesis and antithesis becoming synthesis, by Hegel (Houlgate, 1998).

dimensions as they are described in the formal and informal cases, would be a possible starting point for this “blurring”. Practice and researcher-teacher-student involvement can help determine what works in formal VC drawing teaching. These possible approaches are interesting to look at in relation to Kindler and Darras (1997) *Map of artistic development*.

Initial imagery and the drawing crisis

Kindler and Darras (1997: 34 – 37, their theoretical contribution is thoroughly explained in Chapter 2, page 41), maintain in their ground-breaking article *Map of artistic development* that initial imagery is a phenomenon often (but not always) occurring somewhere in the middle of childhood where the development of pictorial imagery stops without additional stimulation focused on learning. Initial imagery is when a person stops developing a drawing repertoire and has the basic and sufficient pictorial language to be largely a recipient rather than an initiator of visual expression. Initial imagery can also be described as the stagnation of drawing activity; the drawing crisis. Will we find the phenomenon initial imagery if we consider informal VC drawing as teaching/learning?

VC and semi-VC drawings are informally made with the drawing strategies modeling/copying, tracing and pouncing and by the informal teaching means of assistance modeling (in both senses). Kindler and Darras (1997: 38, see Chapter 2, Figure 4, page 43) use the term “self-learning”⁴⁵ when describing initial imagery. Informal VC-drawing strategies can be seen as “self-learning”, according to Kindler and Darras (1997). Informal VC drawing can qualify as self-learning, even though this can be disputed; the competence and activity of others lies in the chosen 3D and 2D models, and copying drawing behavior happens in social space. If we consider the various informal drawing strategies *and* means of assistance (informal teaching) as valid ways of learning to make an accurate simile, this drawing process does not have to stop, or freeze, if the challenges are there in the models young people want to learn to depict.

There will be development as long as the adolescent learns to make new similes and acquires a larger repertoire of internalized similes. The drawing crisis can be explained as a crisis because children becoming adolescents do not want to continue to draw as children. In a formal educational sphere this often means memory drawing. Memory drawing has value as visual expression, but if the informal VC drawing “urge” in children from kindergarten through primary school is neglected (at best) or looked down upon (at worst) this can be a

45.A difficult term in a sociocultural understanding.

serious matter because there is no formal modeling teaching/learning practice to build on to continue to learn to draw. Bearing in mind the informal goal standards we find that the nine- to twelve-year-olds can have in this study, nice drawings look real (Illustration 10) or are “look-alikes” (Illustration 11), the mastering of VC drawing is an important part of what is regarded as having the skills to draw.

Even though being a very thorough and elaborated map of artistic development, with the inclusion of an up-to-date and wide range of aspects of artistic development (visual, historical, digital, sociocultural - as well as biological/developmental) the reproduction and combination/recombination process (Vygotskij, 1995) is not easy to detect in Kindler and Darras’s (1997) map. The informal socio-visual teaching/learning aspect is not incorporated as a teaching/learning, image-making driving force, as shown in Illustrations 16a and 16b, and as seen in the informal case illustrations. This is an essential part of picture making.

In my opinion, initial imagery can also not be seen as an expressed and stagnated graphic level of drawing. What looks like initial imagery can be an internalized observation of a memory drawing made by others and learned from others by the informal drawing strategy modeling or given as informal means of assistance. The term initial imagery and the term “self-learned” need clarification. In a specific social context a drawing can be an initial image, but can still be a simile for another child to strive for and learn from by modeling. This informal learning process of making a simile that can be interpreted as an initial image is also strongly suggested in Wilson and Wilson’s (1982b) article *The case of the disappearing two-eyed profile*.

Is it important to depict?

If we assume that the visual sense is dominant in our Western culture and therefore is of great importance, as Avgerinou and Ericson (1997) strongly suggest in their article *A review of the concept of visual literacy*, the ability to communicate through images would include the ability to draw (Nielsen, 2000). Drawing in the nine-to-twelve age-group involves the making of symbols; giving a sign the role of representing. Drawing is, according to Vygotsky, (1978) about conceptualizing a symbol as representative of something else; as configurational signs (Wilson & Wilson, 1977) on paper symbolizing real objects or phenomena to be expressed. It is what Vygotsky (1978) characterizes as the making and the using of second-order systems (other systems are, for example, the alphabet, notes in music and numbers). The use of second-order systems is what distinguishes us as humans, according to Vygotsky (1978).

But is it important to be good at this specific second-order system – the making of VC drawings? Wilson and Wilson (1980: 277) argue that drawing is delineation of the possible (biologically, culturally, personally, and skill-wise). The goal of those who make similes or VC drawings, is to make the sign correspond to the perceived “real” world more than any other sign systems. As similes have such a low level of abstraction, this can often make them more readable and comprehensible. As a second-order system similes communicate more easily than other second-order systems. As we can see in Illustration 11 (page 179), this high level of correspondence with the “real” world can still informally be used to communicate on multiple levels, as Ernst does when showing Bush as Donald Duck’s murderer, or as in the informal making of the same VC or semi-VC drawings, modeling each other to express the informal togetherness or the “we”; the suggested underlying informal goal, as interpreted in, for example, Illustrations 15, 16a, 16b and 17.

As Nielsen (2000: 150) reveals in her study, young people express a genuine wish to learn more about how to draw (her study is especially focused on children’s spatial representation), and that these desired skills are not always given to them in Norwegian schools, even though the Norwegian national curriculum⁴⁶ has art and crafts as a major compulsory subject in public school, including VC drawing. She concludes her study by saying that being understood visually and understanding visual representation are part of the overarching democratic project. The democratic project is to develop young people into participating members of society who contribute by visually expressing themselves and by understanding others’ visual expressions. I see VC drawing as an activity and second-order system that belongs in this overarching democratic project identified by Nielsen – to make visible, express, represent, contribute, develop, and understand. Good examples of VC drawing teaching and seeing the nine- to twelve-year-olds’ world of informal VC drawing learning activities in relation to the formal arena of drawing could contribute to the expressed need for drawing teaching referred to by children in Nielsen’s (2000) inquiry.

Conclusions

The study reveals how important it is for the children/young persons to make a simile “look-alike” or “look real”, and that a substantial VC drawing activity is taking place informally. There are strong indications in the study to support a minimum of 50% informal VC- (and semi-VC) drawing activity. Why do we not work more with these tasks in the formal arena and

46. At the time L97 and now LK06

why is the informal VC drawing tendency often overlooked? The analysis and the comparison show that the informal VC drawing goals (to make it look real/look-alike and to express a “we”) and the informal drawing strategy modeling to some extent overlap the formal VC drawing goals (making a look-alike and learning to see) and the means of assistance modeling given when conducting an exemplary VC-drawing teaching practice. The core of the drawing classes can at best be seen as meeting the children to a certain extent “at home”, so to speak; taking one of the nine- to twelve-year-olds’ VC-drawing goals seriously. As an art-education teacher I see the formal case in light of the informal case (not vice versa) because this enables me to shed light on VC drawing as a phenomenon and possibly develop the formal VC-drawing teaching arena.

Transferability: Recommendations for VC-drawing development

By recommending a transfer of contextually bounded processes from the informal case to the formal case, reinforcing similarities and including differences, the question should be asked, can this and should this be done? (Freedman, 1997). As the illustrations show, transfers go both ways, from the formal to the informal and from the informal to the formal. Art-education teachers can use the description of the informal case for bridging purposes (Wilson & Gudmundsdottir, 1987). Possible consequences of the results of these descriptions and this comparison for the field of art education could be to re-new visually controlled drawing in the formal arena by combining or merging formal and informal elements of VC-drawing processes. Greeno (1989, see Chapter 2, page 35) points out the importance of recognition as a strategy for activating the transfer of skills and knowledge between arenas. Modeling as a means of assistance and as a drawing strategy can be seen as a recognizable link for agents moving between formal and informal learning, as suggested by Greeno. Combinations of core aspects of formal and informal VC drawing found in this inquiry, aimed at the formal arena, could be to:

- A) Consider the children’s informal goals when they are given assignments in school (the look-alike criterion) by giving drawing assignments using models and modeling – that is visually or semi-visually controlled drawing.
- B) Consider using the informal drawing-strategies sequence or construction and line drawing, also involving the use of 2D models, and merge the use of the wildfire effect into formal teaching.

- C) Consider using cooperative drawing as a means of assistance together with verbal instructions while checking/seeking for visual intersubjectivity to control frustration.
- D) Arrange the social situation so that the teacher can reach each student in their individual ZPDs with a dialogue of this quality (see C). This requires the social arrangement of small groups (8-13 students) as in the described exemplary VC-drawing classes.
- E) Consider working with internalized observation as a formal goal.
- F) Inquire about the various needs (and wishes) the students have about *what* they feel as useful, meaningful and fun to learn to draw and internalize.
- G) Consider, acknowledge, value and use the social aspect of formal and informal VC and semi-VC drawing. To use the collective aspect of drawing and let it spread like wildfire by, for example, arranging the groups so that a more competent student who has internalized a simile can teach the others by being a model for them.
- H) Encourage creativity by challenging the students to experiment with various combinations and recombinations, as seen in the exemplary formal case of VC drawing.
- I) Work with the concept of drawing genres in public school at this level.

In this inquiry I have presented some strategies used by the children that have been more or less banned in the art-education world. This study does not reveal new strategies “out of the blue” but through my research I justify and give scientific support for “legalizing” certain strategies in a school context, in contrast to The Modernist Narrative. I reinforce the children’s own drawing strategies by discussing how these could be combined with some of the teacher’s strategies that can possibly work well in drawing-teaching practice.

The results of the inquiry can be used to justify the existence and the further exploration of VC drawing in compulsory public school. As a researcher in the field of art education, grounded in the findings of this inquiry, I see the need to develop VC-drawing teaching devices and VC-drawing courses for teachers in close cooperation with the field of practice, using an action research approach (Postholm, 2007; Postholm & Moen, 2009) involving art-education teachers and students in the nine-to-twelve age-group as participants to help define and develop practices of meaningful VC drawing teaching. There are tremendous possibilities for various combinations to be tried in art education. But the core issue is to take the children’s perspective as users of VC-drawing teaching/learning processes seriously on the

formal level. Practice will determine if this inquiry can be part of debunking the myth about VC drawing; the debunking process first initiated by Wilson and Wilson (1977; 1980).

Further studies

Introduction

Bringing this inquiry to a close, I will finish by sketching possible and relevant further studies as follow-ups, such as VC drawing on computers, VC drawing in other subjects and VC-drawing processes in the early years of life. The digital drawing database (*The Vega files*) also provides more information about drawing as traces of human depiction seen as sociocultural artifacts. These possible paths for further studies will be commented on as areas for future research.

VC drawing or internalized observations as digital drawing

This study is limited to the drawings made in the pencil and paper media. Today children learn to draw (especially to play with colors) through computer programs as, for example, with the drawing program Microsoft Paint, and this activity begins already in kindergarten. More and more contemporary nine- to twelve-year-olds are socialized into using these drawing/coloring programs. A whole new world of possibilities for making form, (by spraying, printing, stamping) and reproducing wanted forms has come to life. How are these media used as drawing devices and how is VC drawing represented in this media? (See Figure 79 below). What are the similarities and differences comparing the pencil/paper and digital software media? Are the same goals found here, and does technology meet some of children's demands when it comes to making look-alikes? How can this media be used in VC-drawing teaching?



Figure 79: From upper left, a VC drawing of a cat sleeping in a chair (made twice), a computer-drawing of a cat, and internalized observations of cats, made by Eirin, 10 years⁴⁷

VC drawing among three- to six-year-olds

This study should be transposed to cover three- to six-year-olds to detect their use of VC and semi-VC drawing, formally and informally. At this age the skill of form-making seems to develop fast (Arnheim, 1974; Kellogg, 1970; Matthews, 1984; 2004). Thompson (2002) and Frisch (2006) have undertaken studies in this age-group with a special focus on the socio-visual aspects of drawing processes, but no one has yet to systematically compile a formal and informal drawing database and undertake observations for comparative purposes. The extent to which and how VC and semi-VC drawing activity is undertaken by the children in this age-group, formally and informally, should be explored. Daycare children today work with projects or themes over long periods of time, and the depiction of objects such as plants and animals in a seeing-drawing process is often part of the projects (Davoli & Ferri, 2000; Frisch, 2006; Rodin, 1998; 1999; 2000, among others), so VC drawing can be found in daycare centres as a formal activity. Daycare is also the arena for spontaneous informal drawing

47. Eirin is a neighbor, her drawings were made in 2009 - and they were not made on my request. She is not one of the participants from 2004/2005 so her drawings are not found in the drawing database. These drawings are used as illustrations of the potential a computer/mouse made drawing has with today's commonly accessible software, compared to pencil/pen-and-paper drawings made by the same child.

processes, and therefore it is much easier to obtain data based on observation from this age-group (then omitting the redrawings and possibly the semi-structured interviews as part of the method). I assume we would be surprised by how, why, and to what extent VC-drawing activity is manifested informally in this age-group. It would also be valuable to document, describe, and analyze formal exemplary VC-drawing teaching adjusted to meet this age-group.

Assessment in VC drawing

In Norway formal assessment in art and crafts as a school subject starts at the age of 13 (or 8th grade). The inquiry reveals that informally the children assess each other and themselves - using the model to compare the results to the seen. To use assessment as a comparative dimension among 13-16 year olds and investigate the quality and the essence of the formal and informal arena of VC drawing assessment practices would be a useful and interesting investigation. Negative assessment also being referred to as part of The Modernist Narrative; as the reason for the so-called drawing crisis (Lowenfeld & Brittain, 1979).

VC drawing in other school subjects

Teachers in school subjects such as biology, geography, and history have traditionally got students to draw the inside of an ear, a study of a flower, flags, old costumes, and tools as a formal learning activity. Is this kind of VC-drawing activity still in use? And if so, why? What goal are teachers aiming for when using VC drawing as an activity in these subjects? Does VC drawing help to internalize and understand? And if in use, how is this activity experienced by the students?

Comparing teaching/learning processes within aesthetics

Bearing Anne Bamford's global inquiry in mind, which resulted in the UNESCO report *The Wow Factor* (2006), and which concluded with the importance of the aesthetics for learning in general, it would be interesting to look at the seven comparative dimensions found here and use them (or some of them - and develop new ones) in a comparative study, now looking at for example cases of music, dance, drama, literature, and art as education in compulsory public school. Where are the teaching/learning processes similar and where do they differ? Where can we learn from each other?

The sociocultural drawing database and the nature/culture issue

Human activity as a symbiosis of nature and culture, reciprocally influencing each other, and the dichotomization between these, is always an intriguing and interesting field of research in education, including art education (Andersson, 1995). This symbiosis of nature and culture is mirrored in Vygotsky's (1978) concept of zone of proximal development, or zone of proximal learning then and there (underlining that there are cultural and biological boundaries at any given time), *but with the potential for evolving* to new zones of actual development. Sweeping through the database there are possible signs of age differences (and gender differences), but to a much lesser degree than what should be anticipated with reference to developmental theory (Lowenfeld & Brittain, 1979; Golomb, 1992). The bounded activity of VC drawing, working with 2D or 3D models, erases some of the so-called developmental traces, such as the bird's eye view and x-ray drawing found in the (most likely) memory drawings in the drawing database (*The Vega files*, see keyword "not_used"; good examples are Imgp. 1658 and Imgp 1516). The difference over a three-year age span with respect to maturity in reading and writing skills is referred to in education and teacher's training (developmental psychology) as being within the expected (Evenshaug & Hallen, 1981; Haug, 1991). Bearing this in mind, the lack of visible age-related traces in VC drawing among nine- to twelve-year-olds can be explained. Exploring around VC drawing as traces of the symbiosis of mind, body, and world is a principle, fundamental, and theoretically interesting task. Recent studies have been carried out in Korea relating to the development of spatial representation in the 2D modeled Manga⁴⁸ (in Korean Manwha) cartoon drawings (Kim, 2004). But there are still unexplored cultural and developmental aspects of VC drawing of 3D models.

For this study, the drawing database is mainly relevant for the documentation of the informal categories VC drawing and semi-VC drawing (see *The Vega files*), and the exhibition of the results of exemplary VC-drawing teaching. The drawing database together with the other sources of data, is part of the research project as a reference, for transparency and credibility. But there is more to be found. The database together with the observations, redrawings, and semi-structured interviews has yet to be explored fully; there is a need to inquire more about the merging of social interactions and the making of visual traces, formally and informally.

48. Now becoming popular on the informal arena in Norway as well (see for example the *Manga Pack* and *Manga. Tegnekursus [Manga. Drawing course]*, Toriyama & Sakuma, 2003).

Further studies could be made into the coding of descriptive keywords under each still-life, and the quality of the traces and the occurrence of cooperative drawing could be explored. What is worked on in the formal arena within the students' ZPDs in this age-group? This could give valuable information for teacher training. The gender issue is also an interesting and important aspect of drawing, and this emphasis should be explored further using the drawing database. So does the issue of individual interpretation within the bounded activity of VC drawing. For now, it has been a challenge *not* to elaborate further on the drawing database and "waste" time on issues outside or parallel to the research questions for this comparative inquiry, where the comparison has guided the case study within the framework of a qualitative research approach.

