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To cite this article: Yngve Antonsen, Rachel Jakhelln, Jessica Aspfors & Kristin Emilie W. Bjørndal (2023): Solo, collaborative or collective? Newly qualified teachers' experiences of being stirred into induction practices, *European Journal of Teacher Education*, DOI: [10.1080/02619768.2023.2227339](https://doi.org/10.1080/02619768.2023.2227339)

To link to this article: <https://doi.org/10.1080/02619768.2023.2227339>



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Published online: 22 Jun 2023.



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Solo, collaborative or collective? Newly qualified teachers' experiences of being stirred into induction practices

Yngve Antonsen ^a, Rachel Jakhelln ^a, Jessica Aspfors ^{b,c}
and Kristin Emilie W. Bjørndal^a

^aDepartment of Education, UiT The Arctic University of Norway, Tromsø, Norway; ^bFaculty of Education and Arts, Nord University, Bodø, Norway; ^cFaculty of Education and Welfare Studies, Åbo Akademi University, Vaasa, Finland

ABSTRACT

This study investigated newly qualified primary and lower secondary school teachers with a master's degree in Norway and how they experienced being stirred into induction practices in their school. The theory of practice architectures was the theoretical framework used in the analysis, and the term 'stirred into' refers to the dynamics of entering and becoming a practitioner of a specific practice. A thematic analysis of 42 interviews revealed three induction practices: 1) *solo practices* where the teachers plan and evaluate the teaching alone, 2) *collaborative practices* where the teachers plan and develop the teaching through collaboration with a few colleagues and 3) *collective practices* where the teachers can discuss their teaching with all their colleagues and engage in mutually beneficial and productive interactions. The study identifies how the schools' site-specific practice architectures prefigures and shapes newly qualified teachers' practices during the induction phase.

ARTICLE HISTORY

Received 23 January 2022
Accepted 8 June 2023

KEYWORDS

Newly qualified teachers; induction practices; informal learning; collaboration; theory of practice architectures

Introduction

Multiple studies have addressed the need for supporting newly qualified teachers (NQTs) due to their high dropout rates, public policy mandates for teacher quality, declining student achievement scores and the complexity and diversity of today's rapidly changing classrooms and school environments (e.g. Colognesi, Van Nieuwenhoven, and Beausaert 2020, Thomas, Tuytens, Moolenaar, et al. 2019). The induction phase of NQTs involves acquiring the profession skills while at the same time searching for legitimacy and becoming an asset for the current school context (Kelchtermans 2019). The term induction is viewed as having four broad categories of meanings: a process for learning, a special phase in teaching, a particular period of time and a system (Britton et al. 2003, 3). Studies have documented the positive effect of formal induction programmes and mentoring on teachers' commitment and retention, classroom teaching and student achievement (Kutsyuruba, Walker, and Godden 2019).

CONTACT Yngve Antonsen  yngve.antonsen@uit.no  Department of Education, UiT The Arctic University of Norway, Tromsø 9037, Norway

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Recently, several studies have investigated how NQTs find and use informal support from their colleagues in school, early in service (Harju and Niemi 2020, Thomas, Tuytens, Devos, et al. 2019, Colognesi, Van Nieuwenhoven, and Beusaert 2020). Most new teachers independently search for support and collaboration during the induction phase, and high-quality collegial support, not only professional support, but also emotional and social support are important for their job satisfaction and intrinsic motivation to teach (März and Kelchtermans 2020, Thomas, Tuytens, Moolenaar, et al. 2019). The importance of leaders and colleagues who contribute to the informal support of NQTs' new tasks and teaching arrangements is well documented (Kyndt et al. 2016, Williams, Prestage, and Bedward 2001). Research has demonstrated the school context and the acceptance of colleagues to be of significance in building resilience amongst NQTs (Beltman, Mansfield, and Price 2011). Le Cornu (2013) highlighted the meaning of reciprocity and confirmed that NQTs need to experience the recognition of their contributions to the profession and the school community. März and Kelchtermans (2020) documented how the NQTs found prominent informal support from other NQTs at their school as well as from experienced teachers from their subject departments. The authors argued for more investigation into the value of informal support and social learning for teacher induction.

Against this background, the aim of this study is to gain a broader perspective of what prefigures and shapes the induction practices in schools, and how they influence NQTs' experiences. Accordingly, induction practice in this study means the dynamics between the NQTs and the school during the first years of service, which includes support, forms of collegial engagement and processes of learning. This is of interest in a context where, starting in 2017 nationally, there has been a shift towards research-based teacher education with a five-year master's degree programme for primary and lower secondary school teachers (Jakhelln et al., 2019). UiT The Arctic University of Norway (UiT) piloted the first integrated teacher education programme at the master's level in Norway in 2010. In this study, we took a bottom-up perspective by capturing the voices of these NQTs, and we interviewed the first three cohorts that graduated from the pilot programme about their induction practices.

Conceptual framework

The theory of practice architectures

As an analytical lens, we used the Australian theory of practice architectures (Kemmis and Grootenboer, 2008), which has been widely used internationally (Kemmis et al., 2014). NQTs' induction practices involve learning how to behave and how things are done in the organisation as well as how colleagues talk with each other and handle expectations (Kemmis et al., 2014). Here, we use the theoretical metaphor '*stirred into*' practices, which involves the dynamics of entering and becoming a practitioner of a specific practice (Kemmis et al. 2017). According to Kemmis et al. (2017, 45) 'people "learn" practices, not only "knowledge", "concepts" or "values"'. When new teachers are being '*stirred into*' a new practice, such as induction, they are becoming practitioners of that practice (Kemmis et al. 2017). The metaphor elucidates how they are learning and are initiated

'into language games (sayings), activities (doings) and ways of relating to others and the world (relatings), and into how these hangs together in the projects of practices' (Kemmis et al. , 57). The practices are channelled in their course by practice architectures composed of *cultural-discursive arrangements* (resources that make possible the language and discourses used), *material-economic arrangements* (resources that make possible the activities undertaken) and *social-political arrangements* (resources that make possible the relationships amongst people) (Kemmis and Grootenboer, 2008). Induction practices do not occur in a vacuum but are held in place and shaped by prevalent arrangements, such as agreements and traditions on support of NQTs both nationally and locally, which include all the conditions that shape how a particular practice unfolds in a particular site, with this new teacher, those particular students, those colleagues and the management (Kemmis and Grootenboer, 2008).