References

- Adler, P. A., & Adler, P. (1994). Observational techniques. In N. K. Denzin & Y. S. Lincoln (eds.), *Handbook of qualitative research* (pp. 377-392) (first edition). Thousand Oaks, CA: Sage Publications Inc.
- Alvesson, M. (2002). *Postmodernism and social research*. Buckingham: Open University Press.
- Alvesson, M., & Sköldbberg, K. (2000). *Reflexive methodology - new vistas for qualitative research*. London: Sage Publications.
- Andersen, S. (1997). *Case-studier og generalisering - forskningsstrategi og design [Case studies and generalizing – research strategies and designs]*. Bergen: Fagbokforlaget.
- Andersson, G. (1998). Barnintervju som forskningsmetode [Interviewing children as a research method]. *Nordisk Psykologi*, 50(1), 18-41.
- Andersson, S. (1995). Projection systems and X-ray strategies in children's drawings: A comparative study in three cultures. *British Journal of Educational Psychology*, 65, 455-464.
- Andreassen, H. J. (1961). *Debatten om tegneundervisningen [The debate around drawing teaching]*. Oslo: Cappelen.
- Angrosino, M. V. (2005). Recontextualizing observation. Ethnography, pedagogy and the prospects for a progressive political agenda. In N. K. Denzin & Y. S. Lincoln (eds.), *The Sage handbook of qualitative research* (pp. 729-745) (third edition, - revised edition of Handbook of qualitative research, second edition from 2000). Thousand Oaks, CA: Sage Publications.
- Anning, A. (1999). Learning to draw and drawing to learn. *The International Journal of Art & Design Education*, , 18(2), 163-172.
- Arcambault, M. (2009). *Figure drawing from memory* [Educational DVD]. Also found on the internet as podcast the 20th of October 2009 at: <http://www.drawing-tutorials-online.com/public/463.cfm>

- Arnheim, R. (1974). *Art and visual perception. The psychology of the creative eye. The new version*. Berkeley, CA: University of California Press. (First published in 1954).
- Atkinson, D. (1991). How children use drawing. *The Journal of Art and Design Education*, 10(1), 57-72.
- Aukrust, V. G. (1997). Om Bruners forfatterskap - rekonstruksjon av en konstruktivist. Introduksjon til den norske utgaven [The history of Bruner's works - a reconstruction of a constructivist. Introduction to the Norwegian version of Bruner (1996)]. In *Utdanningskultur og læring* [The Norwegian version of *The culture of education*]. Oslo: Ad Notam Gyldendal.
- Avgerinou, M., & Ericson, J. (1997). A review of the concept of visual literacy. *The British Journal of Educational Technology*, 28(4), 280-291.
- Baca, J. C., & Braden, R. A. (1990). The Delphi study: A proposed method for resolving visual literacy uncertainties. In R. A. Braden, D. G. Beauchamp & J. C. Baca (eds.), *Perceptions of visual literacy* (pp. 99-106). Arkansas: IVLA Inc.
- Bakhtin, M. M. (1981). *The dialogic imagination*. Austin, TX: University of Texas Press.
- Bakhtin, M. M. (1986). *Speech genres and other late essays*. Austin, TX: University of Texas Press.
- Bamford, A. (2006). *The Wow Factor*. New York: Waxmann Verlag.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Becker, H. S. (1996). The epistemology of qualitative research. In R. Jessor, A. Colby, & R. A. Shweder (eds.), *Ethnography and human development* (pp. 53-72). Chicago: University of Chicago Press.
- Becker, H. S. (1998). *Tricks of the trade. How to think about your research while you're doing it*. Chicago: The University of Chicago Press.
- Bennett, W. J. (1986). Secretary Bennett's response to evaluations of his teaching. *Teaching and Teacher Education*, 2(4), 333-335.
- Berulfsen, B., & Gundersen, D. (2001). *Fremmedord og synonymer - blå ordbok* [Book of synonyms]. Oslo: Kunnskapsforlaget.

- Bjerk, H. (1999). *Vega, experience the stone age island*. Norway: Xpresstrykk AS.
- Blair, M. E., & Blair, L. (1986). *Margaret Tafoya. A Tewa potter's heritage and legacy*. West Chester, PA: Schiffer Publishing.
- Brenner, M. (1981). Patterns of social structure in the research interview. In M. Brenner (ed.), *Social method and social life* (pp. 115-158). London: Academic Press Inc..
- Briggs, C. (1986). *Learning how to ask. A sociolinguistic appraisal of the role of the interview in social science research*. Cambridge, UK: Cambridge University Press.
- Bruner, J. (1966). On cognitive growth. In J. S. Bruner, R. R. Olver & P. M. Greenfield (eds.), *Studies in cognitive growth* (pp. 1-29). New York: Wiley.
- Bruner, J. (1996). *The culture of education*. Cambridge, MA: Harvard University Press.
- Bruner, J. (1997). *Utdanningskultur og læring* [the Norwegian version of Bruner (1996), see above]. Oslo: Ad Notam Gyldendal.
- Bryson, N. (1990). *Looking at the overlooked: Four essays on still life painting*. London: Reaktion Books Ltd..
- Buber, M. (1967). *The knowledge of man*. London: George Allen & Unwin LTD.
- Cazden, C. B., & John, V. P. (1971). Learning in American Indian children. In M. L. Wax, S. Diamond & F. O. Gearing (eds.), *Anthropological perspectives on education* (pp. 253-269). New York: Basic Books.
- Chapman, L. (1978). *Approaches to art education*. New York: Harcourt Brace Jovanovich.
- Chen, M. J. (1985). Young children's representational drawings of solid objects: A comparison of drawing and copying. In N. H. Freeman & M. V. Cox (eds.), *Visual order. The nature and development of pictorial representation* (pp. 157-175). Cambridge, UK: Cambridge University Press.
- Ching, F. D. K. (1998). *Design drawing*. New York: John Wiley & Sons.
- Ching, F. D. K. (2006). *Tegning [Drawing]*. Oslo: Cappelen.(first published in English in 1990).

- Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: M.I.T. Press.
- Clement, R. (1992). The classroom reality of drawing. In D. Thistlewood (ed.), *Drawing research and development* (pp. 121-129). Harlow, Essex, UK: Longman Group UK Limited.
- Coates, A. (1984). Observation and drawing: A justification for their inclusion in the primary school curriculum. *The Journal of Art & Design Education*, 3(2), 191-202.
- Cohen, Y. A. (1971). The shaping of men's minds: Adaptions to imperatives of culture. In M. L. Wax, S. Diamond & F. O. Gearing (eds.), *Anthropological perspectives on education* (pp. 19-49). New York: Basic Books.
- Cole, M. (1996). *Cultural psychology: A once and a future discipline*. Cambridge, MA: The Belknap Press of Harvard University Press.
- Cooper, D. (2001). *Drawing and perceiving. Life drawing for students in architecture and design*. New York: John Wiley and sons, Inc..
- Creswell, J. (1998). *Qualitative inquiry and research design. Choosing among five traditions*. Thousand Oaks, CA: Sage Publications Inc..
- Csikszentmihalyi, M. (2002). *The flow: The classic work of how to achieve happiness*. London: Rider.
- Dahl, C. (2009). Hva ser vi egentlig? [What do we see, really?]. *Form* 4(43), 25.
- Danbolt, G. (1992). Kunstfag mellom taushet og begrep [The arts between silence and concept]. In *Kunstfag i lærerutdanningen* (pp. 20-36) [In *The arts in teachers' training*]. Oslo: Lærerutdanningsrådet.
- Daniels, H. (1996). Psychology in a social world. In H. Daniels (ed.) *An introduction to Vygotsky* (pp. 1-28). New York: Routledge.
- Darling-Hammond, L., & Youngs, P. (2002). Defining "highly qualified teachers": What does "scientific-based research" actually tell us?. *Educational Researcher*, 31(9), 13-25.
- Darling-Hammond, L., Chung, R., & Frelow, F. (2002). Variation in teacher preparation. How well do different pathways prepare teachers to teach? *Journal of Teacher Education*, 53(4), 286-302.

- Darras, B. (2000). Repertoires of imagery and production of visual signs: A semio-cognitive approach and case study. In L. Lindström (ed.), *The cultural context. Comparative studies in art education and children's drawing* (pp. 21-45). Stockholm: The Stockholm Institute of Education Press (HLS Förlag).
- Data. (2006). *Wikipedia*. Retrieved from the internet the 26th of October 2006 at . <http://en.wikipedia.org/wiki/Data>
- Davoli, M., & Ferri, G. (2000). *Reggio tutta, a guide to the city by the children*. Reggio Emilia: Reggio Children srl.
- Day, M., Eisner, E., Stake, R., Wilson, B., & Wilson, M. (1984). Secondary school art education in the Palo Alto unified school district. *Art history, art criticism, and art production. An examination of art education in selected school districts, volume II: Case studies of seven selected sites*. USA: The Rand Corporation.
- Delamont, S. (1986). Discussion: A view from a quadruple outsider. *Teaching and Teacher Education*, 2(4), 329-332.
- Denzin, N. D., & Lincoln, Y. S. (1994). Introduction. In N. D. Denzin & Y. S. Lincoln (eds.), *Handbook of qualitative research* (pp.1-28) (first edition). Thousand Oaks, CA: Sage Publications Inc.
- Denzin, N. D., & Lincoln, Y. S. (2005). Introduction. In N. D. Denzin & Y. S. Lincoln (eds.), *The Sage handbook of qualitative research* (pp. 21-24) (third edition, revised edition of Handbook of qualitative research, from 2000). Thousand Oaks, CA: Sage Publications Inc.
- Digranes, I. (2009). *Den kulturelle skulesekken. Narratives and myths of educational practice in DKS projects within the subject of art and crafts*. Ph.D. thesis. AHO. [The Oslo School of Architecture and Design]. Oslo: Unipub AS.
- Duarte, N. (2006). Education as mediation between the individual's everyday life and the historical construction of society and culture by humankind. In P. H. Sawchuk, N. Duarte & M. Elhammoumi (eds.), *Critical perspectives on activity. Explorations across education, work and everyday life* (pp. 211-237). Cambridge, MA: Cambridge University Press.
- Dubery, F., & Willats, J. (1972). *Drawing systems*. London: Studio Vista.
- Edwards, B. (1987). *Å tegne er å se* [The Norwegian version of Edwards' *Drawing on the right side of the brain*]. Oslo: Grøndahl og søn A.S. (First published in 1979).

- Eisner, E. W. (1986). A secretary in the classroom. *Teaching and Teacher Education*, 2(4), 325-328.
- Eisner, E. W., & Day, M. D. (2004). *Handbook of research and policy in art education*. National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Eng, H. (1959). *Barnetegning [Children's drawing]*. Oslo: Cappelen. (First published in 1926, published in English in 1931).
- Engeström, Y. (2004). Collaborative concept formation at work. Unpublished paper presented at the *NERA conference 2004*, the 10th - 13th of March, Reykjavik, Iceland, p. 3.
- Engeström, Y., & Miettinen, R. (1999). Introduction. In Y. Engeström, R. Miettinen & R. Punamäki (eds.), *Perspectives on activity theory* (pp. 1-16). Cambridge, UK: Cambridge University Press.
- Erickson, F. (1986). Qualitative methods in research on teaching. In M. C. Wittrock (ed.), *Handbook of research on teaching* (pp. 119-161). New York: Macmillan.
- Eriksson, K. (1985). *Vårddidaktik [Subject content in teaching care/health professions]*. Stockholm: Almqvist & Wiksell.
- Evenshaug, O., & Hallen, D. (1981). *Barne- og ungdomspsykologi [Child and youth psychology]*. Oslo: Gyldendal Akademisk.
- Fact, (2006). *Wikipedia*. Retrieved from the internet the 26th of October 2006 at . <http://en.wikipedia.org/wiki/Fact>
- Fineberg, J. (1997). *The innocent eye. Children's art and the modern artist*. Princeton, NJ: Princeton University Press.
- Flem, A. (2000). Den inkluderende skole fra ideologi til praksis [The including school from theory to practice]. *Skriftserien klasseromsforskning, No. 8*. Trondheim: Tapir Akademisk Forlag.
- Flexner, I. (1993). *Random house unabridged dictionary. Second edition*. New York: Random House.

- Fontana, A., & Frey, J. H. (1998). Interviewing. The art of science. In (eds.) N. K. Denzin & Y. S. Lincoln, *Collecting and interpreting qualitative materials* (pp. 47-73). Thousand Oaks, CA: Sage Publications.
- Fontana, A., & Frey, J. H. (2000). The interview. From structured questions to negotiated text. In N. K. Denzin & Y. S. Lincoln, *Handbook of qualitative research* (pp. 645-672) (second edition). Thousand Oaks, CA: Sage Publications, Inc.
- Fontana, A., & Frey, J. H. (2005). The interview. From neutral stance to political involvement. In N. K. Denzin & Y. S. Lincoln, *The Sage handbook of qualitative research* (pp. 695-727) (third edition, revised edition of Handbook of qualitative research, from 2000). Thousand Oaks, CA: Sage Publications, Inc.
- Foucault, M. (1990). *The history of sexuality. Volume 1: An introduction*. New York: Random House, Inc. (First published in 1978).
- Frayling, C., Frayling, H., & van der Meer, R. (1992). *The art pack, a unique three-dimensional tour through the creation of art*. London: Ebury Press.
- Freedman, K. (1997). Artistic development and curriculum: Sociocultural learning considerations. In A. Kindler (ed.), *Child development in art* (pp. 95-106). Reston, VA: National Art Education Association.
- Freeman, N. H. (1980). *Strategies of representation in young children: Analysis of spatial skills and drawing processes*. San Francisco, CA: Academic Press.
- Freeman, N. H. (2004). Aesthetic judgement and reasoning. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 359-377). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Freeman, N. H., & Sanger, D. (1995). The commonsense aesthetics of rural children. *Visual Arts Research*, 21, 1-10.
- Freilich, M. (1977). *Marginal natives at work. Anthropologists in the field*. New York: Schenkman Publishing Company.
- Freire, P., & Giroux, H. A. (1989). Pedagogy, popular culture and public life: An introduction. In H. A. Giroux, R. I. Simon & contributors, *Popular culture, schooling and everyday life* (pp. vii - xii). Granby, MA: Bergin & Garvey.

- Frisch, N. S. (1994). *Sakstegning. En undersøkelse blant lærere på ungdomstrinnet, [Drawing objects. An inquiry among junior high school teachers]*. Statens lærerhøgskole i forming, Oslo, [master's project at The art teachers' training college in Oslo].
- Frisch, N. S. (2005). "Se tennene!" ["See the teeth!"]. *Nordisk Pedagogik [Nordic Education Research Journal]*, 2, 108-122.
- Frisch, N. S. (2006). Drawing in preschools. A didactic experience. *The International Journal of Art & Design Education*, 25(1), 74-85.
- Frisch, N. S. (2008). Når øyet styrer hånden [When the eye guides the hand]. *FORMakademisk*, 1(1), 85-95.
- Frisch, N. S. (2009). *The Vega files*. Retrieved from the internet the 7th of November 2009 at www.scottfrisch.org.
- Gadamer, H. G. (1989). *Truth and method. Second edition*. London: Sheed & Ward Ltd, p. 269 (first published in German in 1960, first edition in English published in 1975).
- Gariff, D. (2008). *Hvem inspirerte hvem i kunsten? 50 innflytelsesrike malere og kunstretningene de innledet [Who inspired whom in art? 50 influential painters and the art movements they initiated]*. Oslo: Orion Forlag.
- Geertz, C. (1973). *The interpretations of cultures: Selected essays*. New York: Basic Books.
- Gerring, J. (2004). What is a case study and what is it good for? *American Political Science Review*, 98(2) May, 341-353.
- Giorgi, A. (1985). Sketch of a psychological phenomenological method. In A. Giorgi (ed.), *Phenomenology and psychological research* (pp. 8-22). Pittsburgh: Duesque University Press.
- Glabek, I. (1990). *Om kunst de siste 150 år [About art the last 150 years]*(fifth edition). Ytre Enebakk (Norway): Skolebokforlaget.
- Goldman, S. V., & McDermott, R. P. (1987). The culture of competition in American schools. In G. D. Spindler (ed.), *Education and cultural process. Anthropological approaches* (pp. 282-299). Long Grove, IL: Waveland Press Inc.

- Golomb, C. (1992). *The child's creation of a pictorial world*. Berkeley, CA: University of California Press.
- Goodnow, J. (1977). *Barn tegner* [The Norwegian version of *Children drawing*, Goodnow (1977)]. Oslo: Universitetsforlaget.
- Gordon, T. (1979). *Snakk til oss, lærer* [Talk to us, teacher]. Oslo: Dreyers Forlag, pp. 55-77.
- Gramsci, A. (1978). *Selections from the prison notebooks*. London: Lawrence and Wishhart.
- Green, J. L., Dixon C. N., & Zaharlick, A. (2003). Ethnography as a logic of inquiry. In J. Flood et. al. (eds.), *Handbook of research on teaching the English language arts* (pp. 201-224). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Greenfield, P. M. (1984). A theory of the teacher in the learning activities of everyday life. In B. Rogoff & J. Lave (eds.), *Everyday cognition: Its development in social context* (pp. 117-171). Cambridge, MA: Harvard University Press.
- Greeno, J. G. (1989). Situations, mental models, and generative knowledge. In D. Klahr & K. Kotovsky (eds.), *Complex information processing, the impact of Herbert A. Simon* (pp. 285-318). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Guba, E., & Lincoln, Y. S. (1981). *Effective evaluation: Improving the usefulness of evaluation results through responsive and naturalistic approaches*. San Francisco, CA: Jossey-Bass.
- Guba, E., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In N. K. Densin & Y. S. Lincoln (eds.), *Handbook of qualitative research* (pp.105-117) (first edition). Thousand Oaks, CA: Sage Publications Inc.
- Gudmundsdottir, S. (1990). Den kvalitative forskningsprosessen [The qualitative research process]. Innledning ved FoU-konferansen *Kunstfag i lærerutdanningen* [Key note at the research conference *The arts in teachers' training*], 19th - 20th of November, Bergen - Norway.
- Gudmundsdottir, S. (1992). Den kvalitative forskningsprosessen [The qualitative research process]. *Norsk Pedagogisk Tidsskrift*, 5, 269-276.
- Gudmundsdottir, S. (1992). Klasseromsforskning og lærerkvalifisering - den amerikanske revolusjonen [Classroom research and teachers' qualifications - the American revolution]. *Norsk Pedagogisk Tidsskrift*, 2, 106-112.