The theory is relevant as a frame for understanding how schools impact teachers' induction. This is because the theory emphasises practices as social and situated phenomena and provides an account of what practices are composed of and how practices shape and are shaped by arrangements 'that exist beyond each person as an individual agent or actor' (Kemmis and Grootenboer, 2008, 37). The practice architectures can in this way be understood as presenting a dynamic and holistic view of what prefigures and shapes NQTs during induction. They learn through participation and develop dispositions, i.e. knowledge, skills and values, regarding how the practice is likely to unfold in the specific site. As such, induction practices are always situated in time and space. Like Mahon et al. (2017), we do not restrict the meaning of the metaphor 'stirred into' to only coming to know a practice, but rather that the new teacher becomes a co-participant in and co-producer of the practice. As such, the theory can contribute to making visible the new teachers' experiences of being stirred into practices of induction within a particular practice landscape as part of a site, and the arrangements that enable and constrain that stirring in.

Previous studies about collaboration and autonomy

Here, we introduce the concepts of teacher collaboration and autonomy, which we later use to discuss the results. This literature contributes concepts that broaden the understanding of how NQTs are being stirred into different induction practices. Current research emphasises teaching as a collaborative profession, beyond the independent professional working in the classroom, and the evidence supporting collaboration practices for school development and teacher improvement is substantial (Hargreaves 2019, Vangrieken et al. 2015). As such, collegial ties and collaboration between teachers in schools directly influence the NQTs' experiences of their induction (Caspersen and Raaen, 2014, Williams, Prestage, and Bedward 2001). According to Kelchtermans (2006, 226), the term 'collaboration' refers to teachers' cooperative actions in a descriptive sense, whereas 'collegiality' refers to the quality of relationships among the colleagues in a school. Here, Kelchtermans (2006) especially differentiates between doings and relatings in accordance with the theory of practice architectures (Kemmis and Grootenboer, 2008). These terms mirror each other as collaboration and actual actions are influenced by the quality of the colleagues' relationships at the same time as they are situated in the time

and space of the school. The NQTs' experiences of collaboration as well as collegiality and how these are valued amongst colleagues are determined by the cultural and organisational working conditions in the schools (Williams, Prestage, and Bedward 2001). Shah's (2012) and Vangrieken et al. (2015) reviews of teacher collegiality confirm the benefits of collegial cultures in schools to enhance the teachers' professional growth, organisational effectiveness and student learning. These findings correspond with Hargreaves (2019) and Hargreaves and O'Connor (2017), who discuss how the development of long-term professional collaboration improves teaching and student outcomes. NQTs involvement in such collaboration may contribute to the development of new perspectives and new thinking (Kelchtermans 2019).

Vangrieken et al. (2017) discuss how teachers could collaborate and feel autonomous in their work. The authors point to the difference between reactive autonomy, where NQTs work independently and in isolation in a non-collaborative way, and reflective autonomy, where NQTs act based upon personal choice and feel responsible for their behaviour. For example, NQTs that collaborate may feel both reflective autonomous and be inter-dependent, while isolated teachers may experience lack of autonomy if the practice is not self-elected but based on administrative and organisational decisions. According to Kyndt et al. (2016) and Vangrieken et al. (2017), a reflective autonomous attitude may help NQTs develop collaboration and professionalism. Such work demands more than superficial collaboration in the form of discussing and solving practical affairs that rest on reactive autonomy. As such, NQTs would benefit from deep-level collaboration that involves participating in open and constructive dialogues that question underlying beliefs about the didactics of teaching, as well as the handling of daily work (Vangrieken et al. 2015).

To summarise, when NQTs are being stirred into induction practices, their experiences in the form of sayings, doings and relatings reflect whether there is collegial collaboration and/or reflective autonomy. Based on previous research on induction and our conceptual framework, we have specified the following research question:

How do NQTs with a master's degree in teacher education experience being stirred into the induction practices in their school?

Methodology and methods

The Norwegian context

Until 2017, four-year teacher education programmes in Norway for primary and lower secondary schools gave teachers a flexible and broad knowledge base, so they could teach several school subjects. The first pilot of the research and development (R&D)-based teacher education focused on research, academic skills and in-depth knowledge (Jakhelln et al., 2019). This pilot programme evolving with minor changes over the three first years articulated the main principles for the national teacher education reform implemented in 2017. The pilot was differentiated into two programmes adapted to the Norwegian educational system: 1st–7th (1–7) grades and 5th–10th (5–10). Students in both programmes took a total of 300

European Credit Transfer System (ECTS) credits, and have a specialised knowledge base with two to four school-related subjects with 30 to 60 ECTS in each. The students also took at least 60 ECTS in education studies, and this included knowledge about to example didactics, the role of the teacher, inclusive education, and collaboration for professional and school development. Examples include the third-year course in school as a learning organisation (from 10–20 ECTS), and the third-year 10 ECTS course where the students formed groups to analyse an action learning project that they had conducted in their third-year practice period in school. The master's subject comprised a total of 150 ECTS, and the thesis was written in education studies for 1–7. The 5–10 students master's subject comprised a total of 120 ECTS, and the thesis was written about subject didactics that should be relevant for their professional work.

The official governmental policy of support for NQTs during their induction period is an option for schools and has mainly been arranged through a one-to-one relationship where an experienced colleague mentors the NQT during their first year of service. This individual learning focus has been criticised by Helleve and Ulvik (2011) as the NQTs also need to learn their work as a member of a learning community. Here, Caspersen and Raaen (2014) found that NQTs from the former four-year teacher education experienced challenges with articulating their needs for support and involving themselves in professional collaboration with experienced colleagues. Later, in 2018, national principles for mentoring NQTs were launched, which all schools were recommended, but not obliged, to follow. The principles refer to the Norwegian Working Environment Act (2005) and point out that NQTs should be included, recognised and valued in the professional community as resources and contributors. The act highlights that the work should be arranged and organised with due consideration of the employees' age, experience, and capacity for work. An evaluation has, however, documented that seven of ten Norwegian teachers have a mentor in their first year of service, and most mentoring happens continuously related to teaching or other tasks in school. These 68% have reduced their teaching workloads by between 30 or 60 minutes every week, which is set aside for mentoring (Rambøll, 2020).

Selection and data generation

We interviewed 42 NQTs with a master's degree after one year in the profession, of whom 19 graduated in cohort 2015, 12 in cohort 2016 and 11 in cohort 2017. The NQTs participated voluntarily after a written invitation, and a detailed description of the study was sent to all student teachers. The sample was self-selected, and the informants gave their written consent to participate. The distribution of informants consisted of 13 females and 12 males from the 5–10 programme and 16 females and 1 male from the 1–7 programme. The gender distribution in our study matched the differences amongst students in the programme. Most of the NQTs were in their mid-twenties when they graduated and worked in schools throughout Norway.