- Gudmundsdottir, S. (1998a). Skarp er gjestens blikk: Den fortolkende forsker i klasserommet [The sharp eye of the guest: The interpretive researcher in the classroom]. In K. Klett (ed.), *Klasseromsforskning på norsk* (pp. 103-115). Oslo: Ad Notam.
- Gudmundsdottir, S. (1998b). Kasusstudier i lærerutdanning [Case studies in teachers' training]. *Norsk Pedagogisk Tidsskrift*, 3, 150-157.
- Gudmundsdottir, S. (2003). Kasusstudier av undervisning og læring i klasserommet. Et sosiokulturelt perspektiv [Case studies in teaching and learning in class. A sociocultural perspective]. In T. Pettersson & M. B. Postholm (eds.), *Klasseledelse [Leading the class]* (pp. 21-31). Oslo: Universitetsforlaget.
- Gustavsson, B. (2000). *Kunskapsfilosofi [Knowledge philosophy]*. Stockholm: Wahlström & Widstrand.
- Haabesland, A., & Vavik, R. E. (2000). *Kunst og håndverk - hva og hvorfor [Art and crafts – what and why]*. Bergen: Fagbokforlaget.
- Halvorsen, M. (1999). Etikk og forskning med barn [Ethics and research involving children]. In R. Bugge, NEM, NENT, NESH, de nasjonale forskningsetiske komiteer (eds.), *Skriftserie No. 13*, p. 41.
- Halvorsen, E. M. (2007). *Kunstfaglig og pedagogisk FoU, nærhet distanse dokumentasjon [Research and development in the arts and pedagogy, closeness, distance and documentation]*. Kristiansand: Høyskoleforlaget - Norwegian Academic Press.
- Hanks, W. F. (1991). Foreword. In J. Lave & E. Wenger, *Situated learning. Legitimate peripheral participation* (pp. 13-24). New York: Cambridge University Press.
- Hannula, M., Suoranta, J., & Vadén, T. (2005). *Artistic research - Theories, methods and practices*. Published by the Academy of Fine Arts, Finland and University of Gothenburg, Gothenburg (Sweden): Art Monitor.
- Hasbro, (2007). *My little pony, min hobbybok [My little pony, my hobby book]*. Oslo: Egmont Serieforlaget AS.
- Haug, P. (1991). *6-åringane - barnehage eller skule?. [6-year-olds - kinderkarten or school?]*. Oslo: Det Norsle Samlaget.

- Hedegaard, M. (2008). Youth painting graffiti - Graffiti as engagement. Unpublished paper presented at the international conference: *Ecologies and diversities ISCAR-2008* (International Society for Cultural and Activity Research), the 11th of September, San Diego, CA.
- Heilman, H. (1954). What are workbooks doing to art? *School Arts*, 5, 27-29.
- Herme, (2009). *Norske ordbøker [Norwegian dictionary]*. Retrieved from the internet the 17th of November 2009 at <http://www.dokpro.uio.no/ordboksoek.html>
- Hermeneutics, (2009). *Wikipedia*. Retrieved from the internet the 17th of November 2009 at <http://en.wikipedia.org/wiki/Hermeneutics>
- Holland, D., Lachicotte Jr., W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Cambridge, MA: Harvard University Press.
- Holstein, J. A., & Gubrium, J. (1995). *The active interview*. Qualitative Research Methods Series 37. Thousand Oaks, CA: Sage Publications, Inc.
- Hopperstad, M. H. (2002). *Når barn skaper mening med tegning. En studie av seksåringers tegninger i et semiotisk perspektiv [When children create meaning with drawing. A study of six-year-olds' drawing processes seen in a semiotic perspective]*. Dr. polit avhandling [Ph.D. thesis]. Trondheim: NTNU [Norwegian University of Science and Technology].
- Hornby, A. S., Gatenby, E. V., & Wakefield, H. (1963). *The advanced learner's dictionary of current English*. London: Oxford University Press.
- Houlgate, S. (1998). *The Hegel reader*. Oxford, UK: Blackwell Publishing.
- Iberg, H. (2007). Hva er modernisme? [What is modernism?]. *Aftenposten [Daily Norwegian newspaper]*, 13th of July, 2007 issue. Retrieved from the internet the 20th of October 2009 at <http://www.aftenposten.no/meninger/debatt/article1886993.ece>
- Illum, B. (2006). Learning in practice - practical wisdom - the dialog of the process. In I. K. Borg & P. O. Erixon (eds.), *Journal for Research in Teacher Education*. Theme: *Sloyd - Tradition in transition*, 2-3, 106-128.
- Ilstad, S. (1989). *Survey-metoden [The survey method]*. Trondheim: Tapir Forlag.

- Johansen, R. (2005). Forsker på barnetegning [Researching childrens' drawing processes]. *Helgeland Arbeiderblad [Local Northern Norwegian daily paper]*, *Helg*, 14th of May, 4-5.
- John-Steiner, V., & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*, 31(3/4), 191-206.
- Juell, E., & Norskog, T. H. (2006). *Å løpe mot stjernene – om estetisk dannelse, kreativitet og skapende prosesser [To run towards the stars – aesthetic development and creative processes]*. Bergen: Fagbokforlaget.
- Kalleberg, R. (2005). Teologi, allmenn vitenskapsmoral, kultur- og samfunnsfagenes normativitet [Theology, general research ethics, the cultural and social studies' normativity]. *Kirke og kultur*, 3, 410-414.
- Kellogg, R. (1970). *Analyzing children's art*. Palo Alto, CA: Mayfield Publication.
- Kerschensteiner, G. (1905). *Die entwicklung der zeichnerischen begabung [The development of drawing abilities]*. München: Druck und Verlag von Carl Gerber.
- Kim, M. (2004). Korean children's self-initiated Manhwa: Cultural background and artistic development. Paper presented at the international conference: *Visual culture of childhood: Child art after modernism*, November the 11th - 13th, Penn State University, PA.
- Kindler, A. M. (2004a). Introduction: Development and learning in art. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 227-231). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Kindler, A. M. (2004b). Researching the impossible? Models of artistic development reconsidered. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 233-252). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Kindler, A. M., & Darras, B. (1997). Map of artistic development. In A. Kindler (ed.), *Child development in art* (pp. 17-44). Reston, VA: National Art Education Association.
- Kindler, A. M., & Darras, B. (1998). Culture and development of pictorial repertoires. *Studies in Art Education*, 39, 147-163.

- Kindler, A. M., Pariser, D. A., van den Berg, A., Liu, W. C., & Dias, B. (2002). Aesthetic modernism, the first among equals? A look at aesthetic value systems in cross-cultural, age and visual arts educated and non-visual arts educated judging cohorts. *The International Journal of Cultural Policy*, 8(2), 135-152.
- King, I. (1991). In search of Lowenfeld's proof that coloring books are harmful to children. *Studies in Art Education*, 33(1), 36-42.
- Kirkeby, W. (1999). *Engelsk blå ordbok. Engelsk - norsk / norsk - engelsk [English dictionary]*. Oslo: Kunnskapsforlaget.
- Korthagen, A. J. (2004). In search of the essence of a good teacher: Towards a more holistic approach in teacher education. *Teaching and Teacher Education*, 20, 77-97.
- Kozulin, A. (1997). Vygotsky in context. Introduction in L. Vygotsky, *Thought and language* (pp. xi – lvi). Cambridge, MA: The M.I.T. Press.
- Kuhn, T. S. (2002). *Vitenskapelige revolusjoners struktur* [the Norwegian version of Kuhn's *The structure of scientific revolutions*]. Oslo: Spartacus Forlag AS. (First published in 1962).
- Köhler, R. (1981). Børns bilder - børns verden [Children's pictures - children's world]. *Bild i Skolan*, 3, 9-13.
- Lave, J., & Wenger, E. (1991). *Situated learning. Legitimate peripheral participation*. New York: Cambridge University Press.
- L97. Det kongelige kirke-, utdannings- og forskningsdepartement, (1996). *Læreplanverket for den 10-årige grunnskolen (L97) [The curriculum for the 10-year compulsory school 1997]*. Oslo: Nasjonalt Læremiddelsenter. (Also available in English).
- Lidén, H. (2000). Drawing in children's peer culture. In L. Lindström (ed.), *The cultural context. Comparative studies in art education and children's drawing* (pp. 229-234). The Stockholm Library of Curriculum Studies, Vol. 7. Stockholm: Stockholm Institute of Education Press (HLS Förlag).
- Lind, U. (2001). *Positioner i svensk barnpedagogisk forskning, en kunnskapsoversikt [Positions in Swedish pedagogical research, a knowledge review]*. Kalmar: Form & Trykk, Lenanders Tryckeri AB, p. 33.
Retrieved from the internet the 21th of October 2009 at <http://www2.skolverket.se/BASIS/skolbok/webext/trycksak/DDD/805.pdf>

- Lindfors, L. (1992). Formgivning i slöyd - Ämneteoretisk och slöjdpedagogisk orienteringsgrund med exempel från textilslöjdundervisning [Making form in the crafts - A theoretical and art educational grounding - with examples from teaching the crafts of textiles]. *Rapporter från Pedagogiske Fakulteten vid Åbo Akademi, No. 1.*
- Lindqvist, G. (1995). Förord [Foreword]. In L. S. Vygotskij, *Fantasi og kreativitet i barndommen* (pp. 7-16) [*Fantasy and creativity during childhood*]. Göteborg (Gothenburg, Sweden): Daidalos.
- Lindström, L. (2006). Creativity: What is it? Can you assess it? Can it be taught? *The International Journal of Art & Design Education*, 25(1), 53-66.
- Lowenfeld, V. (1957). *Creative and mental growth, 3rd edition*. New York: Macmillan. (First published in 1947).
- Lowenfeld, V., & Brittain, W. L. (1979). *Kreativitet og vækst*. [The Danish version of *Creative and mental growth, 6th edition*, Lowenfeld & Brittain (1975)]. Copenhagen: Jul. Gjellerup Forlagsaktieselskap.
- Malinowski, B. (1961). *Argonauts of the Western Pacific*. New York: E. P. Dutton & Co. inc.. (First published in 1922).
- Martins, J. B. (2008). Tags on school desks and walls and youth identity. Unpublished paper presented at the international conference: *Ecologies and diversities ISCAR-2008* (International Society for Cultural and Activity Research), the 11th of September 2008, San Diego, CA.
- Marx, K. (1965). *Pre-capitalist economic formations*. New York: International Publishers.
- Marx, K. (1975). *Early writings*. Harmondsworth, England: Penguin Books Ltd..
- Matre, S. (2003). Læraren leier klassesamtaler om Egypt [The teacher leads class discussions on the topic Egypt]. In T. Petterson & M. B. Postholm (eds.), *Klasseledelse [Leadership in the classroom]* (pp. 152-195). Oslo: Universitetsforlaget.
- Matthews, J. (1984). Children drawing: Are young children really scribbling? *Early Childhood Development & Care*, 18, 1-39.

- Matthews, J. (2004). The art of infancy. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 253-298). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- McDermott, R. P., & Tylbor, H. (1995). On the necessity of collusion in conversation. In D. Tedlock & B. Mannheim (eds.), *The dialogic emergence of culture* (pp. 218-236). Chicago, IL: University of Illinois Press.
- Mead, M. (1964). *Continuities in cultural evolution*. New Haven, ME: Yale University Press.
- Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. San Francisco, CA: Jossey-Bass Publishers.
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. (A revised and expanded version of Merriam (1988), see above). San Francisco, CA: Jossey-Bass Publishers.
- Merriam, S. B., & Associates (2002). *Qualitative research in practice*. San Francisco, CA: Jossey-Bass.
- Mertens, D. M. (1998). *Research methods in education and psychology*. Thousand Oaks, CA: Sage Publications.
- Merton, R. K. (1973). *The sociology of science*. New York: The Free Press.
- Michael, J., & Morris, J. (1986). A sequel: Selected European influences on the theory and philosophy of Victor Lowenfeld. *Studies in Art Education*, 27(3), 131-139.
- Michl, J. (2001). Å se design som redesign [To see design as redesign]. Paper presented at the conference *Nordisk konferens kring designteori og designforskning [Nordic conference on design theory and design research]* the 16th - 17th of January at the Lund University, Sweden.
- Miles, M. B., & Huberman, M. A. (1994). *Qualitative data analysis*. Thousand Oaks, CA: Sage Publications Inc..
- Mitchell, C., & Reid-Walsh, J. (2002). *Researching children's popular culture: The cultural spaces of childhood*. London: Routledge.
- Moen, T., & Postholm, M. B. (2008). Lærere eksperter på læring [Teachers are experts on learning]. *Adresseavisen [Daily Norwegian newspaper]*, 18th of August, 31.

- Morine-Dersheimer, G. (1986). Introduction: Perspective in a teaching episode. *Teaching and Teacher Education*, 2(4), 299-300.
- NESH, (2005). *Forskningsetisk sjekklister*. [National committees for ethics in research in Norway, guidelines and check list]. Retrieved from the internet the 19th of October 2005 at www.etikkom.no/retningslinjer/sjekklister
- Nicolaides, K. (1990). *Den naturlige måten å tegne på* [The natural way to draw]. Oslo: Gyldendal Norsk Forlag. (First published in 1941).
- Nielsen, L. M. (2000). *Drawing and spacial representation*. CON-TEXT. Theses 2. Ph.D. Thesis. AHO. Oslo: Oslo School of Architecture.
- Nielsen, L. M. (2009). *Fagdidaktikk for kunst og håndverk - i går - i dag - i morgen* [Subject matter didaktik for art and crafts - yesterday - today - tomorrow]. Oslo: Univesitetsforlaget.
- Nygaard, L. P. (2008). *Writing for scholars. A practical guide for making sense and being heard*. Oslo: Universitetsforlaget.
- Packer, M. J., & Goicoechea, J. (2000). Sociocultural and constructivist theories of learning: Ontology, not just epistemology. *Educational Psychologist*, 35(4), 227-241.
- Palmer, A. (2007). Pedagogisk dokumentasjon som arbeidsredskap i en postmoderne tid. [Pedagogical documentation as a working tool in post-modern times]. Unpublished paper presented at the national conference: *Nasjonale barnehagekonferanse* [National daycare conference], the 28th of November, Bodø, Norway.
- Panovsky, E. (1983). *Meaning in the visual arts*. London: Penguin Books Ltd.. (First published in 1955).
- Pariser, D. (1995). Not under the lamppost: Piagetian and neo-Piagetian research in the arts. A review and critique. *The Journal of Aesthetic Education*, 29(3), 93-108.
- Pariser, D. (1999). Children of Knosos: What two artists and two cultures did with their childhood art. *Journal of Aesthetic Education*, 33(1), 62-72.
- Pariser, D., & van den Berg, A. (1997). The mind of the beholder: Some provisional doubts about the U-curved aesthetic development thesis. *Studies in Art Education*, 38(3), 158-178.

- Pedersen, K. (1999). *Bo's billedbog - en drengs billedmessige socialisation [Bo's drawing/picture book – a boy's pictorial socialization]*. Copenhagen: Dansk Psykologisk Forlag.
- Pedersen, K. (2004). Symbol systems and activities in children's pictorial culture. In L. Lindström (ed.), *The cultural context. Comparative studies in art education and children's drawing* (pp. 46-58). The Stockholm Library of Curriculum Studies, vol. 7. Stockholm: Stockholm Institute of Education Press (HLS Förlag).
- Personopplysningsloven, (2000). *Lov om behandling av personopplysninger av 14. april 2000, nr. 31, seksjon 2, nr. 1 og 2*, [The Norwegian act relating to handling personal information of 14th of April 2000, No. 31, section 2, nos. 1 and 2]. Retrieved from the internet the 23rd of November 2006 at <http://www.lovdatab.no/all/hl-20000414-031.html>
- Peshkin, A. (1988). Virtuous subjectivity: In the participant-observer's I's. In D. N. Berg. & K. K. Smith. (eds.), *The self in social inquiry. Researching methods* (pp. 267-281). Newbury Park: Sage Publications.
- Peshkin, A. (1991). *The color of strangers. The color of friends. The play of ethnicity in school and community*. Chicago: University of Chicago Press.
- Peshkin, A. (2000). The nature of interpretation in qualitative research. *Educational Researcher*, 29(9), 5-9.
- Peterson, D., Kromrey, J., Micceri, T., & Smith, O. B. (1986). Evaluation of a teacher's classroom performance using the Florida performance measurement system. *Teaching and Teacher Education*, 2(4), 309-314.
- Phillips, D. C. (1992). *The social scientist's bestiary. A guide to fabled threats to, and defences of, naturalistic social science*. New York: Pergamon Press.
- Piaget, J. (1973). Barnets psykiske utvikling. [*The child's psychological development*]. Oslo: Gyldendal. (First published in French/Swiss in 1964).
- Plato, (1964). *Republic: Book X*. J. Ferguson (ed.). London: Methuen's classical texts.
- Pollack, S. (Director), (2005). *Sketches of Frank Gehry*. [Documentary DVD]. USA: Sony Pictures Classics.
- Postholm, M. B. (2003). *I can't find my grandma on the Internet!* Ph.D. Thesis. Trondheim: NTNU [The Norwegian University of Science and Technology].

- Postholm, M. B. (2005). *Kvalitativ metode. En innføring med fokus på fenomenologi, etnografi og kasusstudier [Qualitative methods. An introduction with focus on phenomenology, ethnography and case studies]*. Oslo: Universitetsforlaget.
- Postholm, M. B. (2007). *Forsk med! [Do research with us!]*. Oslo: N. W. Damm & søn.
- Postholm, M. B., & Moen, T. (2009). *Forsknings- og utviklingsarbeid i skolen [Research and development work in school]*. Oslo: Universitetsforlaget.
- Powney, J., & Watts, M. (1987). *Interviewing in educational research*. London: Routledge & Kegan Paul.
- Prawat, R. S. (1996). Constructivisms, modern and postmodern. *Educational Psychologist*, 31(3/4), 215-225.
- Punch, M. (1994). Politics and ethics in qualitative research. In N. K. Denzin. & Y. S. Lincoln (eds.), *Handbook of Qualitative Research* (pp. 83-97) (first edition). Thousand Oaks, CA: Sage Publications Inc.
- Ragin, C.C. (1987). *The comparative method, moving beyond qualitative and quantitative strategies*. Berkeley, CA: University of California Press.
- Ragin, C.C. (1992). Introduction. In C. C. Ragin & H. Becker, *What is a case? Exploring the foundation of social inquiry* (pp. 1-17). Cambridge, UK: Cambridge University press.
- Ramberg, P. (2008). Pedagogikkfaget - teoretiske høytflyvingsøvelser eller samlende kraft i lærerutdanning og skole? [The subject of pedagogy - high-flying excercises or an assembling force in teachers' training and in school?]. *Utdanning [Education, the journal for members of the Norwegian Teachers' Union]*, 7th of November, 50-53.
- Reitan, J. B. (2007). *Improvisation in tradition, a study of contemporary vernacular clothing design practices by Inuqioq women of Kaktovik, North Alaska*. CONTEXT, No. 28, Ph.D. thesis. AHO. Oslo: The Oslo School of Architecture and Design.
- Ricoeur, P. (1981). *Hermeneutics and the human sciences*. New York: Cambridge University Press.
- Rodin, S. (1998). *Høner og sauer på Nedre Stabæk [Hens and sheep in Lower Stabæk]*. Nedre Stabæk Barnehage [name of daycare centre], Lierskogen, Norway.

- Rodin, S. (1999). *Hagebruk på Nedre Stabæk [Gardening in Lower Stabæk]*. Nedre Stabæk Barnehage [name of daycare centre], Lierskogen, Norway.
- Rodin, S. (2000). *Uthus på Nedre Stabæk Gård [Sheds on Lower Stabæk Farm]*. Nedre Stabæk Barnehage [name of daycare centre], Lierskogen, Norway.
- Rogoff, B. (1984). Introduction: Thinking and learning in social context. In B. Rogoff (ed.), *Everyday cognition: Its development in social context* (pp. 1-9). Cambridge, MA: Harvard University Press.
- Rosenshine, B. (1986). Unsolved issues in teaching content: A critique of a lesson on federalist paper No. 10. *Teaching and Teacher Education*, 2(4), 301-308.
- Rowell, M. (1997). *Objects of desire – the modern still life*. New York: Department of Publications, The Museum of Modern Art New York.
- Ruskin, J. (1971). *The elements of drawing*. New York: Dover Publications, Inc. (First published in 1857).
- Russell, I., & Waugaman, B. (1952). A study of the effect of workbook copy experiences on the creative concepts of children. *Research Bulletin, The Eastern Arts Association* 3(1), 5-11.
- Salomonsen, C. J. (1919). *Smitsomme sindslidelser før og nu med særlig henblik paa de nyeste kunstretninger [Contagious psychiatric diseases then and now with an emphasis on the new art directions]*. Copenhagen: Levin & Munksgaards Forlag.
- Scribner, S., & Cole, M. (1972). Cognitive consequences of formal and informal education. *Science*, 182, 553-559.
- Scribner, S. (1984). Studying working intelligence. In B. Rogoff (ed.), *Everyday cognition: Its development in social context* (pp. 10-40). Cambridge, MA: Harvard University Press.
- Sennett, R. (2008). *The craftsman*. New Haven, ME: Yale University Press.
- Shulman, L. S. (1981). Disciplines of inquiry in education: An overview. *Educational Researcher*, 15(2), 5-23.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, the February issue*, 4-14.

- Shuy, R. W. (1986). Secretary Bennett's teaching: An argument for responsive teaching. *Teaching and Teacher Education*, 2(4), 315-323.
- Simmons, S. (1992). Philosophical dimensions of drawing instruction. In D. Thistlewood (ed.), *Drawing research and development* (pp. 110-120). Harlow, Essex: Longman Group UK Limited.
- Skodvin, A. (2004). Innledning [Introduction]. In L. S. Vygotskij, *Tenkning og tale* (pp. 7-21) [The Norwegian version of Vygotsky's *Thought and language*]. Oslo: Gyldendal Akademisk. (First published in English in 1986).
- Smith, N. (1983). Drawing conclusions: Do children draw from observation? *Art Education, the September issue*, 23-25.
- Smith, N. (1985). Copying and artistic behaviors: Children and comic strips. *Studies in Art Education*, 26(3), 147-156.
- Spradley, J. P. (1980). *Participant observation*. New York: Holt, Rinehart & Winston.
- SSB, (2007). *Statistisk Sentralbyrå [Statistics Norway]*. Kompetanse i grunnskolen [Competence in compulsory school]. Retrieved from the internet the 4th of December 2009 at <http://ssb.no>
- SSB, (2009). *Statistisk Sentralbyrå [Statistics Norway]*. Retrieved from the internet the 20th of October 2009 at <http://ssb.no>
- Stake, R., & Trumbull, D. (1982). Naturalistic generalization. *Review Journal of Philosophy and Social Science*, 7(1), 1-12.
- Stake, R. (1995). *The art of case study research*. Thousand Oaks, CA: Sage Publications Inc..
- Stokrocki, M. (2004). Contexts for teaching art. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 439-466). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Strandberg, L. (2006). *Vygotskij i praktiken [Vygotsky in practice]*. Stockholm: Norstedts Akademiske Förlag.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research*. Thousand Oaks, CA: Sage Publications Inc., pp. 73-99.

- Swanson, G. (1971). Frameworks of comparative research: Structural anthropology and the theory of action. In I. Vallier (ed.), *Comparative methods in sociology: Essays on trends and applications* (pp. 141-202). Berkeley, CA: University of California Press.
- Sørenssen, I. K. (2008). Markedet jakter på mellom-barna [The commercial market hunts for the tweens]. Ph.D. candidate interviewed by A. Weisser in *Adresseavisen [Daily Norwegian newspaper]*, 21st of July, 16-17.
- Tharp, R., & Gallimore, R. (1988). *Rousing minds to life. Teaching, learning, and schooling in social context*. Cambridge, UK: Cambridge University Press.
- The Data Inspectorate, (2009). *About the data inspectorate*. Retrieved from the internet the 12th of September 2009 at: http://www.datatilsynet.no/templates/Page___194.aspx
- The Vega files, (2010). *The Vega files*. Retrieved from the internet the 7th of November 2009 at www.scottfrisch.org.
- Thomas, N., & O’Kane, C. (1998). The ethics of participatory research with children. *Children in Society*, 12, 336-348.
- Thompson, C. M. (2002). Drawing together: Peer influence in preschool-kindergarten art classes. In L. Bresler & C. M. Thompson (eds.), *The arts in children’s lives, context, culture and curriculum* (pp. 129-138). Norwell, MA: Kluwer Academic Publishers.
- Thuren, T. (1993). *Vitenskapsteori for nybegynnere [Science theory for beginners]*. Oslo: Universitetsforlaget.
- Tiller, P. O. (1991). Barneperspektivet: Om å se og bli sett. Vårt perspektiv på barn - eller omvendt? [The child’s perspective: About seeing and being seen. Our perspective on children or the other way around?]. *Barn. Nytt fra forskning om barn i Norge [Children. News on research on children in Norway]*, 1, 72-77.
- Toriyama, A., & Sakuma, A. (2003). *Manga. Tegnekursus [Manga. Drawing course]*. Copenhagen: Carlsen Forlag.
- Turmo, A., & Lie, S. (2004). Hva kjennetegner norske skoler som skårer høyt i PISA 2000? [What classifies the high ranking Norwegian schools in PISA 2000 (Programme for International Student Assessment) ?]. *Acta Didactica*, 1. Retrieved from the internet the 15th of October 2009 at: http://www.pisa.no/dok_nasj.html.

- UNESCO, Education Sector, (2004). *The plurality of literacy and its implications for policies and programs: Position paper*. Paris: United National Educational, Scientific and Cultural Organization, 2004, citing an international expert meeting in June 2003 at UNESCO. Retrieved from the internet the 14th of September 2009 at <http://unesdoc.unesco.org/images/0013/001362/136246e.pdf>.
- Utdanning og forskningsdepartementet, (2006). *Kunnskapsløftet, [Knowledge promotion reform of 2006]*. Oslo: Utdanning og forskningsdepartementet (also found in English).
- Utdanningsdirektoratet, (2006). *Art & crafts subject curriculum*. Retrieved from the internet the 14th of September 2009 at www.utedanningsdirektoratet.no/upload/larerplaner/Fastsatte_lareplaner_for_Kunnskapsloeftet/.../Arts_and_crafts_subject_curriculum.rtf
- Vinci, L. da (1956). *Treatise on painting, Volume I, translation*. Princeton, NJ: Princeton University Press, p. 67.
- Vygotskaya, G. L. (1995). His Life. *School Psychology International*, 16(2), 105-116.
- Vygotsky, L. S. (1978). *Mind in Society. The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotskij, L. S. (1995). *Fantasi og kreativitet i barndommen [Imagination and creativity during childhood]*. Gøteborg (Gothenburg, Sweden): Daidalos.
- Vygotsky, L. S. (1997). *Thought and language*. Cambridge, MA: The M.I.T. Press.
- Vygotskij, L. S. (2004). *Tenkning og tale* [The Norwegian version of *Thought and language*, see above]. Oslo: Gyldendal Akademisk.
- Vygotsky, L. S. (2005). *Concrete human psychology – an unpublished manuscript by Vygotsky 1926*. Retrieved from the internet the 27th of March 2008 at <http://communication.ucsd.edu/MCA/Paper/Sovjet%20Psych/Sovjet%20Psych.pdf>
- Walt Disney Company, (2005). *W.I.T.C.H No. 3 2005*. Oslo: Egmont Serieforlaget AS.
- Warner, R. S. (1971). The methodology of Marx's comparative analysis of modes of production. In I. Vallier (ed.), *Comparative methods in sociology: Essays on trends and applications* (pp. 49-74). Berkeley, CA: University of California Press.

- Weber, S. (1986). *The nature of interviewing, Phenomenology + pedagogy: A human science journal*. Edmonton: Publication Services, Faculty of Education.
- Wells, P. (1998). *Understanding animation*. London: Routledge.
- Wertsch, J. (1985). *Vygotsky and the social formation of mind*. Cambridge, MA: Harvard University Press.
- Wertsch, J. (1998). *Mind as action*. New York: Oxford University Press.
- Wilson, B. (1985). The artistic tower of Babel: Inextricable links between culture and graphic development. In *Visual Arts Research* (pp. 90-103). Chicago, IL: Board of Trustees of the University of Illinois.
- Wilson, B. (2003). Of diagrams and rhizomes: Visual culture, contemporary art, and the impossibility of mapping the content of art education. *Studies in Art Education, 44*(3), 214-229.
- Wilson, B. (2004). Child art after modernism: Visual culture and new narratives. In E. W. Eisner & M. D. Day (eds.), *Handbook of research and policy in art education* (pp. 299-328). National Art Education Association VA (USA). London: Lawrence Erlbaum Associates, Publishers.
- Wilson, B. (2007). Art, visual culture, and child/adult collaborative images: recognizing the other-than. *Visual Arts Research, 33, SPECIAL (Issue 65)*, 6-20.
- Wilson, B., Hurwitz, A., & Wilson, M. (1987). *Teaching drawing from art*. Worcester, MA: Davis Publications Inc..
- Wilson, B., & Wilson, M. (1977). An iconoclastic view of the imagery sources in the drawing of young people. *Art Education, 1*, 5-11.
- Wilson, B., & Wilson, M. (1980). Cultural recycling: The uses of conventional configurations, images and themes and the narrative drawings of American children. In J. Condous, J. Howlett & J. Skull (eds.), *Arts in cultural diversity* (pp. 277-281). Artarmon, Australia: Holt, Rinehart and Winston.
- Wilson, B., & Wilson, M. (1982a). *Teaching children to draw, a guide for teachers and parents*. The Art and Design Series. Englewood Cliffs, NJ: Prentice-Hall Inc..

- Wilson, B., & Wilson, M. (1982b). The case of the disappearing two-eyed profile: Or how little children influence the drawings of little children. *Review of Research in Visual Arts Education*, 15(winter), 19-32.
- Wilson, S. M., & Gudmundsdottir, S. (1987). What is this a case of? *Education and Urban Society*, 20 (1), November, 42-54.
- Wolf, D., & Perry, M. D. (1988). From endpoints to repertoires: Some new conclusions about drawing development. *Journal of Aesthetic Education*, 22(1), Spring, 17-34.
- Wood, D., Bruner, J., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry*, 17, 98-100.
- Wormnæs, O. (1987). *Vitenskapsfilosofi [Science philosophy]*. Oslo: Gyldendal Norsk Forlag.
- Yin, R. K. (1988). *Case study research. Design and methods*. Thousand Oaks, CA: Sage Publications Inc..
- Zöllner, F. (2003). *Leonardo da Vinci. The complete paintings and drawings*. Köln: Taschen.

Appendices

Content

- Appendix 1: Abbreviation list
- Appendix 2: Interview guide for teacher and children
- Appendix 3: Overview of data
- Appendix 4: A page from the data analysis (in Norwegian = nor)
- Appendix 5: Scheme 1: Formal case
- Appendix 6. Scheme 2: Informal case
- Appendix 7: Matrix
- Appendix 8: The why questionnaire (nor)
- Appendix 9: The model questionnaire (nor)
- Appendix 10: Letter to the school administration and teachers* (nor)
- Appendix 11: Letter to students and parents* (nor)
- Appendix 12: Letter to the Data Inspectorate* (nor)
- Appendix 13: Answer from the Data Inspectorate (nor)
- Appendix 14: Statement from the teacher on how the research process was experienced (nor)
- Appendix 15: Letter to peers* (nor)
- Appendix 16: Peer review no. 1* (translated from Norwegian by Nina Scott Frisch)
- Appendix 17: Peer review no. 2* (translated from Norwegian by Nina Scott Frisch)
- Appendix 18: Poster from presentation of results with parents, teachers and students (nor)

* In some of these documents from the earlier stage of the research process, the research questions have a slightly different formulation. As the research process progressed (and as Engeström also points out, see Engeström, 2004), the usefulness of the term visually controlled drawing as a cross-case collaborative concept, fell more and more into place. The research questions were then reformulated, having the same core meaning as before, but included the term visually controlled drawing as a cross-case concept. See the Introduction, chapter 1, for the final research questions. The concept also colored the title of the project, that was changed from *With or against the flow*, to *To see the visually controlled*.

In Norway children in the 7th grade that here are part of the informal case, can be from 12 to 13 years of age during the academic/school year. But the average 7th grader is regarded as 12 years of age. The age span focus was reformulated and changed to 9 - 12 years of age.

Abbreviations for theoretical and drawing-related concepts:

ZPD = zone of proximal development

ZAD = zone of actual development

ZOPD = zone of potential development

VC = visually controlled (drawing)

Semi-VC = semi-visually controlled (drawing)

VC-likely = visually controlled-likely (drawing)

Semi-VC-likely = semi-visually controlled-likely (drawing)

VC-rec = visually controlled (drawing) reconstructed

VC-checked = visually controlled checked (drawing)

Semi-VC-checked = semi-visually controlled checked (drawing)

2D = two-dimensional

3D = three-dimensional

HLE = hidden line elimination

OP = oblique projection

Abbreviations for database categories:

FVTFo. no. (number) = formal video transcription folder number

IVTFo. no. (number) = informal video transcription folder number

(Number) FDFo. = number formal drawing folder

(Number) IDFo. = number informal drawing folder

Imgp. (number) = image pentax number

Abbreviations of search words and keywords for *The Vega files* - see guide at www.scottfrisch.org

Appendix 1 - Abbreviations

Interview guides:

Some of the questions used to give direction to the dialogue/semi- structured interviews with the participants:

Teacher:

Why is seeing – drawing a school subject?

What drawing strategies do you use?

What do you emphasize?

How do you explain your own teaching?

What are your experiences with this kind of class?

Students/children, (the children are looking at their own assumed informal VC drawings):

How do you draw (this drawing)?

Can you tell me how you learned to draw the different elements in this drawing?

What does this drawing represent to you?

How did you think when you drew?

Have you seen a picture of something like that?

Did you look at something while you drew?

Did you look at someone while you drew?

Can you draw it for me?

Do you remember how you drew?

Can you draw this drawing from memory?

Where did you learn to draw this drawing?

How did you learn (to draw)?

Who taught you?

How did you teach him/her to draw?

Why do you draw?

With whom did you draw?

Where were you when you learned to draw this figure?

Have you seen others draw that?

Did you draw together - did you sit beside each other?

Did you draw this in your spare time or at school?

Did you draw this in a free-hour at school?

Was this drawing an assignment at school?

Can you talk me through the way you draw?

Have you ever used pouncing/tracing?

Teacher and students/children interviewed on their views on similarities and differences:

Teacher, (the teacher has formal and informal student/children drawings in front of him, see list Appendix no. 15):

What are the similarities and differences between the drawing processes you initiate and the drawing processes the kids initiate?

Students/children, (the students/children are looking at their own formal and informal drawings):

What are the similarities and differences between your drawing processes without the teacher and the drawing processes you experience with teacher?

Have you used a model here?

Overview of database – first draft: Data management (files/folders, units) first reading and memoing (reflections) see “The data analysis spiral” 1st and 2nd step, (Creswell: 1998: 143). The grey areas are material not used but collected (see also *the Vega files*).