An open-ended semi-structured interview guide (Kvale 2008) was developed with a wide approach to gather data to capture how the NQTs experienced their induction.

The guide was not influenced by theory and covered the following themes: 1) mentoring and support from management and colleagues, 2) the research-based knowledge gained in education and how it was received at the NQTs' new workplace, 3) professional development, 4) collaboration amongst the teachers, 5) challenges and strengths and their own competence, 6) infrastructure and the composition of the collegium, including other NQTs, 7) collaboration with students, parents and management and the school's development focus.

The number of informants allowed us to capture variations in the school context. The interviews lasted around 60 minutes and were audio recorded and transcribed verbatim. The study followed the ethical standards approved by NESH (2019) and is approved by NSD – Norwegian centre for research data with project number 795217.

Analysis

In the analyses of data, inspiration was found in Braun and Clarke's (2019) Reflexive Thematic Analysis (RTA). The RTA approach is theoretically flexible and allows the possibility of combining inductive and deductive-oriented coding to capture the nuances and perspectives in the material (Braun and Clarke 2019). The analysis has been conducted over several years, most of phase 1–3 was conducted in 2018 and phases four and five were completed in 2020–21. The three authors from UiT performed the analysis in phases 1–4. Here, we explain the phases of our analysis.

Phase 1: Introduction and choice of investigation

In the first phase, the team openly began with reading 10 transcripts from the 2015 cohort to get an introduction and to brainstorm themes of interest for further investigation among the varied data. We sat together and discussed statements and ideas from the data inductive-oriented. During this process, surprisingly, we noticed that the NQTs described very different experiences with their induction in their schools and we decided to investigate this subject.

Phase 2: Inductive-oriented coding approach

In phase two we started coding the 31 interviews from cohort 2015 and 2016 that were available in 2018. We used text search in NVivo to identify the material related to features about the NQTs induction in schools as the long semi-structured interviews had several themes. To capture the relevant material, the text search included the following words: 'management, principal, curriculum manager', 'colleague, colleagues', 'mentor', 'support' and 'cooperation'. Our search included sentences and paragraphs around the searched word. In the coding, we used the function available in NVivo to go back to interviews and reread the whole text around the theme for further insights and clarification. To determine inductive codes, the process included coding whole sentences and sequences based on their content. One example is the code 'support from colleagues in team' that includes quotations like this from L21: 'The mentor we have received – she is a good teacher – but the teacher is not in the classes we are in, so yes. We have many good people around us that we work closely with so we may feel that we take it there and then with them'. The

coding generated 144 codes in total, but most codes contained one or two statements and these was not followed up.

Phase 3: Generating initial themes

To generate inductive-oriented themes, the authors all read the codes individually and discussed the findings critically, looking for patterns and explanations in the material. In the process, we started to merge codes and build emerging themes in NVivo as the NQTs described their induction in the form of three differenced practices in schools as a) fragmented with lack of support, b) team-based support or c) integrated support from the whole school.

Phase 4: Developing and reviewing themes

To develop themes, we needed to further scrutinise the data, read 10 or 11 interviews each and read all the 31 interviews in the first two cohorts in full. In this process, we summarised the informants' experiences in tables using Word. In the tables, we used quotations and codes that summed up each of the NQTs experiences related to their induction, such as mentoring, contact with management, social and professional contact with colleagues, collaboration, office situation, communication, subject, teaching and other tasks. We then compared the NQTs and divided them into three emergent themes: the solo, the collaborative and the collective. Later, in 2020/21, the first author revised the themes and distributed the last 11 interviews from cohort 2017 using NVivo.

Phase 5: Deductive-oriented themes

We proceeded with deductive-oriented themes, utilised concepts from the theory of practice architectures and developed the three themes by capturing the sayings, doings and relating's, as well as the *cultural-discursive*, *material-economic* and *social-political arrangements* in each of them. After that, the three authors from UiT again reread five random interviews from the material to validate the themes. [Table 1](#) in the results section demonstrates how the three induction practices were recognised in the data material.

Phase 6: Writing up

During the writing of the paper, we developed the deductive analysis as we discussed the content, quotes and arrangements used in each theme. The NQTs will be referred to by numbers in the results section. For example, T1, for teacher number 1.

Results

Here, [Table 1](#) gives an overview of the characteristics of solo, collaborative and collective induction practices.

Next, we will present and elaborate on the results of each of the three induction practices presented in [Table 1](#).

Table 1. Overview of the characteristics of solo, collaborative and collective practices.

Being 'stirred into':	NQTs' experiences of the practices	NQTs' experiences of the practice architectures of the site
Solo practices	<p><i>Sayings</i> I, the teacher. Individual problem-solving.</p> <p><i>Doings</i> Alone in planning, implementation and evaluation of teaching. Lack of management support.</p> <p><i>Relatings</i> Weak relationships with colleagues. Isolation</p>	<p><i>Cultural-discursive arrangements</i> Limited knowledge sharing amongst teachers about their daily work.</p> <p><i>Material-economic arrangements</i> Physical distance amongst colleagues.</p> <p><i>Social-political arrangements</i> Lack of relationships across generations of teachers. Little interest in NQTs' knowledge base.</p>
Collaborative practices	<p><i>Sayings</i>We, the team. My colleague knows a lot of things. <i>Doings</i> Collaboration with someone similar or in a similar class. Team that is practical or development-oriented.</p> <p><i>Relatings</i>Colleagues. Equality. Varying ideas about teaching at school.</p>	<p><i>Cultural-discursive arrangements</i> Opened possibilities for talks about and improvement of the everyday work amongst a few or several colleagues.</p> <p><i>Material-economic arrangements</i> Co-work or teams provided possibilities for teacher collaboration and for discussions about the teaching in class and practical regulations with the closest colleagues.</p> <p><i>Social-political arrangements</i> Fostered close relationships and collaboration amongst a few colleagues/team. In general, little interest in the NQTs' knowledge gained from teacher education.</p>
Collective practices	<p><i>Sayings</i>We, the school. Colleagues open to new knowledge and developmental work. Colleagues share ideas and knowledge. <i>Doings</i> Access to integrated support and common development in daily work. Meets and mixes with colleagues in school.</p> <p><i>Relatings</i> Strong relationships with colleagues. NQT contributes to learning and development.</p>	<p><i>Cultural-discursive arrangements</i> Inclusion, openness to new ideas and development and knowledge sharing.</p> <p><i>Material-economic arrangements</i> Integrated support and common planning and development of teacher arrangements and other tasks in the daily work from all the colleagues.</p> <p><i>Social-political arrangements</i> Similar thinking about teaching and strong relationships with colleagues who also invite the NQTs to contribute ideas, learning and development for the school.</p>