Drawing database: I = informal, F = formal, D = drawing, Fo. = folder, (i) = informal drawings made in formal settings (number of folder in front). Imgp. + number = Image pentax + number

Observation/interview database: I = informal, F = formal, V = video, T = transcription, Fo. = folder. Notes = field notes (number of folder)

Questionnaires

Data collection focus (teacher/formal – children/informal), date, teaching time/ interview time (min.).	Class	Drawings: Task/assignment, media, number of students, amount of drawings, formal/informal, folder number, picture file number.	Recorded observations-interviews, time (min.)	Transcriptions, page numbers (tr. pp.) FVTFo. no./IVTFo. no	Themes: 1 st reading and memoing/reflections.
Teacher 16.09.04 2 x 45 min	6 ^h grade	Still life with fruits and vegetables. Pencils and A4 paper 12 students video of drawings	Video no. 1/CD no. 1, counter 00 - 04.39 Field notes 4 min.	FVTFo. no. 1 Video no. 1, tr. pp. 1-23 Notes: p. 1 [The page numbers referred to as notes are from the hand-written notebook - not the transcriptions of notes]	Focus: two girls draw cabbage. Teacher explains 3D using the drawing of oranges, using words like “cheating”, “tricks”, “senke ned” (making darker). Informal drawings are given to researcher
Teacher		Reflections, interview	Video no. 1,	FVTFo. no. 1	It is not an exiting challenge to use basic tools

16.09.04 4 min.		with teacher after the lesson with 6 th grade	CD no. 1, counter 04.39 – 08.23 4 min.	Notes: pp. 7-8	such as paper and pencil, so I have to catch the children's interest for this simplicity. We managed in this class to get a dialogue To find the outer form (contour) to put on shades (valeurs) and then to place this form in a room by using shadows (slagskygge). They understood this today, they made discoveries Refers to his own experiences with drawing as a child
Teacher 16.09.04 2 x 45 min	7 th grade	Still life with fruits and vegetables. Pencils and A4 paper 10 Students video of drawings	Video no. 1, CD no. 1, counter 08.28 - 33.08 Field notes 24 min.	FVTFo. no. 1 Notes: pp. 8-17	Focus: "Cabbage table" Explains 2D and 3D (0900) Explains tools: pencils 1 - 6 (1100) Help to see (1200) Light and shadow (explains)13.10 Draws on the students drawings seeing together (explains) 14.30 – 17.03 Student: "It's not nice!" Teacher: "The drawing does not have to be good, I want you to do your best" (24.30 – 25.00) End of lesson: Students show their drawings, gets positive feedback, thumbs up (30.00 – 33.00)
Teacher 16.09.04 2 x 45min	5 th grade	Still life with fruits and vegetables. Pencils and A4 paper 9 Students video of drawings	Video no. 1, CD no. 1, counter 33.13 - 46.30, Field notes	FVTFo. no. 1 Notes: pp. 18-24	Focus: "Apple table" Discussing what we see (35.00) Use "terms of the trade": Valeurs (36.00) "Slagskygge" (38.00) Helps apple table (40.00 – 45.00), explains form, draws on students drawings Student on apple table to teacher: "You have not looked at mine!" teacher helps. (45.02 – 47.00)
Observer's reflections in process			13 min. Notes	FVTFo. no. 1 Notes: p. 1-5	

<p>Teacher 17.09.04 2 x 45 min.</p>	<p>5th grade</p>	<p>Still life with fruits and vegetables. Pencils and A4 paper 10 students, 10 formal drawings, 4 informal drawings, 1FDFo.(f) Picture no. Imgp. 1627 - 1640</p>	<p>Field notes</p>	<p>FVTFo. no. 1 Notes: p. 2-3</p>	<p>The teacher gives feedback, 10 different ways of giving positive feedback in 40 min. (from 0830 – 0910). Teacher: “Do you think this is hard? do not despair, make more lines!” Despair control</p>
<p>Teacher 17.09.04 2 x 45 min</p>	<p>7th grade</p>	<p>Still life with fruits and vegetables. Pencils and A4 paper 9 students, 11 formal drawings 3FDFo. Picture no. Imgp. 1616 - 1626</p>	<p>Field notes</p>	<p>FVTFo. no. 1 Notes: pp. 3-4</p>	<p>(Including tr. of explanation of research project to students p. 4 - 5)</p>
<p>Teacher 17.09.04 2 x 45 min</p>	<p>6th grade</p>	<p>Still life with fruits and vegetables. Pencils and A4 paper 11 students 13 formal drawings, 1 informal drawings, 3 teacher's model drawing</p>	<p>Field notes</p>	<p>FVTFo. no. 1 Notes: pp. 4-5</p>	<p>Reflections on bridging p. 5</p>

Teacher 17.09.04 35 min.									Reflections on teaching seeing-drawing
Teacher 21.10.04 2 x 45 min	5 th grade	2FDFo.(i) Picture no. Imgp. 1596 - 1614 Interview 35 min.	Fall poem 1 inspired by observing branches and leaves. Chinese ink on A3 chalked paper 10 students 11 help sheets formal/informal 12 formal drawings	Video no. 1, CD no. 1, counter 48 – 60 and video no. 2, counter 00-19 31 min	Notes, pp. 10-25 FVTFo. no. 2 Video no. 2, tr. pp. 1-27 pp. 1-9	Teacher gives tool instruction (48.00 – 51.30) Refers to his own love for drawing with pen and ink, modeling (52.00). The drawing task: (54.00 – 55.50) Teacher: Do not be good, do your best (57.00 – 57.40) About the leaves, dialogue (58.00 – 60.00) Video 2: Teacher about himself getting dirty with ink on his sleeves as a child (01.00) Leaves, help sheets and drawings in process (03.30). Student draws informal drawing on help sheet (08.50) Teacher shows student how to draw birds and explains about air resistance (09.20 – 10.00) Shelves with models (12.45) Teacher: about researcher and the collection informal drawing. Mamma tegner “Syden” (15.30 – 18.30). Teacher: (18.44) this is a self – portrait (the white drawing on black paper hanging on pole). Tools instruction (19.11 – 20.00)			
Teacher 21.10.04 2 x 45 min	7 th grade	Fall poem1 inspired by observing branches and leaves. Chinese ink on		Video no. 2, CD no. 1, counter 19 – 38.20	FVTFo. no. 2 pp. 9-17	Drawing of cars in groups on help sheets (20.00 – 20.30). Picture no. Imgp.1840, 1841, 1842, 1843. Instruction: branches as inspiration (21.50)			

<p>Teacher 21.10.04 2 x 45 min.</p>	<p>6th grade</p>	<p>chalked paper Fall poem 2, observing the teacher drawing a tree Chinese ink on A3 chalked paper 9 students 11 help sheets formal/informal 9 formal drawings (Fall poem 1) 12 formal drawings (Fall poem 2) 1 teacher's model drawing 5FDfo.(i) Picture no. Imgp. 1833 - 1866</p>	<p>19 min</p>	<p>Student: Inspiration? Explains format (22.00) vertical and horizontal Branches for visual inspiration (22.40 – 23.00) Teacher: Explains double line 26.00 – 27.44) Good pictures of “seeing – drawing” a branch (28.00 – 30.50) Picture no. Imgp. 1854, 1855, Good pictures of support in ZPD (31.30 – 32.15) Picture no. Imgp. 1846. Martin draws a tree (32.40 – 33.05). Picture no. Imgp. 1852. (Gives the impulse to the teacher; the whole class starts to draw a tree) Teacher models drawing behavior, draws a tree 34.00 – 36.30. Picture no. Imgp. 1856. Student: Can I copy? (“herme”), Yes the teacher says Good instruction dialogue on drawing a tree, Gina picture no. Imgp. 1859 and picture no. Imgp. 1857 - 1865 Ronaldo da Vinci/Leonardo da Vinci, (36.35 – 38.20) Student Martin: Very Ugly! (38.15). Picture no. Imgp. 1862.</p>
		<p>Field notes Video no. 2, CD 1 counter 38.26 – 42.50 4. min</p>	<p>FVTFo. no. 2 pp. 17-19</p>	<p>Teacher's self-portrait (38.26). Edith draws a picture/portrait inspired by teachers self - portrait (38.28 – 38.47). Picture Imgp. 1783. Formal drawing picture no. Imgp. 1788. (40.00 – 40.50). Girls seeing and drawing branches. Teachers help sheets demonstrating “skravur” (39.05). Picture Imgp. 1806. Ernst besides Edith draws portrait (40.33). Picture Imgp. 1780. Teacher draws on help sheets modeling branches (40.55). Picture no. Imgp. 1805.</p>

<p>Teacher 22.10.04 2 x 45 min</p>	<p>5th grade</p>	<p>Picture no. Imgp. 1779 - 1807 Fall poem inspired by observing branches and leaves. Chinese ink on A3 chalked paper 8 students 9 help sheets formal/informal 8 formal drawings 7FDFo.(f) Picture no. Imgp. 1892 - 1909</p>	<p>Video no. 2, CD no. 1, counter 42.50 - 62.30 20 min</p>	<p>FVTFo. no. 2 pp. 19- 27</p>	<p>Teacher: Practice! (On help sheet), Tool instruction. Help with tools and technique. (43.00- 45.30). Verbal description of branch (46.50 – 47.30) Teacher: Do not copy but use the branch as inspiration (47.55, 49.05) Observation of branch together with students (50.50) Students: Ann picture Imgp. 1908, Andrea picture Imgp. 1903, Charlotte picture Imgp. 1906. Teacher draws on students drawing (52.40) Helps Annette, picture Imgp. 1909, describes branch, gives ideas and encourages (Good! Tap on the shoulder). Look at branch, study! (53.20) Refers to his own practice as a drawer/artist (53.40) Teacher: Its fun to see that each of you have your own style, it's the same branch you are looking at, but the drawings are different (57.30) Teacher: You do not draw the leaf by drawing around it. Student: Yes! Teacher: No, you should draw what you see. (58.50-59.50) Teacher corrects student that says she doesn't want to draw anymore, he says, "you do not have time to draw anymore" (61.00) Student shows teacher drawing, is encouraged (62.00) Teacher: instruction about the use of pen and ink (00.01 – 01.00).</p>
<p>Teacher 22.10.04</p>	<p>7th grade</p>	<p>Fall poem I inspired by observing branches</p>	<p>Video no. 3, CD no. 1,</p>	<p>FVTFo. no. 3 Video 3, tr. pp. 1-</p>	

<p>2 x 45 min</p>	<p>and leaves. Chinese ink on A3 chalked paper 9 students 14 help sheets formal/informal 10 formal drawings 8FDFO.(i) Picture no. Imgp. 1867 - 1891</p>	<p>counter 00 – 15.50 16 min</p>	<p>27 pp. 1-9</p>	<p>Draws on George's and Fred's drawing, description, helps (02.40 – 05.10) Teacher: Use your style Student: I do not have a style. Teacher: Yes you do, everybody has style (05.35 – 06.50) Camilla's picture no. Imgp. 1889. Student that does not want to continue her drawing, teacher answers: I really think you should continue, there is so much information in drawing that can be developed (07.30) Teacher: Look at how interesting it is, how different your drawings are, it is always exiting. Student: Do we have to copy this (the branch)? Teacher: No, you use it as an inspiration (07.50) Examples of teacher's models on help sheets (09.30), picture no. Imgp. 1876, 1879. Good example of instruction. Help in "seeing – drawing" (09.50) Good example of (10.50 – 11.37) teaching the meaning of the word "skraver" and of not succeeding to Heidi picture no. Imgp. 1885. Teacher shows and explains "retusjer" to Camilla Picture no. Imgp. 1889 (11.50-13.50) The making of Erika's picture Imgp. 1882 (14.50)</p>
<p>Teacher 22.10.04 2 x 45 min</p>	<p>6th grade Fall poem I inspired by observing branches and leaves. Chinese ink on chalked paper 11 students 14 help sheets formal/informal 11 formal drawings</p>	<p>Video no. 3, CD no. 1, counter 15.55 – 62</p>	<p>FVTFo. no. 3 pp. 9-27</p>	<p>About the research project, and the professor-coats (15.55 – 17.09). Technical instructions pen and ink, practice on help sheet (18.00 – 19.05). Students: Sound of speed, (airplanes) as they practice the pen and ink technique on help-sheet. (25.30 – 27.05) Daniel's picture no. Imgp. 1810 and Fleming's picture no. Imgp. 1812. Student: Look at the ugly flower! (27.50), picture no. Imgp. 1808.</p>

Teacher 17.11.04 1 x 45 min	6 th grade	Still life with ceramics. Pencil and pastels, A3 paper 11 students 13 formal drawings	Video no.4, CD no. 1, counter 00.40 – 30.14 30 min.	<p>9FDfo.(i) Picture no. Imgp. 1808 - 1832</p> <p>46 min</p>	<p>Teacher. No comments Teacher about the chalked paper and where the chalk is from (it's locally made) (28.50 -30.00) Student: it is scary (ekkel) to start. Teacher: Yes, it's very scary to start on a white sheet of paper, helps students to start (34.30 – 37.30). Frida's picture no. Imgp. 1827, 1831 (anonymous) Teacher: Supports verbally (39.00-39.40) Greta's picture no.1831 (probably). Teacher: about ornament (40.00) Teacher argues with students about what is good. (41.00-42.30). Teacher: Refers to his own experience with observation (43.00) (44.50) Student wants to draw a sketch with pencil (46.49). Good pictures of student drawing and seeing a leaf (47.46 – 49.10) Ellen's picture no. Imgp. 1823.</p> <p>Good picture of student drawing a leaf (51.00- 53.18). Flemming's picture no Imgp. 1824, and Daniel's picture no. Imgp. 1828, Daniel: "teacher come here and "skriver"! (54.24-62.34). Good dialogue, good processual pictures to show how the teacher helps without "taking over" the picture.</p> <p>Teacher: "Draw contour first", "Draw an ellipse – a flat circle" Students ask for help to start 2B on contour Teacher to student: "What do you think you see?" – "What you think you see and what you see are two different things" (07.10 – 10.00).</p>
-----------------------------------	--------------------------	--	---	---	---

<p>Teacher 17.11.04 2 x 45 min</p>	<p>7th grade</p>	<p>10FDFo. Picture no. Imgp. 3463 - 3509</p>	<p>Still life with ceramics. Pencils and pastels A3 paper 11 students 21 formal drawings</p> <p>11FDFo. Picture no. Imgp. 3475 - 3520</p>	<p>Video film no.4, CD no. 1, counter no. 30.19 – 51.07 21 min.</p>	<p>FVTFo, no. 4 pp. 13-23</p>	<p>Students talking: "I can't draw" – other student: "No, you're good!" (11.00 and 22.30) Teacher: "Get the grip of a good "swing/turn" (15.50) (ellipse). Chris and Edgar are sitting beside each other, draw the same informal drawing on formal drawing (see Imgp. 2465 – 3436) Teacher helping to make a sense of shininess: (26.20 – 29.10) Seating: five - six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE). Teacher: "Today we work with texture!" (31.50) Teacher: "Look at the ellipse", HLE explanation (38.40) Teacher drawing on students drawing (33.22 – 34.00 and 41.00 – 51.00) Girls encourage each other, saying how good the other is in drawing (34.50) Greta (Imgp. 3514), Evy (Imgp. 3517), Erna (Imgp. 3516) and Camilla (Imgp. 3520) sit beside each other and make the same shadows. Despair management (41.00) Seating: five - six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE).</p>
<p>Teacher 17.11.04 2 x 45 min</p>	<p>5th grade</p>	<p>Still life with ceramics. Pencil and pastels A3 paper 9 students</p>	<p>Video no.4,, CD no. 1, Counter 51.07 – 61.00 10 min.</p>	<p>FVTFo, No. 4 pp. 23-28</p>	<p>Teacher drawing on students drawing – 51.30 60.00 – 61.00 Teacher: Positive feedback (59.00) Amanda (Imgp. 3527), Audrey (Imgp. 3526), Betty (Imgp. 3530) are sitting in the same group, drawing the same contour. August(Imgp. 3525) is</p>	

<p>Teacher 18.11.04 2 x 45 min</p>	<p>5th grade</p>	<p>9 formal drawings 12FDFo. Picture no. Imgp. 3522 - 3520</p> <p>Still life with ceramics. Pencils and pastels A3 paper 12 students 12 formal drawings</p> <p>13FDFo. Picture no. Imgp. 3487-3535</p>	<p>(Video film no. 5(8), CD no. 2, counter no. 00.00 – 20.04 20 min.</p>	<p>FVTFo. no. 5 pp. 1-9</p>	<p>also sitting in this group, but is not using the marked black contour – Seating: five-six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE).</p> <p>Teacher: Despair management Dialogue + drawing about seeing, Ann and teacher – 15.00 – 16.14. (Imgp. 3491) Erwin draws still life from 08.00 – 13.00. Erwin draws informal drawing (Donald) on table cover (18.50) – see table cover no. xx</p> <p>Seating: five-six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE).</p>
<p>Teacher 18.11.04 2 x 45 min</p>	<p>7th grade</p>	<p>Still life with ceramics. Pencil and pastels A3 paper 8 students 8 formal drawings</p> <p>14FDFo. Picture no. Imgp. 3498-3505</p>	<p>Video no.5 (8), CD no. 2, counter no.: 20.04 – 27.50 7 min.</p>	<p>FVTFo. no. 5 Video no. 5, tr. pp. 1-29 pp. 9-12</p>	<p>Teacher: Dialogue and drawing about seeing and about the physical mechanisms around shadows, good examples: In dialogue with Emily(Imgp. 3504) (21.00 – 23.15 + 23,50 In dialogue with Heidi (Imgp. 3500) (25.50 – 27.10). Heidi and Emily are sitting beside each other, see similarity in drawing.</p> <p>Students asking for help with making shininess (27.20) Seating: four-five-six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE).</p>

<p>Teacher 18.11.04 2 x 45 min</p>	<p>6th grade</p>	<p>Still life with ceramics. Pencils and pastels A3 paper 11 students 11 formal drawings 15FDFo. Picture no. Imgp. 3537-3547</p>	<p>Video no. 5 (8), CD no. 2, counter no. 27.50 – 62.00 33 min.</p>	<p>FVTFo. no. 5 pp. 1.2-29</p>	<p>Students ask to see the other classes' drawings/pastels; the teacher refuses to show them (28.50). Teacher: Dialogue and drawing about seeing and about the physical mechanisms around shadows, good examples: Emma and teacher (36.00 – 37.40) Student: Can you help teacher? Teacher: Yes I can (37.40). Teacher: have you decided where you want the light to come from? Teacher: Good! Discoveries with student about seeing (39.00 – 41.00). Example of noise-level (45.00 – 47.30). Seating: four-five-six students in one group (2x3/2) with the still life in the middle on a small table, few HLE. About four students around the other still life (with possible HLE). Noise level: 56.00 – 62.00 To draw with Q-tips and pastels: (61.20)</p>
<p>Teacher 26.04.05 2 x 45 min</p>	<p>5th grade</p>	<p>Vega, winter landscape, Water color, 9 students (1 student arriving at the end after being to the dentist) 16FDFo. Picture no. Imgp. 1747 – 1755</p>	<p>Video no. 8, CD no. 2, counter 05.57 – 32.20 26 min.</p>	<p>IVTFo. no. 8 pp. 3-13.</p>	<p>Teacher: look out the window at the sky, look at the color (demonstrates and explains water color techniques) (06.00). Teacher asks about the word "aqua" (10.00) Teacher: About shadows (15.50-17.00). Teacher: Water colors have to "rest"(18.40) Overview over working table during the brake and picture of the landscape outside used as an inspiration (19.00 – 19.50) Student arguing: "I do not want rocks I want forests" (30.10, Student shows his water color to researcher 30.50)</p>

Children interviews 10.03.05 About informal drawings collected fall 2004	6 th grade	17-19PDFo. 21 drawings, informal 14 originals, 7 drawings of these drawing processes reproduced on video with group interview of children Ernst: about Bush, cars and Donald Duck counter 00.00 – 15.30. Edith, Dorothy: perspective, still life and shadows counter 15.38 – 35.50 Dina: heart and flames/light counter 35.50 – 39.50 Ellen: heart and rabbit counter 39.54 – 45.40 Gina: clothes counter 45.48 – 51.20	Video No. 10- 11 Video no. 6 counter 00.10 - 57.50 Video no. 7 counter 00.00 - 07.50 55 min.	IVTFo. no. 6 IVTFo. no. 7 Video no. 6, tr. pp. 1-20 Video no. 7, tr. pp. 1-17 pp. 1-20 and p. 1	Ernst about his cars, Bush and Donald (00.10) – “Looked at a picture of a car long time ago”, demonstrates picture no. Imgp. 1729, a reproduction of the picture (02.00 – 09.30). I learned all by myself to draw Bush who shoots Donald Duck, I saw a man on TV who drew Donald Duck and I did the same right afterwards, demonstrates picture no. Imgp. 1728 (good example of how the figure is constructed) (10.00 – 15.30). Researcher looks at the video together with participant. Dorothy and Edith sat together, picture no. Imgp. 1725, 1726, 1731. (16.00) Dorothy tells about how she internalized her observation in art classes at school and drew the drawing, picture no. IMGP...1731. Edith (picture no. Imgp. 1725, 1726): “I tried not to copy (“herme”) to much from Dorothy but...I make these drawings at home too...I learned to make shadows from another teacher”. (An art teacher at school, not the observed teacher). Teacher (the observed teacher, taught us to use support-lines (18.00 – 22.00). Dorothy/Edith demonstrates from (22.18 – 32.40) Dorothy: Puts shadow on as she goes along, has cocktail glasses at home. Dorothy: “Det er sånn man får ideer, man får lov til å låne andre sin” (30.00 – 30.02). Edith about picture no. Imgp. 1725, (perspective). Her sister specializes in art in high school. She has copied (“herme”) her sister (33.00 – 35.40) Has learned about the vanishing point in art classes in
---	--------------------------	---	--	---	--

	<p>Daniel, Frank, Flemming, Heidi: landscape with sunset counter 51.35 - 57.00 Video 7 Counter 00.00 – 07.50 11DFo. Picture no. Imgp. 1725 - 1745</p>			<p>school. Here there are several examples of transferring knowledge from art classes to drawing activity at home (from one context to the other)</p> <p>Dina about her heart-drawing (good example of drawing process, the use of help lines) (37.00 – 39.50)</p> <p>Ellen about her rabbit and heart drawing, drawn from a picture and put together by herself, reproduces the drawing, from centre to periphery picture no. Imgp. 1743, (40.00 – 45.30).</p> <p>Frida's picture no. IMGP...1740 reproduced in picture no. 1741 learned to draw clothes from her sister, has drawn clothes she has in real (46.30 – 51.20)</p> <p>Evelyn (picture no. Imgp. 1732) and Flemming learned to draw landscape in art class, Kai, the teacher helped her, the teacher made the drawing on the board (<i>are these informal drawing?? Out</i>) Daniel (picture no. Imgp. 1734) also learned to make one hill overlap the other and differ the darkness of the hills, the darkest hill in front. Flemming and Frank sat together; see the pictures together (55.55). Frank's (picture no. Imgp. 1735) (56.00 – 57.00) End video 6 (57.50)</p> <p>Video 7 Daniel, Flemming, Evelyn and Frank (continue) reproduces their sun set landscape, draws first the front hill then the back hill. (Daniel's picture no. Imgp. 1737 and Frank's picture no. Imgp. 1738).</p>
--	---	--	--	--

<p>Children interviews 11.03.05 About informal drawings collected fall 2004</p>	<p>5th grade</p>	<p>34 drawings, informal 31 originals, 3 of these drawings reproduced on video with group interview of children Anita: horses, fish, colors, geometrical star counter no. 07.51 – 19.45 Agatha, landscape and copying methods Counter no. 19.50 – 27.58 Audrey: Ladies, Counter no. 28.08 – 37.10 Erwin, Charles: Donald Counter no. 37.15 – 56.16 Annette, Andrea, Ann, Charlotte Colors, Witch, Cornelia Counter no. 00.01 – 05.50</p>	<p>Video 7, CD no.2, counter 07.51 – 56.16 Video no. 8 counter no. 00.01 – 05.50 54 min.</p>	<p>IVTfo. no. 7 IVTfo. no. 8 Video no. 8, tr. pp. 1-20 pp. 2 – 17 pp. 1 - 3</p>	<p>(00.00 – 07.50) Anita: The dragon is a fantasy dragon, I have not learned to draw it anywhere (picture no. Imgp. 1687) (08.25). About picture no. Imgp. 1690, 1689, 1691, 1692. The horse is my favourite animal (09.30). I learned it from my big sister Aurora, about how she draws (09.50 – 12.54), reproduced in picture no. Imgp. 1686. Anita learned to draw a fish from her dad (picture no. Imgp. 1689 reproduced in picture no. Imgp. 1696 (13.23 – 14.30). About picture no. Imgp. 1688 (colors). Andrea (picture no. Imgp. 1669, 1672) and Agnes made the same, wanted to try what they did (15.20 – 16.10). About making a geometrical flower, learned from the math teacher, he showed it to the whole class (16.50-18.00). Agatha about picture no. Imgp. 1685. "I have seen this landscape in nature, and I think it's really nice" (20.00). Agatha about using transparent paper to copy drawings (26.15 – 27.58) (Good example!) Audrey about female figures/faces picture no. Imgp. 1682 (28.24 – 37.10) inspired by her aunt's fashion magazines reproduced in picture no. Imgp. 1683. Erwin and Charles about Donald (pictures no. Imgp. 1673, 1674, 1675, 1676, 1677 1678, 1679, 1680). Erwin learned to draw Donald and other drawing techniques from his dad, Erwin: "First I</p>
---	---------------------------------	---	--	---	--

Children interviews 27.04.05 about informal drawings collected 2004	7 th grade	<p>2IDF0. Picture no. Imgp. 1660 - 1693</p>	<p>33 drawings, informal 25 originals, 8 drawing processes reproduced on video with group interview of children 3IDF0.</p>	<p>look at him and try to draw like he does, then we make pictures together", Erwin demonstrates how he does it (38.00). He begins in the centre with the beak, builds from there (good examples of drawing process) (see picture Imgp. 1680). Also copies a lot from pictures with transparent paper.</p> <p>Charles has learned to draw from Erwin, Erwin shows how he does it (picture no. Imgp. 1674, 46.30 – 56.10) verbal instruction: (in Norwegian: "... nesten som en J som ligg, og en U som ligger samme vei bare at den er lang"). "If there is something I can't do, my dad takes over". Draws from centre: the beak, then the eyes, then the contour of the head, hair and hat (onkel Skrue).</p> <p>Ann about picture no. Imgp. 1665 (00.58 -02.00) reproduced in picture no. Imgp. 1660, Annette draws a rabbit from real life (04.30 – 4.40), she draws her rabbit at home. Charlotte, Annette and Andrea also copies a lot from pictures with transparent paper (04.45 – 05.50)</p>	
		<p>Video 8, CD no. 2, counter no. 32.20 – 50.30 and no. 50.30 – 62.00 Video 9, CD no.2, counter no. 00 – 17.25</p>	<p>IVTF0. no. 8 IVTF0. no. 9 Video no. 9, tr. pp. 1-20</p>	<p>Gina; drew the Manchester United logo by looking at Emily's hat with the logo on (picture no. Imgp. 1549, reproduced in picture no. Imgp. 1550). Draws the "frame" first. (37.40-38.20). Emily has learned to draw the landscape by herself (39.50). Camilla. "I learned to draw the Diddl from a picture on a book". She starts on top, with the face (in Norwegian: "så jeg har noe å jobbe etter") (42.30 – 45.32). Has learned to make shadows at the art school.</p>	

	<p>Picture no. Impg. 1520-1552</p> <p>Per, Gina, Emily, Camilla and Heidi. Manchester United symbols, hands, Diddl</p> <p>Hanna and Daniel trees/landscape, troll, Manchester United symbols</p>	<p>47 min</p>	<p>Gina makes hands by drawing around her own hand (46.50), puts on details at the end, picture no. Impg. 1538 reproduced in picture no. Impg. 1539 (<i>Compare with the making of the leaf in class video 2, 58.50</i>).</p> <p>Heidi makes a troll picture no. Impg. 1546.</p> <p>Reproduction of picture no. Impg.1542. Starts with eyes, then nose, then mouth and tongue and the hair around the eyes.</p> <p>Interview Hanna (50.40 – 56.30) about her trees, picture no. Impg. 1529, 1530, reproduced in Impg. 1532). Henry and Hanna have both been to paid night classes with the teacher where they learned to draw trees with shadows from pictures/teacher. Good example of internalized observation.</p> <p>Hanna about picture no. Impg. 1531. All figures are learned by looking at other pictures and then remembered. Internalized observation.</p> <p>Draws first the band on the hat, then the eyes, then the beak, builds one underneath the other in relation to the previous established form (59.00 – 62.00).</p> <p>Hanna also draws the frame of Manchester United logo first (as Gina). Says she has learned by looking at pictures. See picture Impg. 1547, reproduced in picture no. Impg. 1550.</p> <p>Hanna talks about other reproduction methods (03.30 – 04.45).</p> <p>Henry about Greta looking at him when drawing and about Manchester United logo, made by looking at a poster (picture no. Impg. 1527). He also has the logo on his sweater. He says: "First I looked at a poster and then I remember it". (04.50 –09.30). Internalized observation. Starts with the</p>
--	---	---------------	---

Children Fall 2004	7 th grade	43 drawings, informal. Rest of database 7 th grade 4IDFo. Picture no. Imgp. 1553 – 1595			centre shield (!) in the middle, and finishes with the frame and the letters (picture no. Imgp. 1533). Evy made drawing picture no. Imgp. 1530 (not Greta). (12:50 – 17:20), learned it from Hanna, sat by Hanna when she made the drawing. Video ends at 17:26.
Children Fall 2004	7 th grade	15 drawings from Nataly, Informal 5IDFo. Picture no. Imgp. 1505 - 1519			Good examples of repetitions and exercise
Children Fall 2004	6 th grade	19 drawings, informal. Rest of database 6 th grade 6IDFo. Picture no. Imgp. 1641 - 1659			
Children Fall 2004	5 th grade	32 drawings, informal. Rest of database 5 th grade			

<p>Students in teaching situation 31.01.07 2 x 45 min</p>	<p>6th grade</p>	<p>7IDFo. Picture no. Imgp. 1694 – 1624 + 1746 Still life, cabbage and coconut Pencil 13 students 13 pencil drawings 17FDFo. Picture no. Imgp. 3361 – 3373</p>	<p>Video no. 10, counter 00.00 – 33.00, 33 min. Mini disk no. 1. (amplified soundtrack of video recording)</p>		
<p>Students in teaching situation 31.01.07 2 x 45 min</p>	<p>5th grade</p>	<p>Still life, cabbage and coconut Pencil, pastels 8 students 8 practicing pencil drawings 8 pastels 18FDFo. Picture no. Imgp. 3331 - 3346</p>	<p>Video no. 10, counter 33.00 – 54.10, 21 min , mini disk no 1, min (amplified soundtrack of video recording)</p>		
<p>Students in teaching situation 31.01.07</p>	<p>7th grade</p>	<p>Picture no. Imgp. 3331 - 3346 Still life, cabbage and coconut Pastels</p>	<p>Video no 11, counter, min, mini disk no. 2, min</p>		

<p>2 x 45 min</p>	<p>10 students 7 pastels 19FDFo. Picture no. Imgp. 3324 - 3330</p>	<p>(amplified soundtrack of video recording)</p>		
<p>Sum database: Observer present in class : 44 teaching hours (44 x 45 min : 60) = 33 hours</p>	<p>Sum database : Video recordings formal case: 7 hours, 30 min, 1 hour also with additional minidisk recorder in class (about 25 % of observed teaching time recorded) 3 hours recordings informal case: 3 hours interviews with children (100 % of interview-time) Participant interviews on minidisc, see below: 1 hour</p>	<p>Sum database, transcriptions : about 250 pages with folder no. 10-12 (see below)</p>		
<p>Participant interview Teacher 01.02.07</p>	<p>Interviewed on own reflexions on similarities and differences in children's' drawing and own teaching, and on categories found by researcher.</p>	<p>Mimidisc no. 3 30 min.</p>	<p>Transcriptions: Member verification 1. Folder no. 11 pp. 1-19</p>	
<p>Participant interviews Children 01.02.07 05.05.08</p>	<p>Two students from each class (6 students from previous 5th, 6th, and 7th grade) interviewed one by one, on similarities and differences in their formal/informal drawings. Interview with Karen</p>	<p>Mimidisc no. 4 30 min.</p>	<p>Transcriptions: Member verification 2. Folder no. 10 and 12 pp. 1-4 pp. 1-12.</p>	

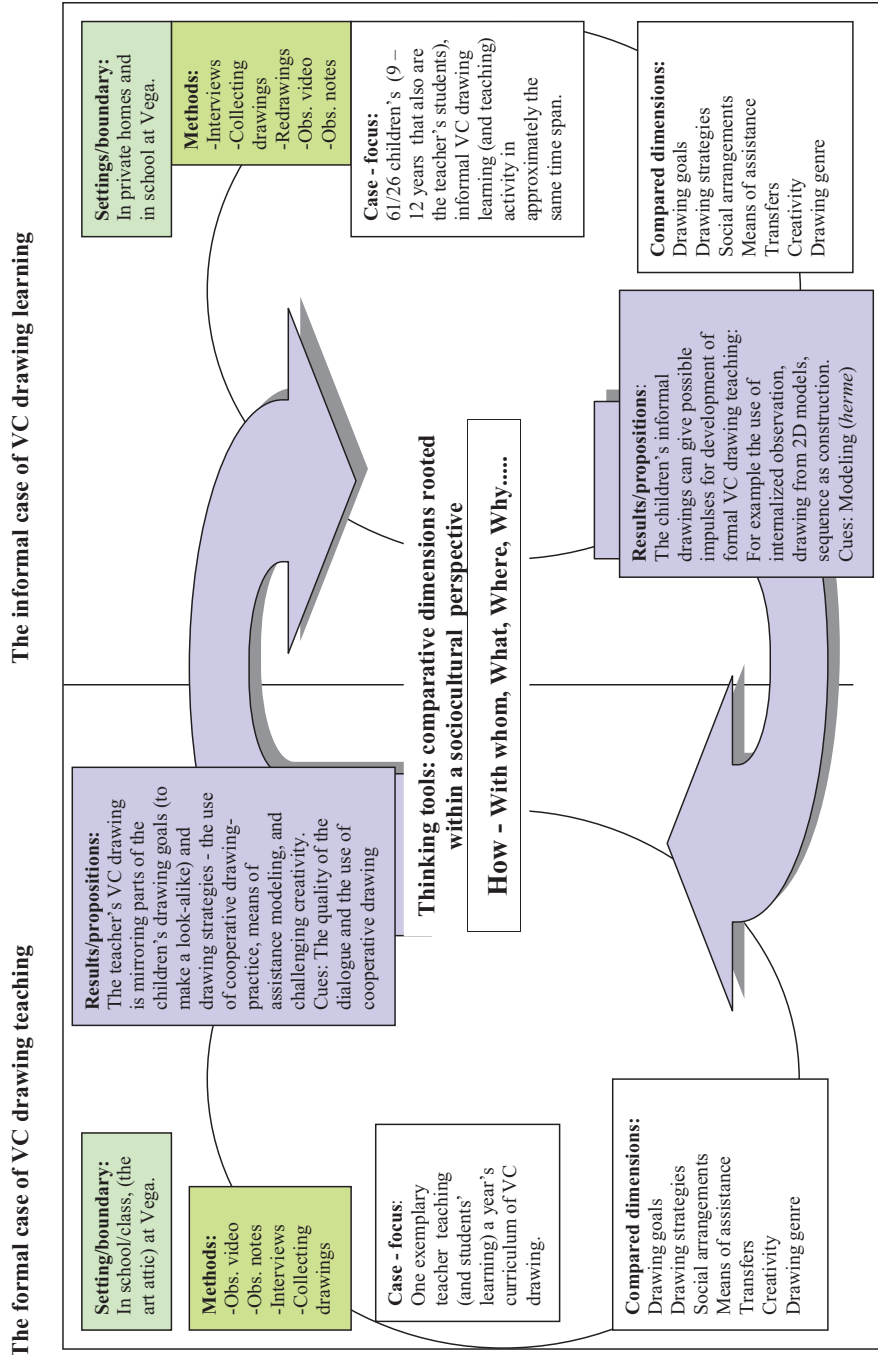
<p>The why questionnaire 04.12.07</p>	<p>The 2004 5th, 6th and 7th grade</p>	<p>and Amanda The "Why do you draw informally?" – Questionnaire. 41 students out of 61 students answered the questionnaire</p>		<p>Folder no. 13</p>	
<p>The model questionnaire 20.04.08</p>	<p>The 2004 5th, 6th and 7th grade</p>	<p>The "Use of model- questionnaire" – 3D-model, Photos, Drawings, I do not draw directly after a model I see. 51 participants were present (and answered the questionnaire) out of 61 possible.</p>		<p>Folder no. 14</p>	<p>Category 1. The drawers (27) "It's fun to draw" – "I draw when I am bored" Category 2: The non-drawers (14) "I don't draw in my spare time, I sit by my computer" 2/3 of the participants draw (Does this justify a "drawing crisis"?) About 1/2 of the participants also draw after models (28 out of 51) 3D=26 Photos=14 Drawings=20 I don't draw directly after a model I see=23 Do the students remember? Time as a possible source of non-reliability. But consistent with the informal drawing database from 2004.</p>
<p>Peer reviews, handed in December 2006</p>		<p>Two peers looking through about 10% of the data</p>		<p>Folder no. 15</p>	
<p>Letters to: Parents/students/teacher Peers Letter from teacher participant Communication with the Data inspectorate Diddl/Disney - copyright</p>				<p>Folder no. 16</p>	