NQTs' experiences of being stirred into solo induction practices

Eight NQTs, i.e. T5, T16, T23, T24, T25 and T35 in primary schools and T2 and T37 in lower secondary schools, experienced being stirred into solo induction practices. These NQTs worked in schools where they experienced planning and evaluating their teaching and other tasks alone. None of these teachers had regularly mentoring, but T2 and T5 expressed that they benefited from having up to six hours of both observation and mentoring during the year. For T5 and T16, their closest leader should function as a mentor, but this did not work out because of sick absences and high work pressure amongst the management. Four of the teachers (T24, T25, T35 and T37) expressed that they missed having a mentor. In sum, these NQTs did not highlight mentoring as being important for their informal learning in their school.

What characterises these teachers' induction practices is a lack of communication, collaboration and support from other teachers and leadership leaving the NQTs with

individual problem-solving, as exemplified by T23: 'I experience that, in the team I belong to, I am working very alone with my subjects, and plan them alone'. Here, the use of I (sayings) is consistent with the description of their role in class and in the team as an individual. The quote demonstrates how these teachers experience that they must figure out how to do their work (doings) themselves and reveals how the NQTs have weak relationships (relatings) with colleagues despite some of the NQTs belonging to a team, as was the case with T23.

According to the participants, the cultural-discursive arrangements limited the collaboration amongst teachers to practical issues and practical planning. These schools are characterised by limited knowledge sharing and development orientation amongst teachers and management in their daily work, as illustrated by T16: 'We do not discuss so much ... so it becomes lonely'. The NQTs rarely experienced dialogue about students' behaviour, teaching techniques and other everyday problems with colleagues.

In relation to material-economic arrangements, the NQTs expressed that their teaching plan was not adjusted by management to suit the subject specialisation they acquired in their education. They had to teach several subjects without prior knowledge gained from teacher education. Six of the NQTs were assigned to tasks considered labour-intensive, such as teaching classes that had experienced extra difficulties related to, for example, unrest, constant changes of teachers or challenging parents, or to teach introduction classes for immigrant children. In general, these NQTs had little contact with the principal and management and were provided minimum assistance with tasks and very little support. Several of these NQTs experienced the induction practice as challenging, as noted by T35: 'I was so alone with the difficulties'. The material-economic arrangements were in many cases characterised by physical distance amongst the colleagues, as T16 described: 'We are spread around. We have six different working environments'.

The social-political arrangements had a negative influence on the development of new relationships across generations of teachers. As T24 stated, 'I don't think it's that easy to get into the traditions and culture ...'. The NQTs experienced meetings and discussions based on traditions, hierarchy, and task orientation.

Practicing solo teaching did offer some benefits, as the NQTs could apply their innovative teaching techniques and research background to experiment in the class without interference from other teachers. These NQTs handled new situations and tasks where they found that they lacked knowledge by searching for updated knowledge through research, textbooks, or the internet. The NQTs experienced demanding work with their class, but they also claimed succeeding with their teaching and establishing positive relations with the students.

NQTs' experiences of being stirred into collaborative induction practices

Of the seventeen teachers who experienced being stirred into collaborative practices, T12, T18, T21, T26, T28, T43, T45, T47, T48 and T50 worked in primary schools and T6, T13, T29, T31, T41, T42 and T44 in lower secondary schools. Five of these teachers had mentoring, which varied in form from regularly to four times a year. These NQTs used the word 'reassuring' while describing the support from their mentor. T21 and T28 also had a designated mentor, but as most of these NQTs, they discussed the pupils and issues with their closest colleagues. These NQTs found themselves one or more close colleagues

and engaged them as discussion partners for planning, developing and evaluating the teaching or for informal mentoring when the work tasks were especially difficult, such as dealing with parent contact. Some relied on other NQTs with a similar background as themselves, with whom they shared a common understanding of the teachers' work. These NQTs emphasised the importance of the colleagues or teams' knowledge and described the working environment as 'We, the team' (sayings). T31 illustrated the importance of support from the team and explained how 'The colleagues in the office have taken me under their wings . . . Taught me many things which I had not encountered before (laughter)'. This statement also exemplifies how the NQTs found security and knowledge sharing in their collaborative work with colleagues. T47 highlighted the meaning of sharing (doings) 'being four teachers in the team, we were able to share the tasks, and if challenges now arise . . . you always have someone to talk with'. This quote also shows how some team members divide tasks amongst themselves internally, for example, teaching, so the NQTs could teach more of the subjects they were prepared for during their teacher education. Other NQTs reorganised their schedule, teaching the same subjects at the same time in two different classes as they could collaborate and thus regroup the students to deliver better adaptive teaching.

The collaboration was often based on similar thoughts about teaching (cultural-discursive arrangements). The NQTs found that the environment could be adapted for collaborative discussions, problem-solving and improvement of the everyday work amongst the team or selected colleagues. T31 exemplified such practices: 'In our team, we are good at sharing experiences and helping each other and talking to each other'.

The schools' material-economic arrangements influenced the NQTs, as they often formed collaboration based on the co-location of colleagues in their team or office, as expressed by T18: 'We have teams, where we have time to discuss what we might want there'. Some expressed close contact and positive discussions with management, while others described their relation to management as distant, which in many cases, seemed to be the result of the management having offices placed away from the teaching staff. Several NQTs described challenges related to time for reflection and feedback for improving their work that could involve more than the collaborators.

The social-political arrangements promoted collaboration with colleagues or the team and, in turn, between new and experienced teachers. The arrangements fostered a safe environment and brought motivation for the newcomers. As T18 explained: 'if it were not for the good colleagues in the team, it would have been difficult, with my motivation and everything'. The NQTs experienced less hierarchy amongst their collaborators, who often had a genuine interest in improving their work. The NQTs were encouraged to share and further develop their knowledge from their education with the collaborators. Several NQTs described how they, due to conditions in the team or at school, had to make progress slowly when bringing new working methods into their common practice. Others felt they had to adjust their own ideas about teaching, collaboration and feedback, and some described the situation as problematic. These NQTs experienced limited interest by others in their knowledge gained from teacher education and their new teaching methods and that the colleagues, in general, represented a more traditional approach to teaching and learning. L41 stated, 'I have probably noticed that I may think a little differently, ask questions in a slightly different way and be a little more critical in relation to many things compared to what other teachers may be'. These NQTs also expressed that

they had received various kinds of feedback and support from their management, which could be the results of limited knowledge about their subject specialisation and research-based knowledge from teacher education.

To be stirred into collaborative induction practices limited the NQTs' experiences to the team's work or to colleagues who had common interests. For some NQTs, the collaboration was described as random; in others, it was more planned and systematic. Lack of more general discussions about students, teaching or professional development across the teams was seen as problematic by several of the NQTs.

NQTs' experiences of being stirred into collective induction practices

Seventeen teachers experienced being stirred into collective induction practices, namely, T3, T27, T30, T34, T36, T38 and T40 who taught in primary school and T1, T4, T7, T9, T10, T14, T32, T33, T46 and T49 who taught in lower secondary school. Four of these teachers described that they had a mentor and that this was beneficial for their individual professional development. Five other NQTs received informal mentoring or had an agreement with a close colleague or a leader about using them for necessary support. Seven additional NQTs did not have any mentoring, and while a few missed it, others did not. The NQTs who experienced a collective induction practice were able to discuss the work and express real concerns to their colleagues through interactions and sharing common interests. This was exemplified in a statement by T27: 'If I have any questions, I know whom to ask in that knowledge area. It has gone a lot the opposite way too, where people have come and asked me. It's fun'. T27 experienced both support from and interactions with colleagues who requested his knowledge and described it as meaningful to their common practice (sayings). These NQTs experienced colleagues who were willing to share and who took the initiative to include the newcomer in the school's common practice (doings), as described by T30:

In the beginning, everyone was like: 'Come and ask if there is anything you need help with', and then they suddenly came up with teaching plans I could try. I did not expect a sharing culture like this! This is just what I hoped for ... that you have so much support from your colleagues.

T30 and many of these NQTs were surprised by their experiences and saw them as unexpected, and they described the situation with language full of superlatives. T49 described the positive experiences:

They have been very open and inclusive and demonstrated great willingness to listening to us [newcomers], not because they are forced to it, but because they have a genuine interest in actually learning more from what we have to bring.

This statement demonstrated how the feeling of inclusion (relatings) was closely linked to openness to their knowledge.

These NQTs experienced cultural-discursive arrangements enabling their knowledge to be integrated into the common knowledge base. The teachers supported each other, and the NQTs knew whom to ask for advice related to different needs. As noted by T1: 'We used to talk in the school about how well we complement each other ... So together we

represent varied knowledge, and I see their knowledge as equal to mine'. Here, T1 experience being a part of a 'we', that includes the entire school.

Most of the NQTs shared offices with colleagues they worked closely with, and the schools' material-economic arrangements facilitated close collaboration amongst various groups of colleagues in and across the teams. Furthermore, many of the NQTs experienced close contact and interaction with the management who they met daily in the coffee room and whose offices were close to the teachers.

The NQTs highlighted the social-political arrangements, such as the sharing culture, which contributed to their problem-solving ability and informal learning. The colleagues' knowledge was experienced as equivalent or complementary to their own, and contributions to new thinking and ideas were welcomed. This was pointed out by T4: 'Everyone is so super, open, and inclusive. It has been really fantastic!' The NQTs described meetings and discussions as being characterised by an eagerness for improvement in the whole school.

To be stirred into a collective induction practice involves experiences of reciprocity, sharing and a responsibility for the school's practice together with the colleagues. The NQTs, with their research background, felt that they could ask questions and suggest improvement of the established work.

Discussion

The results revealed how the NQTs experienced being stirred into different induction practices described as solo, collaborative or collective channelled by the school setting's practice architectures. Although the NQTs were trained in collaboration skills by their new teacher education, the results exposed that what they find acceptable to talk about, what is normal to do and who is likely to give support and collaborate with in the schools affect the NQTs' induction practices (Kemmis and Grootenboer, 2008).

The solo practices were experienced by NQTs who solved and developed the planning, teaching and other work tasks alone. We found these solo practices in schools with cultural-discursive arrangements that limited knowledge sharing amongst teachers about their daily work, had material-economic arrangements that created physical distance amongst colleagues and management and had social-political arrangements that had a negative influence on the development of new relationships across generations of teachers. NQTs' relationships in these schools consisted of weak bonding with their colleagues and management, and they were not part of a collaborative professional learning community in their schools, as described by previous research as being essential (Hargreaves and O'Connor 2017, Williams, Prestage, and Bedward 2001). The solo practices promoted reactive autonomy (Vangrieken et al. 2017) from the NQTs, as they could influence their own didactics in their teaching but lacked discussion partners for problem solving and professional development. The results also revealed that some of the NQTs found the situation beneficial and had what Kelchtermans (2006) described as strategic reasons for their individualism. These NQTs were confident, acted upon reactive autonomy and used their updated knowledge from their reformed teacher education in their teaching without any interference from colleagues. The solo practices we observed in our study correlated with a decade of research documenting the difficulties for NQTs who lack

support and collaboration (e.g. Britton et al. 2003). The loneliness combined with difficult classes, parents, or students may increase the NQTs' feeling of helplessness and lack of mastery of their work and may reduce job satisfaction and motivation (März and Kelchtermans 2020, Thomas, Tuytens, Moolenaar, et al. 2019).

The collaborative induction practices were experienced by NQTs who formed close professional relations with a colleague or several colleagues for support, sharing of ideas and common development. Here, the cultural-discursive arrangements opened possibilities for talks about and improvement of the everyday work amongst a few or several colleagues. The material-economic arrangements, such as co-work or teams, provided possibilities for teacher collaboration and for discussions about the teaching in class and practical issues with the closest colleagues. The social-political arrangements fostered close relationships and collaboration amongst the colleagues. These NQTs experienced and sought the value of having supportive colleagues for their teaching of and follow-up processes with students and parents, which have also been documented as important informal learning in schools (Kyndt et al. 2016). This form of collaborative practice can be related to Kelchtermans's (2006) definition of teacher collaboration. These NQTs utilised their reflective autonomy by finding close partners with whom they could collaborate based on their shared interests and willingness to improve their teaching. Here, the NQTs exploited their collaborators' competence and often participated in the same team or taught the same subjects, but the collaboration had less influence on the school's development. Some of the NQTs described how their closest colleagues functioned as their informal mentor. Some of these NQTs also had the possibility to establish support and collaboration with other NQTs or younger colleagues. That NQTs can support each other is common knowledge and is, for example, formalised in peer-group mentoring in Finland (Kemmis et al., 2014).