<p>means of assistance</p>	<p>figuren, det kaller vi egen skygge, men så kaster den en skygge på et underlag, og det heter slagskygge. Elev. Uklart... III</p>	<p>Instructions</p>
<p>goals</p>	<p>Lærer: Yes, gutt, det var veldig bra observert, da får du fortalt at han ligger faktisk nede på et underlag (klapper hendene sammen), fantastisk bra. Der observerte du, det likte jeg.</p>	<p>motivational utterances drawing goals</p>
<p>means of assistance</p>	<p>Lærer går videre til neste elev7G3: Ja, yes, yes, yes, yes. Kan du se det? (Eleven svaret...uklart...) Du ser at ...uklart...men du skal se det kommer, det kommer etter hvert. Jeg kan vise deg en liten sak, jeg kan starte en sak, (tar blyanten til eleven og begynner å tegne på elevens tegning). Det var veldig godt observert, du har tatt med den der og den der (peker på skyggene på kålen). Det her er 2B, den er veldig fin å tegn omriss med sånn svakt, sånn går du med den (tegner på tegningen), også har du den bløte blyanten der, 6B, den er fin å lage til skygge med, også ser du her, her er det mer skygge (peker på skyggen på kålen med blyanten), også lager vi til skygge her, OK, og litt mer der, og litt mer der, og litt mer der, også kan vi skraverer, når vi legger mange streker ved siden av hverandre sånn, også blir det sånn grå flate (tegner på tegningen til eleven hele tiden), også markerer foten der, og under der er det veldig mørkt. Også skal du fortelle at den ligger på et bord, og da lager vi til en skygge, forstår du?</p>	<p>I am going to show you cooperative drawing instructions, descriptive, practical and modeling</p>
<p>means of assistance</p>	<p>Elev7G3. Hm..(eleven ser på tegningen, og hvordan læreren tegner på tegningen hans)</p> <p>Lærer: Vi lager en skygge, da har du lagt den ned på et bord, OK, nå ligger den der på noen ting, ser du det? På grunn av at det er veldig lyst papir, så får den lys oppover (peker på kålen). Får jeg lov til å ta et mørkt papir, Legger på et mørkt papir, da blir den mørkere, ser du det? Og mye lysere der (peker på kålens overside), så tar vi 6B så prøver du å vise litt sånn skygge her (tegner på elevens tegning), også ser vi litt lys, den er litt lys (peker på kålen, tegner på elevens tegning), OK, den er litt lys der, så legg du den ned litte grann sånn, også</p>	<p>Cooperative drawing description hatching = instructions practical utterances</p>
<p>means of assistance</p>	<p>Lærer: Vi lager en skygge, da har du lagt den ned på et bord, OK, nå ligger den der på noen ting, ser du det? På grunn av at det er veldig lyst papir, så får den lys oppover (peker på kålen). Får jeg lov til å ta et mørkt papir, Legger på et mørkt papir, da blir den mørkere, ser du det? Og mye lysere der (peker på kålens overside), så tar vi 6B så prøver du å vise litt sånn skygge her (tegner på elevens tegning), også ser vi litt lys, den er litt lys (peker på kålen, tegner på elevens tegning), OK, den er litt lys der, så legg du den ned litte grann sånn, også</p>	<p>Instructions as cooperative drawing!</p>

Scheme 1: Describing, classifying and interpreting the formal case of teaching visually controlled drawing		Main features formal case (results of reading transcripts and notes, watching videos. Memoing and describing main cues, (Creswell, 1998)	
Illustration 1	<ul style="list-style-type: none"> *To learn to see *To make a look-alike 	Clustering according to the data and finding main theoretical references: The comparative dimensions (results of interpreting / classifying, to be found in the illustrations, Creswell, 1998)	Findings: Case-specific descriptions, theoretical terms or possible concepts as sub-categories (results presented and visualized – to be found in the illustrations, Creswell, 1998)
Illustration 1 Illustration 2 Illustration 3	<ul style="list-style-type: none"> *Seeing – drawing, seeing – drawing *3D – 2D (still-life, obs. drawing) *Constructing the simile from the outside to the inside *Direct observation of different models, challenging the students with new still-lives *Defines room and volume by using of tonal graduation and HLE 	Drawing goals: Main aim for subject when initiating VC drawing teaching/learning processes. (Freeman, & Sanger, 1995; Kindler et. al., 2002; Kindler & Darras, 1997; Scribner, 1984; Simmons, 1992; Scribner & Cole, 1972; Wilson & Wilson, 1982a)	<ul style="list-style-type: none"> *To teach students to see – sensitizing visual perception *To teach students to master the visually perceived
A description of social arrangements	<ul style="list-style-type: none"> *All students in one group draw the same still life from different angles. Also one on one with branches. 	Drawing strategies: VC drawing construction methods and techniques, and strategies of teaching/learning. (Edwards, 1987; Cooper, 2001; Ching, 1998; Freeman, 1980; Goodnow, 1977; Scribner & Cole, 1972; Wilson & Wilson, 1982a)	<ul style="list-style-type: none"> *3D – 2D *From outwards to inwards *Tonal graduation-light and shadow *HLE *OP
Illustration 1 Illustration 3 Illustration 4 Illustration 5 Illustration 6 Illustration 7 Illustration 8	<ul style="list-style-type: none"> *Encouraging exercising to master tools *Modeling of drawing behaviour *Drawing on the students drawings *Helping to motivate the students by structuring the drawing process *Positive encouragement *Instructions/dialogue *Asymmetry 	Social arrangements: How the social spaces where the VC drawing is taking place are organized (Rogoff, 1984; Yygotksy, 1978)	<ul style="list-style-type: none"> *Collective drawing *Drawing alone (in groups)
Illustration 9	<ul style="list-style-type: none"> *Transfers from informal to the formal arena within the time frame and boundary of cases; the use of line-drawing. Making the assignment the same way. Adapting each other's solutions on paper. Also learning 2D-2D. 	Means of assistance: Interpersonal intended assistance offered to make the VC drawing/simile. (Coates, 1984; Tharp & Gallimore, 1988; Thompson, 2002; Yygotksy, 1978; Wood, Bruner & Ross, 1976; Wilson & Wilson, 1982a)	<ul style="list-style-type: none"> *Exercise *Modeling drawing behavior – making models *Cooperative drawing *Instructions/verbal means of assistance *Dialogue *Frustration control by instructing and using cooperative drawing *Seeking visual intersubjectivity
Illustration 9	<ul style="list-style-type: none"> Encouraging individual solutions together with VC drawing tasks 	Transfers: VC drawing features from the informal case found in the formal case. (Greeno, 1989; Lave & Wenger, 1991; Scribner, 1984)	<ul style="list-style-type: none"> *Transfers *The wildfire effect (result of collective drawing as sos. arr.) *Contour – line drawing
Illustration 1 Illustration 8	<ul style="list-style-type: none"> The context of the task visually controlled drawing as a sociocultural practice, teaching of still-life and observation drawing as a sociocultural heritage. 	Creativity – recombinations: how new similes are learned by recombining known VC drawings/similes. (Pedersen, 1999; Yygotksij, 1995)	<ul style="list-style-type: none"> Individuality – as motivation

Scheme 2: Describing, classifying and interpreting the informal case of learning visually controlled drawing

Illustrations/examples from data	Main features of informal case (results of reading, memoing and describing. Main cues Creswell, 1998)	Clustering according to the data and finding main theoretical referents: The comparative dimensions (results of interpreting / classifying, to be found in the illustrations, Creswell, 1998)	Findings: Case-specific descriptions, theoretical terms or possible concepts as sub-categories (results presented and visualized – to be found in the illustrations, Creswell, 1998)
Illustration 10 Illustration 17	<ul style="list-style-type: none"> *To make an accurate simile *To master a simile *To make the same as someone else 	<p>Drawing goals (see scheme 1) (Freeman & Sanger, 1995; Kindler et. al., 2002; Pariser & van den Berg, 1997; Thompson, 1997; Wilson & Wilson, 1977)</p>	<ul style="list-style-type: none"> *To make a look-alike *To communicate a "we"
Illustration 11 Illustration 12 Illustration 13 Illustration 14	<ul style="list-style-type: none"> *Seeing – drawing - internalizing *Often from 2D to 2D *Repeating the same simile until internalized *Constructing from the inside to the outside *Building one form at the time, on the other *Pouncing - tracing *Room, volume as contour (HLE) 	<p>Drawing strategies (see scheme 1) (Wilson & Wilson, 1977; Chen, 1985; Freeman, 1980; Goodnow, 1977; Thompson, 1997)</p>	<ul style="list-style-type: none"> *2D – 2D mostly but also 3D - 2D *Internalized observation *Inwards to outwards, top - bottom *Building/ construction *Pouncing, tracing *Contour – line drawing *HLE *Modeling/the wildfire effect (<i>herme</i>) – tacit and verbal *Repetitions
A description of social arrangements Illustration 16 Illustration 18	<ul style="list-style-type: none"> *Drawing at home alone often with a 2D model – but also 3D models *Drawing together in groups or pairs, making the same simile by modeling each other's drawing – one takes after the other – 	<p>Social arrangements (see scheme 1) (Rogoff, 1984; Vygotsky, 1978)</p>	<ul style="list-style-type: none"> *Copying alone *Exercising alone *Collective drawing – drawing together *The wildfire effect (a strategy used as a result of sos. arr. collective drawing)
Illustration 14 Illustration 17	<ul style="list-style-type: none"> *Encouraging exercise, and repeating the same simile *Showing each other how to draw, what to draw *Asymmetric competence, peers or family as masters and teachers of a simile *Drawing on each others drawings 	<p>Means of assistance (see scheme 1) (Coates, 1984; Scribner & Cole, 1972; Tharp & Gallimore, 1988; Thompson, 2002; Vygotsky, 1978; Wood, Bruner & Ross, 1976; Wilson & Wilson, 1977; Wilson & Wilson, 1982a)</p>	<ul style="list-style-type: none"> *Exercise *Modeling signs/similes (<i>herme</i>) *Modeling drawing behavior (<i>herme</i>) *Asymmetry/seeking competence. *Cooperative drawing *Instructions
Illustration 15	<ul style="list-style-type: none"> * Transfers of still-life drawing – teaching a peer to draw a still-life 	<p>Transfers VC drawing features from the formal case found in the informal case - (Greeno, 1989; Lave & Wenger, 1991; Scribner, 1984)</p>	<ul style="list-style-type: none"> *Still-life *Light and shadow
Illustration 11 Illustration 14	<ul style="list-style-type: none"> *Putting together learned similes in new ways *Combining VC drawing and memory drawing *New ways of making VC drawings 	<p>Creativity – recombinations: How new similes are learned by recombining known VC drawings/similes. How similes are internalized. (Pedersen, 1999; Vygotskij, 1995)</p>	<ul style="list-style-type: none"> *New combinations of signs/similes, recombinations *Semi-vc *Tracing *Motivation
Illustration 17 Illustration 18	<ul style="list-style-type: none"> *Drawing similes/signs often from child and youth oriented popular culture. Drawing pets and meaningful objects 	<p>Drawing genres; (see scheme 1) (Bakhtin, 1986; Kindler & Darras, 1997; Simmons, 1992)</p>	<ul style="list-style-type: none"> *The graphic approach, genre from popular culture, with some features also found in Chinese and Japanese brush painting - informal observation drawing genre (?)



Hei alle 8., 9. og 10. klassinger på Vega barne- og ungdomsskole,

04.12.07

I 2004/2005 var du med og bidro med tegninger i forbindelse med forskningsprosjektet "Barn lærer og tegne" en undersøkelse på mellomtrinnet. Se mer om prosjektet på Vega barne- og ungdomsskole sine nettsider under "prosjekt": <http://www.vegaskole.no/http01/side/prosjekt/prosjekt.htm#frisch>

Jeg har fått mye flott informasjon av dere gjennom tegningene dere har levert (som i løpet av en toårsperiode vil ligge anonymisert på nett under *The Vega Files*) og gjennom intervjuene noen av dere har vært med på. I intervjuene kommer det ikke alltid helt klart fram hvorfor dere tegner utenom kunst og håndverkstimene og på fritida.

Jeg spør dere derfor alle sammen, kan dere skrive ned 5 til 10 linjer og svare på spørsmålet:

HVORFOR TEGNER/TEGNET DU PÅ FRITIDA OG UTENOM KUNST OG HÅNDVERKSTIMENE?

Navn, fornavn og etternavn:.....

Klassetrinn i dag:.....

Hvorfor jeg tegner/tegnet på fritida:

Svarene vil bli behandlet konfidensielt og vil anonymiseres.

På forhånd takk!

Vennlig hilsen Nina Scott Frisch

Stipendiat Høgskolen i Nesna/NTNU

Spørreskjema

Kilde til tegning utenom kunst og håndverkstimene: Vega barne- og ungdomsskole 5. - 10. klasse. Våren 2008.

Navn:.....

Klasse:.....

Sett et kryss pr. spørsmål

Hvis du tegner direkte etter noe du ser på utenom kunst og håndverkstimene, tegner du etter:

	Ja	Nei
1. Virkelige ting i 3D, (for eksempel gjenstander, dyr, blomster, mennesker eller hus)?		
2. Fotografier?		
3. Tegninger i fra blader, tegneserier, fotball-logoer eller tegninger laget av venner, skolekamerater, eller familie?		
4. Tegner ikke slik utenom kunst og håndverkstimene		

Takk for hjelpen!

Undersøkelsen anonymiseres

Til administrasjon, faglig tilsatte ved Vega kunstscole og Vega barne- og ungdomsskole

8980 Vega

030904

Datainnsamling ved Vega barne- og ungdomsskole

Mitt navn er Nina Scott Frisch, jeg er ansatt ved Høgskolen i Nesna og ønsker i løpet av høsten 2004 og våren 2005 og samle inn data blant barn og ungdom. Data som samles inn skal kunne gi informasjon om hvordan barn og unge tenker når de tegner, hvordan de lærer å tegne og hvem de lærer å tegne av, utenom skolens undervisningsopplegg.

Informasjonen om hvordan barn og unge lærer å tegne på fritiden skal så sammenlignes med lærernes tegneundervisning på skolen. Mitt mål er å kunne belyse følgende spørsmål:
Hva er særtrekkene ved 9 – 13 åringers tegnestrategier i visuell kontroll, og i hvilken grad finnes noen av disse særtrekkene i en lærers klassiske tegneundervisning?

Fordi personalet ved Kunstscolen på Vega kan vise til en praksis med variert tegneundervisning, er denne praksisen interessant å få analysert for så å kunne formidle dette videre til andre lærere som underviser i tegning. Dette er forskning innenfor en tradisjon som kalles for klasseromsforskning.

Jeg søker herved om tillatelse til å gjennomføre denne datainnsamlingen fra skolens administrasjon, aktuelle lærere ved kunstscolen, lærere ved Vega barne- og ungdomsskole og elever/foresatte. Jeg vil, hvis tillatelse gies, samle inn tegninger, gjøre videoopptak av elevene når de tegner, ta opp intervju av elever og lærere på video, ta opp undervisningssekvenser på video og lese gjennom læreplaner. Alle personer involvert vil bli anonymisert ved databehandling og publisering.

Reell anonymisering innebærer at forskeren sørger for at det ikke gis opplysninger som kan identifisere personene i undersøkelsen. Personopplysningsloven 14. april 2000, nr 31 § 2 nr. 1 definerer en personopplysning slik:

”... dvs. opplysninger og vurderinger som kan knyttes til en enkeltperson”

Ved å trekke fram undersøkelsens geografiske beliggenhet, og anonymisere elever og læreren, vil dette imøtekommes. En oppsporing av enkeltpersoner blir dermed vanskelig i følge Datatilsynet.

Jeg håper på positiv respons.

Med vennlig hilsen Nina Scott Frisch
Høgskolelektor i kunst og håndverk
Høgskolen i Nesna

Faglige ansvarlig ved Vega barne og ungdomskole,
Aktuelle lærere ved kunstsolen og Vega barne- og ungdomsskole
Ja, jeg kan være med å bidra til innsamling av data under overnevnte betingelser:

.....
dato, underskrift

Til elever og foresatte ved Vega barne- og ungdomskole

030904

8980 Vega

Datainnsamling ved Vega barne- og ungdomsskole

Mitt navn er Nina Scott Frisch, jeg er ansatt ved Høgskolen i Nesna og ønsker i løpet av høsten 2004 og Våren 2005 og samle inn data blant barn og ungdom. Data som samles inn skal kunne gi informasjon om hvordan barn og unge tenker når de tegner, hvordan de lærer å tegne og hvem de lærer å tegne av, utenom skolens undervisningsopplegg.

Informasjonen om hvordan barn og unge lærer å tegne på fritiden skal så sammenlignes med lærernes tegneundervisning på skolen. Mitt mål er å kunne belyse følgende spørsmål:

Hva er særtrekkene ved 9 – 13 åringers tegnestrategier i visuell kontroll, og i hvilken grad finnes noen av disse særtrekkene i en lærers klassiske tegneundervisning?