Those NQTs who experienced collective induction practices solved issues with their daily work tasks, difficult situations and long-term development with support from colleagues from the whole school. In accordance with Kelchtermans (2006, 225), this form of practice is grounded in a collegiality 'that rests on shared responsibility for the work of teaching'. Such an environment also fosters reflective autonomy among NQTs as the cultural-discursive arrangements were characterised by inclusion, openness to new ideas and development and knowledge sharing. The material-economic arrangements gave the NQTs access to integrated support and common planning and development of teacher arrangements and other tasks in the daily work from all the colleagues. The processes included social-political arrangements characterised as similar thinking about teaching and strong relationships with colleagues who also invited the NQTs to contribute ideas, learning and development to the school. Here, the colleagues related to each other in a positive way, and this provided help in solving problems and furthering professional development, as was also found by Harju and Niemi (2020) and Hargreaves (2019).

The collective practices confirmed how NQTs, and experienced teachers may benefit from spontaneously informal learning between each other, which has also been documented in other studies (Kyndt et al. 2016, Williams, Prestage, and Bedward 2001). NQTs who could utilise reflective autonomy and learned to collaborate with several teachers in their induction benefitted in their own professional development, and this may have contributed to further professional work in their school and for the school as a learning

organisation (Hargreaves and O'Connor 2017, Shah, 2012, Vangrieken et al. 2015). We found that the NQTs in collective induction practices can develop and use their own networking skills to identify who can help them in obtaining necessary knowledge and advice, as found by März and Kelchtermans (2020).

The NQTs in our study who worked in collaborative or collective practices expressed experiencing positive informal learning processes in their schools after only one year, a finding that was also documented by Williams, Prestage, and Bedward (2001). Both practice configurations acknowledge NQTs as having specific and valuable expertise. The difference between the two seems to be related to how many or how broadly the group of colleagues interacts with the NQTs. Both practices entail opportunities for NQTs to participate in deep-level collaboration about teaching and other tasks (Vangrieken et al. 2015). Our findings also revealed the complexity of the work tasks for NQTs in their first year. These NQTs expressed varying needs for support and to have the answers as soon as possible, as was found by recent research (Colognesi, Van Nieuwenhoven, and Beausaert 2020, Thomas, Tuytens, Moolenaar, et al. 2019). Our results also showed that the NQTs among the new Norwegian teachers with a master's degree did not perceive themselves as less competent than experienced teachers, and neither did they generally withdraw from collaboration, as indicated by earlier research about the previous four-year teacher education (Caspersen and Raaen, 2014). The NQTs in our study described that they in the right context even brought updated research knowledge from their education into the schools, which was a finding that was also supported by Kelchtermans (2019). The NQTs expressed that they had interest, knowledge and ability to collaborate with different teachers, and from their work with their master's thesis, they had increased their ability to find and use updated research and knowledge about teaching and other related tasks. However, for NQTs in their work to contribute new knowledge there needs to be an interest and reception from colleagues for new insights and updated research knowledge, and such recognition can develop resilience, as Beltman, Mansfield, and Price (2011) and Le Cornu (2013) determined.

In addition to recent research about the importance of formal induction and mentoring support for NQTs (Kutsyuruba, Walker, and Godden 2019), this study highlights the role of close collegial ties, which has been supported by recent research (Thomas, Tuytens, Devos, et al. 2019, Colognesi, Van Nieuwenhoven, and Beausaert 2020, März and Kelchtermans 2020). However, the results indicated that the various induction practices in Norwegian primary and secondary schools end up being highly unpredictable for NQTs as to what they can expect of support and collaboration from their colleagues and mentors, as also found by Rambøll (2020).

Limitations

Findings from qualitative studies are generally not valid for all contexts and organisations. However, a detailed description of this specific case makes it possible for others to use the findings in understanding similar social contexts, which has been described as naturalistic generalisation by Stake and Trumbull (1982). Yet, our study has some limitations. Sample bias is a possible factor, as the 42 NQTs participated voluntarily after an open invitation. It is possible that our informants were the most motivated and skilled NQTs. Moreover,

describing practices from interview studies has limitations (Desimone 2009), and the informants' descriptions of their induction in schools may have included misconceptions or lacked accuracy. The differences amongst the informants' oral descriptions of working in solo, collaborative and collective practices could be less clear in practice, especially as the theory of practice architectures brings a frame for analysis, but the sayings, doings and relating's hang together in the projects of practices and, as such, are difficult to separate.

Managing a huge amount of data can be demanding in terms of comprehensively determining and describing all the variation in the material. We used text search to identify relevant data in the interviews but also reread all the interviews later to make sure we got all relevant data. We argue that a change in the analysis approach would have given the same outcome as we obtained by searching for different or alternative findings. To add to this argument, we found support from Bazeley (2007) and Braun and Clarke (2019) that important findings that are not found early will reveal itself during the refining and reviewing phases of the analysis. We also analysed the data over several years. In addition, there was a strength in having 42 informants in a qualitative interview study. As the researchers questioned each other but found consensus in the analysis, this contributed to researcher triangulation as described by Creswell and Miller (2000) and strengthened the inter-rater reliability of the analytical work.

The study used a practice theory approach by applying the theory of practice architectures to discuss the informants' descriptions of their perceived induction. However, direct observations of the NQTs or additional data from colleagues or leaders in their school could have provided a wider and more nuanced perspective for the analysis. Also, two of the researchers who conducted the interviews were supervisors for a smaller number of the informants (7), and this may have influenced their responses. However, the interviews were conducted after the supervising relationship had ceased, and the informants gave open and frank answers involving both negative and positive experiences. Two of the authors did not have any relationship with the informants.

Implications for further research

The theory of practice architectures would be relevant in further investigations about the induction of NQTs. The theory enables a shift in focus from the individual and their work to understanding the role of schools' various practices or projects. Further research could address the role of mentors, principals, and management in promoting collaborative and collective practices that include the NQTs in their induction. It could also investigate and develop a systematic collective approach for the support of NQTs in schools in Norway and elsewhere, as our findings revealed differences between policies and practices related to mentoring and informal learning in schools.