Fordi personalet ved Kunstscolen på Vega kan vise til en praksis med variert tegneundervisning, er denne praksis interessant å få analysert for siden å kunne formidle denne praksisen videre til andre lærere som underviser i tegning. Dette er forskning innenfor en tradisjon som kalles for klasseromsforskning.

Jeg søker herved om tillatelse til å gjennomføre denne datainnsamlingen fra skolens administrasjon, aktuelle lærere ved kunstscolen, lærere ved Vega barne- og ungdomsskole og elever/foresatte. Jeg vil, hvis tillatelse gies, samle inn tegninger, gjøre videoopptak av elevene når de tegner, ta opp intervju av elever og lærere på video, ta opp undervisningssekvenser på video og lese gjennom læreplaner. Alle personer involvert vil bli anonymisert ved databehandling og publisering.

Reell anonymisering innebærer at forskeren sørger for at det ikke gis opplysninger som kan identifisere personene i undersøkelsen. Personopplysningsloven 14. april 2000, nr 31 § 2 nr. 1 definerer en personopplysning slik:

”... dvs. opplysninger og vurderinger som kan knyttes til en enkeltperson”

Ved å trekke fram undersøkelsens geografiske beliggenhet, og samtidig anonymisere elever og læreren, vil dette imøtekommes. En oppsporing av enkeltpersoner blir dermed vanskelig i følge Datatilsynet.

Jeg håper på positiv respons.

Med vennlig hilsen Nina Scott Frisch
Høgskolelektor i kunst og håndverk
Høgskolen i Nesna

Elever og Foresattes underskrift

Ja, jeg tillater innsamling av data under overnevnte betingelser

.....

.....

dato/underskrifter

Til Datatilsynet,
Postboks 8177,
Dep. 0034 Oslo

24.08.07

FORESPØRSEL OM VURDERING/UTTALELSE

Som stipendiat i pedagogikk/tegnedidaktikk ved NTNU holder jeg nå på med et PhD prosjekt med fokus på barn og unges tegneprosesser. (*"Med eller mot strømmen? Vega: Et tilfelle av tegneundervisning. En sammenlignende analyse av eksemplarisk tegneundervisning og selvinitierte tegneprosesser blant 9 – 13 åringer"*). Jeg konsentrerer undersøkelsen om en sammenligning av tegneprosesser i og utenfor tegneundervisningen i grunnskolen der barn og unge lærer å tegne det de ser, altså observasjonstegning og tegning der det er synelig at barn og unge har sett etter en modell, enten i form av en annen tegning eller en gjenstand. Data fra den formelle undervisningen er hentet fra Vega barne- og ungdomsskole, og data fra barn og unges egne uformelle tegneprosesser er samlet inn blant de barn og unge som deltar i undervisningen ved skolen. Motivene i tegningene er ofte av nøytral karakter, det er gjenstander eller modeller hentet fra populær barne- og ungdomskultur. Det er 62 elever som er med på undersøkelsen, og datamaterialet består av ca. 500 tegninger.

Samtlige foresatte har gitt sitt skriftlige samtykke til datainnsamlingen på betingelse av at tegningene anonymiseres (se vedlagt skjema 1). Jeg har samtidig bedt om tillatelse fra foresatte til å kunne bruke de innsamlede tegningene fra undervisning og fritid til å lage en anonymisert database der det geografiske navnet på stedet data er hentet i fra er reelt.

Læreren ved skolen og hans arbeidsgiver "Kunstskolen på Vega" har gitt tillatelse til innsamling og bruk av tegninger, observasjoner og intervjumateriale (se vedlagt tillatelse 2 og 3). Ut i fra disse tillatelsene ønsker jeg å lage en digital database av de innleverte anonymiserte tegningene (og kun tegningene). Jeg vil bruke disse som referanse i mitt forskningsarbeid og håper andre kan bruke dette materiale i faglige sammenhenger, for eksempel Vega barne- og ungdomsskole, Høgskolen i Nesna hvor jeg er ansatt, og Kunstskolen på Vega.

Jeg ber herved om en vurdering / uttalelse fra Datatilsynet på følgende:

En digital database kan utarbeides og offentliggjøres i relevante faglige fora etter følgende profil: 1. en presentasjon av anonymiserte tegninger etter skriftlig samtykke fra foresatte 2. undersøkelsens geografiske beliggenhet komme fram.

Jeg har tidligere vært i kontakt med dere på telefon hvor det ble gitt positiv respons på dette, men jeg vil for sikkerhets skyld be om en skriftlig vurdering. Hvis det skulle være opplysninger som mangler, er det bare å ta kontakt.

Med vennlig hilsen
Nina Scott Frisch
Stipendiat NTNU/Høgskolen i Nesna,
8700 Nesna
Tlf: 92 28 98 08 - e-mail: nsf@hinesna.no

Høgskolen i Nesna
Nina Scott Frisch
8700 NESNA

Deres referanse

Vår referanse (bes oppgitt ved svar)
07/01277-2 /SVE

Dato

12. september 2007

Vurdering av PhD prosjekt

Datatilsynet viser til Deres henvendelse av 24. august 2007.

Etter det tilsynet forstår, er det innhentet samtykke fra barnas foreldre. Registrering i digital database og offentliggjøring av de anonymiserte tegningene, samsvarende med redegjørelsen, fremstår som uproblematisk i forhold til personopplysningsloven.

Med hilsen

Sverre Engelschiøn
seniorrådgiver

Refleksjoner som informant i en kartleggingsprosess

For en tid tilbake ble kunstscolen på Sør-Helgeland forespurrt av Nina Scott Frisch om å være med i en kartlegging omkring barns tegnevaner.

Hun ville gjøre en avhandling omkring barns selvinitierende tegnerutiner og sammenstille disse med tegneundervisning utført i en profesjonell læresituasjon. I den forbindelse ville Scott Frisch bruke en kunstscole i nærområdet som driver kontinuerlig undervisning i visuelle kunstfag. Hun hadde tidligere gjort mindre observasjoner av min undervisning i tegning, og ønsket å bruke meg som informant over en periode. Vi hadde før prosjektet startet flere samtaler rundt prosjektets intensjoner, som virket interessant og spennende.

Observasjonene strakte seg over en periode på ett år i 2004/2005 på mellomtrinnet, ved en lokal skole hvor kunstscolen har jevnlig undervisning.

Det slo meg at det å ha en observatør sittende, hele tiden med falkeblikk på alle detaljer ved min undervisning, ikke var så skremmende som jeg først fryktet. Videokamera, mikrofon og observatørs årvåkenhet var i utgangspunktet litt skremmende, men ble fort glemt i undervisningssituasjonen. Dette virket også å være tilfelle med elevene, som fort ble fortrolig med å ha en observatør i rommet.

Etter hver dags undervisning foretok vi en gjennomgang av undervisningssituasjonen; lærer og observatør. Der ble metode og alle tanker belyst i minste detalj, for eksempel ord og begreper brukt i min undervisning. Dette virket stimulerende på meg og gav også økt innsikt i min rolle som lærer i kunstfag, blant annet hvilke grep jeg bruker for å stimulere og inspirere elevene innenfor mitt fagfelt.

Selv om det kunne være noe stress forbundet med å ha en observatør så grundig tilstede ved undervisningen, ga det meg ny innsikt og inspirasjon.

Jeg er tilfreds med å ha fått bidra i det interessante arbeidet Nina Scott Frisch har gjort i denne sammenhengen. Jeg er spent på konklusjonene som kommer ut av dette omfattende arbeidet.

Følg brev til fagfeller ved PhD prosjektet:

With or against the flow?

A sociocultural comparative analysis of exemplary teaching strategies in observation drawing and children's self-initiated model drawing strategies.

Experiences from Vega in Northern Norway.

Nina Scott Frisch, stipendiat NTNU/Høgskolen i Nesna

september 2007

Takk for at du har sagt ja til å være fagfelle i denne studien. Først vil jeg introdusere studiens innhold og mål i korte trekk, så vil jeg skissere kort hva fagfelleoppgaven går ut på.

Tegnehandlingene barn og ungdom gjennomfører for motorisk å kontrollere en form de ser, har jeg valgt å kalle tegneprosesser fram mot visuell kontroll. Dette begrepet kan relateres til observasjonstegning, sakstegning eller klassisk tegneundervisning. Lærerne ved Vega Kunstscole på Helgeland har lang erfaring med å lære barn å tegne det de ser. En studie av denne tegneundervisningen som representant for god tegneundervisning (formelle tegneprosesser) og en studie av barns egeninitierte tegneprosesser etter modell (uformelle tegneprosesser) danner utgangspunkt for en undersøkelse som har som mål å synliggjøre samsvar eller avvik mellom barn og unges selvinitierte strategier for å lære å tegne og en habil lærers tegneundervisningsstrategier.

Formålet med fagfellevurderingen er å ta en stikkprøve for å verifisere mine egne funn, for å se om jeg tolker datamaterialet slik flere med samme kompetanse tolker dette. Det blir som å sette en karakter på et arbeide og sjekke at flere ville gitt omtrent samme vurdering. Denne referansen er nødvendig for at egen forforståelse og sympatier ikke skal styre vurderingen av materialet der det ikke er ønskelig, og for å klarlegge i enda større grad ønskede premisser for studien. Du har ikke gjennomført observasjoner og du har ikke tilgang på videoopptak. Men du får et materiale som består av transkriberte intervju med læreren og et utvalg av 10 % av elevenes (seks elever, to fra hvert av klassetrinnene 5., 6. og 7. klasse) formelle og uformelle tegninger samt intervjuer/samtaler med disse om hva de synes er likheter og forskjeller i eget tegnemateriale vedlagt som utgangspunkt for fagfellevurderingen.

Datamaterialet er enda ikke anonymisert av hensyn til den pågående trianguleringen mellom observasjon / videoopptak (med reelle navn), tegninger og intervju. Jeg ber deg derfor om å behandle dette materiale konfidensielt når du går løs på *kort* (maksimum en side) å

skissere hva du synes er de viktige likhetene og forskjellene i tegnestrategier av gjenstander og modeller når du sammenligner tegninger og intervju fra den formelle og uformelle arena. Det vil ikke bli brukt reelle navn når det refereres til fagfellevurderinger i avhandlingen, men du vil bli omtalt som "an anonymous peer-reviewer" eller "one of three anonymous peer-reviewers".

Er det noe du lurer på er det bare å ta kontakt. Arbeidet lønnes med en symbolsk påskjønnelse som takk for hjelpen (kr. 1250,-), send meg derfor ditt kontonummer. Vedlagt finner du en frankert konvolutt og jeg ber deg om å returnere alt materialet sammen med din vurdering.

Igjen tusen takk for hjelpen,

Vennlig hilsen Nina Scott Frisch

Høgskolen i Nesna

8700 Nesna

Tlf: 92 28 98 08

nsf@hinesna.no

Vedlegg 1: Transkribering av utdrag fra representativ observasjon av lærer i undervisning og intervju med lærer om undervisning (høst 2004)

Vedlegg 2: Representativt utvalg av seks barn og unges formelle og uformelle tegninger, Edith, Didrik, Camilla, Henry, Aurora, Charles (høst/vinter 2004/2005).

Vedlegg 3: Utdrag fra representative intervju med barn og unge om egen uformell tegneprosess, Erwin/Charles, Edith/Dorothy, og Camilla (høst/vinter 2004/2005)

Vedlegg 4: Intervju med barn og unge om likheter og forskjeller i eget tegnemateriale (member check), Edith, Didrik, Camilla, Henry, Aurora, Charles (vinter 2007)¹

1. The student/children participants are made anonymous in Appendix 15.

No. 1: Peer review of the Ph.D. project: “With or against the Flow?”

The following assessment is based on the given assignment: to consider similarities and differences between a teacher’s strategies in teaching drawing and children’s/youth’s informal self-initiated drawing strategies.

1 – Observing visual form

The teacher emphasizes the importance of observation and encourages the children to observe, that is to look at and study real (concrete) objects when drawing, how the objects are placed in relation to each other and how the light falls and makes shadows. He encourages the children to look at the object and look at their drawings and adjusts/changes/adds in the process. While the teacher’s strategy is to let the children observe real objects, *the children’s* informal strategy is primarily to observe pictures/decorations they find in objects around them (for example a book cover); to observe other people’s drawings, and then draw these themselves (Edith), and to draw the way they remember, that is to draw from previous observations/experiences (Edith). The teacher emphasizes that observation and drawing are simultaneous processes. The children are more inclined to draw the objects as they remember them.

2 –Exploring

The teacher is concerned about when and how the children can recreate the objects’ shapes, lights and shadows. His teaching strategy has this explorative nature. The same is seen in the interviews with the *children*. They talk about how they try out/inquire how they can draw/create different effects. The children’s investigations can be associated with play (they use words such as fun, some even use the word play) and ways of passing time; something they do when they are bored (Edith). The teacher’s practice can also be seen in a play perspective. He talks about giving the students a “kick”, where they become so fascinated that the situation turns into an ideal state of mind. The teacher’s strategy is to try to do something, as he says, that is not a particularly exciting task, and turn it into something exciting and fun to explore graphically. The children point out that when they draw, they draw something they WANT to draw, something they see as fun or something they desire to draw/like to draw. So there is a difference here in what motivates the children to begin to explore and play with graphical form.

3 – Practicing

The interviews with the *children* reveal that they practice and exercise in order to master the right shape/form. They try several times to get the shape the way they want it (Dorothy). This is also the *teacher’s* concern, but the interviews indicate that the children choose certain forms that they “learn by heart”, so to speak, including how these forms are reproduced. One of the strategies is to use wax paper.

4. – Help from other children in the drawing process

The teacher organizes his teaching by grouping the students, but it does not seem like he encourages the children to learn from each other. This is a major strategy referred to in the interviews with the children. They talk about how they sit together, look at and copy each

other's drawings and learn from other children who tell them how to draw, where the good starting point of drawing is, and they also correct each other (for example Erwin and Charles).

5 – Help from adults in the drawing process

The data material shows that the teacher to some extent helps the children by drawing a little on their drawing. A parallel child-initiated strategy is to draw with Dad (Erwin). Sondre draws by looking at his dad's drawing. Dad shows Sondre, and then they work together.

No. 2: A comparison between children's and young people's self-initiated strategies when learning to draw, and an experienced drawing teacher's teaching strategies, from examples collected by Nina Scott Frisch. Peer review November 2007.

The formal arena (in a teaching setting with a fixed drawing assignment):

The teacher tries to make the students see, and he gives them tools to do so: knowledge about how to make the effects, not only the drawing possibilities on paper, but also how the drawing seems in space, close up and from a distance. In other words, different ways of seeing that can give the students information when they are making their drawings. The teacher wants to expand the students' "vocabulary" in drawing and expand their awareness of their own possibilities to change and improve (this is similar to Dorothy's and Edith's strategies). The teacher involves himself in the students' work with specific action (*is this in some of the students' zone of proximal development? Do many students need teaching because the teacher's teaching strategy does not quite match where the students are learning-wise?*)

The teacher says he uses "tricks" to make different effects...we are cheating...(COHERENT with the children's preferences for easy solutions such as patterns). The teacher tries to get the students in an investigative mood, to make them see that visual effects work, that change/improvement is possible; that there are qualitative leaps and fascination as a consequence (see the teacher's use of "kick" in the interview, also how he describes problem-solving methods).

The children's/students' self-initiated strategies:

Some children are very clear about their preferences for fixed patterns: it is obvious in the boys' Donald drawings, and in the "Didl"; to mimic, copy or draw according to something else (preferably from another drawing), in other words, to draw after another drawing. Is the drawing itself a teacher? "The recipes", "the tricks", can also be treasured as a method, a way of doing things, as in the example with the girls and the drawings of glasses one can not find that much drawing of real objects.

Edith also likes to explore: Dorothy and Edith have learned something (or kept the ability to learn) by trying things out, not only several times with the same pattern, but with different ways of seeing. The girls manage to transfer knowledge and experience from the formal arena to their own work, and they are explicit about their possibility to improve. In this process they also use each other (adults can also be used, for example a dad). This help from peers has different functions: 1) using each other as a source of knowledge, and in this way, also as a source of knowledge from the formal arena. 2) As direct help: drawing for each other: the boys (Erwin and Charles + Dad) and the girls (Dorothy and Edith) differ, as drawers of a pattern/scheme on other's drawing or as someone who tries out and transfers skills and knowledge – as a model for a pattern or "tricks", or as ways of drawing. 3) As teacher and mentor of skills, such as to see and assess (possibilities, progress and effect). Not to forget: the desire, the joy as a major principle: a boy has "played" with drawing...the voluntary aspect, something one wants to do; Susanne investigates, uses her imagination (coherent with the teacher's "kick").

Not everyone adapts the knowledge and skills they obtain from adults' teaching, or rather from the adults' teaching *alone*: Going through another peer could be a way to learn (in the formal

arena, my comment). This path of learning is used by several of the children in the examples provided.

In the examples where the children function to a wide extent as teachers, they give the impression of liking to be in this position as helpers and mentors for the other. It is likely that they learn from this themselves. Here the examples are not easy for me to interpret: to teach is also a way to learn, but this aspect of learning is not investigated here. The role as a mentor is of course also important regarding psychological and social growth (belonging, social positioning, self-consciousness, the ability to put oneself in others' situations and to experience one's own and other's learning potential).

FORSKNING PÅ TEGNING



Til elever og foresatte, lærere og andre interesserte som var med høsten 2004/2005 i forskningsprosjektet med fokus på tegning, inviteres til:
Presentasjon av resultater og utstilling på nettet av tegningene fra prosjektet
Sted: KUNSTRØMMET VED VEGA SKOLE
TID: KL. 19.00 - 20.30, FREDAG DEN 28. AUGUST

PowerPoint-presentasjon og nett-presentasjon,
med mulighet for å komme med kommentarer

Enkel servering
VELKOMMEN!