Implications for induction

To strengthen the induction process, policymakers and schools need to promote professional collaboration and informal learning to involve colleagues and NQTs, as has also been claimed by Thomas, Tuytens, Devos, et al. (2019). The NQTs require access to colleagues that can help them, contribute with ideas, and answer questions when needed, especially related to their class and subjects. Our results indicate that schools

that work according to a collective practice not only promote better professional collaboration amongst teachers but also promote NQTs' reflective autonomy as claimed by (Vangrieken and Kyndt 2020). Our results also revealed how material-economic factors matter for the induction of NQTs, for example, what kind of team they belong to, where they are placed and with whom they share offices. Social-political factors in the form of relationships amongst colleagues who are open to new findings, ideas, and curiosity, as well as willing to recognise each other, have a positive impact on the induction of NQTs. Thus, the school's architecture or co-work related to a class or subjects matters for the NQT's choice of partnership. Also, the NQTs could benefit from having the opportunity of choosing their own mentors, as claimed by Colognesi, Van Nieuwenhoven, and Beusaert (2020). Our study indirectly indicates that schools need to either appoint trained mentors or allow informal and/or formal mentor relationships to form organically.

Knowledge sharing, or what März and Kelchtermans (2020) have termed networking inside schools, can also be described in terms of theories of transactive memory systems (Peltokorpi 2008, 382), which involve the degree to which actors in organisations know who knows what and who knows whom. A further implication of this finding is that NQTs benefit from information about the diversity of knowledge distribution inside schools that helps them to find information, gain support and establish real collaboration for development, which has also been documented by Thomas, Tuytens, Devos, et al. (2019).

Conclusions

Our research question concerned how the NQTs experience of being stirred into induction practices in their school. The results revealed three induction practices: solo, collaborative and collective practices. Our results indicated that teachers with a master's in a R&D-based teacher education are prepared to bring updated subject and didactical knowledge as well as ideas for collaborative practices to their schools, and that the schools' site-specific practice architectures 'stir' these NQTs into different induction practices.

Acknowledgments

We thank the informants for their participation, dedication, openness, and critical contributions to the study. We owe special thanks to two anonymous referees.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

This research did originally not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. The review work was partly funded by The Research Council of Norway, project number 320273, Partnership for Sustainable Transition from Teacher Education to the Profession (STEP): Becoming a professional teacher

Notes on contributors

Yngve Antonsen is a professor at Department of Education at The Arctic University of Norway. His current research focuses on management, new qualified teachers, research-based teacher education and professional learning.

Rachel Jakhelln is a professor at Department of Education, UiT The Arctic University of Norway. Rachel does research in Teacher Education, transition from study to work and Educational Policy.

Jessica Aspfors is professor in education at Faculty of Education and Arts, Nord University, Norway. She is also docent and senior lecturer in education at Faculty of Education and Welfare Studies, Åbo Akademi University, Finland. Her research focuses on research-based teacher education, mentoring and professional development.

Kristin Emilie W Bjørndal is a professor at Department of Education, UiT The Arctic University of Norway. Her research interest covers newly qualified teachers, life skills and research-based teacher education.

ORCID

Yngve Antonsen  <http://orcid.org/0000-0002-2030-4007>

Rachel Jakhelln  <http://orcid.org/0000-0002-9313-2082>

Jessica Aspfors  <http://orcid.org/0000-0002-1865-6302>

Availability of data and materials

The data sets generated and/or analysed during the current study are not publicly available due to demands for informant anonymity.

Author contribution

YA: Conceptualization; YA, RJ, KEWB: Data curation; YA, RJ, KEWB, JA: Formal analysis; YA: Methodology; YA: Project administration; YA: Writing – original draft; YA, RJ, JA: Writing – review and editing. KEWB: Writing – commenting. All authors have approved the final article.

References

- Bazeley, P. 2007. *Qualitative Data Analysis with NVivo*. London: Sage Publications.
- Beltman, S., C. Mansfield, and A. Price. 2011. "Thriving Not Just Surviving: A Review of Research on Teacher Resilience." *Educational Research Review* 6 (3): 185–207. <https://doi.org/10.1016/j.edurev.2011.09.001>.
- Braun, V., and V. Clarke. 2019. "Reflecting on Reflexive Thematic Analysis." *Qualitative Research in Sport, Exercise & Health* 11 (4): 589–597. <https://doi.org/10.1080/2159676X.2019.1628806>.
- Britton, E. D., L. Paine, D. Pimm, and S. Raizen. 2003. *Comprehensive Teacher Induction: Systems for Early Career Learning*. Dordrecht: Kluwer Academic Publishers. <https://doi.org/10.1007/978-94-010-0133-5>.
- Caspersen, J., and D. F. Raaen. 2014. "Novice Teachers and How They Cope." *Theory and Practice* 20 (2): 189–211. <https://doi.org/10.1080/13540602.2013.848570>.
- Colognesi, S., C. Van Nieuwenhoven, and S. Beusaert. 2020. "Supporting Newly-Qualified teachers' Professional Development and Perseverance in Secondary Education: On the Role of Informal Learning." *European Journal of Teacher Education* 43 (2): 258–276. <https://doi.org/10.1080/02619768.2019.1681963>.
- Creswell, J. W., and D. L. Miller. 2000. "Determining Validity in Qualitative Inquiry." *Theory into Practice* 39 (3): 124–130. https://doi.org/10.1207/s15430421tip3903_2.

- Desimone, L. M. 2009. "Improving Impact Studies of teachers' Professional Development: Toward Better Conceptualizations and Measures." *Educational Researcher* 38 (3): 181–199. <https://doi.org/10.3102/0013189X08331140>.
- Hargreaves, A. 2019. "Teacher Collaboration: 30 Years of Research on Its Nature, Forms, Limitations and Effects." *Teachers & Teaching* 25 (5): 603–621. <https://doi.org/10.1080/13540602.2019.1639499>.
- Hargreaves, A., and M. T. O'Connor. 2017. "Cultures of Professional Collaboration: Their Origins and Opponents." *Journal of Professional Capital & Community* 2 (2): 74–85. <https://doi.org/10.1108/JPC-02-2017-0004>.
- Harju, V., and H. Niemi. 2020. "Newly Qualified teachers' Support Needs in Developing Professional Competences: The Principal's Viewpoint." *Teacher Development* 24 (1): 52–70. <https://doi.org/10.1080/13664530.2019.1685588>.
- Helleve, I., and M. Ulvik. 2011. "Is Individual Mentoring the Only Answer?" *Education Inquiry* 2 (1): 127–139. <https://doi.org/10.3402/edui.v2i1.21967>.
- Jakhelln, R., G. Eklund, J. Aspfors, K. Bjørndal, and G. Stølen. 2019. "Newly Qualified Teachers' Understandings of Research-Based Teacher Education Practices— Two Cases from Finland and Norway." *Scandinavian Journal of Educational Research* 65 (1): 1–17. <https://doi.org/10.1080/00313831.2019.1659402>.
- Kelchtermans, G. 2006. "Teacher Collaboration and Collegiality as Workplace Conditions. A Review." *Zeitschrift für Pädagogik* 52 (2): 220–237. <https://doi.org/10.25656/01:4454>.
- Kelchtermans, G. 2019. "Early Career Teachers and Their Need for Support: Thinking Again." In *Attracting and Keeping the Best Teachers: Issues and Opportunities*, edited by A. Sullivan, B. Johnson, and M. Simons, 83–98. Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-13-8621-3_5.
- Kemmis, S., C. Edwards-Groves, A. Lloyd, P. Grootenboer, I. Hardy, and J. Wilkinson (2017). Learning as Being 'Stirred In' to Practices. In *Practice Theory Perspectives on Pedagogy and Education*, edited by P. Grootenboer, C. Edwards-Groves, and S. Choy. Singapore: Springer. https://doi.org/10.1007/978-981-10-3130-4_3.
- Kemmis, S., and P. Grootenboer. 2008. "Situation Praxis in Practic." In *Enabling Praxis: Challenges for Education (Pedagogy, Education and Praxis)*, edited by S. Kemmis and T. J. Smith, 37–62. Rotterdam, The Netherlands: Sense Publishers. https://doi.org/10.1163/9789087903275_004.
- Kemmis, S., H. L. T. Heikkinen, G. Fransson, J. Aspfors, and C. Edwards-Groves. 2014. "Mentoring of New Teachers as a Contested Practice: Supervision, Support and Collaborative Self-Development." *Teaching and Teacher Education* 43:154–164. <https://doi.org/10.1016/j.tate.2014.07.001>.
- Kutsyuruba, B., K. D. Walker, and L. Godden. 2019. "Contextual Factors in Early Career Teaching: A Systematic Review of International Research on Teacher Induction and Mentoring Programs." *Journal of Global Education and Research* 3 (2): 85–123. <https://doi.org/10.5038/2577-509X.3.2.1057>.
- Kvale, S. 2008. *Doing Interviews*. London: SAGE Publications, Ltd. <https://doi.org/10.4135/9781849208963>.
- Kyndt, E., D. Gijbels, I. Grosemans, and V. Donche. 2016. "Teachers' Everyday Professional Development: Mapping Informal Learning Activities, Antecedents, and Learning Outcomes." *Review of Educational Research* 86 (4): 1111–1150. <https://doi.org/10.3102/0034654315627864>.
- Le Cornu, R. 2013. "Building Early Career Teacher Resilience: The Role of Relationships." *Australian Journal of Teacher Education* 38 (4): 1. <https://doi.org/10.14221/ajte.2013v38n4.4>.
- Mahon, K., S. Kemmis, S. Francisco, and A. Lloyd. 2017. "Introduction: Practice Theory and the Theory of Practice Architectures." In *Exploring Education and Professional Practice*, 1–30. Singapore: Springer Singapore. https://doi.org/10.1007/978-981-10-2219-7_1.
- März, V., and G. Kelchtermans. 2020. "The Networking Teacher in Action: A Qualitative Analysis of Early Career teachers' Induction Process." *Teaching and Teacher Education* 87:1–15. <https://doi.org/10.1016/j.tate.2019.102933>.
- NESH (The National Committee for Research Ethics in the Social Sciences and the Humanities). 2019. "Guidelines for Research Ethics in the Social Sciences, Humanities, Law and Theology." <https://www.forskningsetikk.no/en/guidelines/social-sciences-humanities-law-and-theology/guidelines-for-research-ethics-in-the-social-sciences-humanities-law-and-theology/>.

- Peltokorpi, V. 2008. "Transactive Memory Systems." *Review of General Psychology* 12 (4): 378. <https://doi.org/10.1037/1089-2680.12.4.378>.
- Rambøll. 2020. "Evaluering av veiledning av nyutdannede nytilsatte lærere (Evaluating mentoring of newly qualified teachers)". <https://www.udir.no/globalassets/filer/tall-og-forskning/rapporter/2020/evaluering-av-veiledning-av-nyutdannede-nytilsatte-larere—delrapport.pdf>.
- Shah, M. 2012. "The Importance and Benefits of Teacher Collegiality in Schools – a Literature Review." *Procedia - Social & Behavioral Sciences* 46:1242–1246. <https://doi.org/10.1016/j.sbspro.2012.05.282>.
- Stake, R. E., and D. J. Trumbull. 1982. "Naturalistic Generalizations." *Review Journal of Philosophy and Social Science* 7 (1): 1–12.
- Thomas, L., M. Tuytens, G. Devos, G. Kelchtermans, and R. Vanderlinde. 2019. "Beginning teachers' Professional Support: A Mixed Methods Social Network Study." *Teaching & Teacher Education* 83:134–147. <https://doi.org/10.1016/j.tate.2019.04.008>.
- Thomas, L., M. Tuytens, N. Moolenaar, G. Devos, G. Kelchtermans, and R. Vanderlinde. 2019. "Teachers' First Year in the Profession: The Power of High-Quality Support." *Teachers & Teaching* 25 (2): 160–188. <https://doi.org/10.1080/13540602.2018.1562440>.
- Vangrieken, K., F. Dochy, E. Raes, and E. Kyndt. 2015. "Teacher Collaboration: A Systematic Review." *Educational Research Review* 15:17–40. <https://doi.org/10.1016/j.edurev.2015.04.002>.
- Vangrieken, K., I. Grosemans, F. Dochy, and E. Kyndt. 2017. "Teacher Autonomy and Collaboration: A Paradox? Conceptualising and Measuring teachers' Autonomy and Collaborative Attitude." *Teaching and Teacher Education* 67:302–315. <https://doi.org/10.1016/j.tate.2017.06.021>.
- Vangrieken, K., and E. Kyndt. 2020. "The Teacher as an Island? A Mixed Method Study on the Relationship Between Autonomy and Collaboration." *European Journal of Psychology of Education* 35 (1): 177–204. <https://doi.org/10.1007/s10212-019-00420-0>.
- Williams, A., S. Prestage, and J. Bedward. 2001. "Individualism to Collaboration: The Significance of Teacher Culture to the Induction of Newly Qualified Teachers." *Journal of Education for Teaching* 27 (3): 253–267. <https://doi.org/10.1080/02607470120091588>.
- Working Environment Act. 2005. "Act Relating to Working Environment, Working Hours and Employment Protection, etc." *Ministry of Labour and Social Affairs*. <https://lovdata.no/dokument/NLE/lov/2005-06-17-62?q=Working%20Environment%20Act>.