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Coordinating teamplay using named locations in a multilingual game environment - Playing esports in an educational context

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Coordinating teamplay using named locations in a multilingual game environment - Playing esports in an educational context

This study investigates the video game play of a multiplayer first-person shooter, Counter-Strike: Global Offensive, as part of an esports programme at a vocational school. The game environment is multilingual, and the focal participants are all Finnish-Swedish bilinguals and proficient in English. The study focuses on the action of providing callouts, which are coordinated, English, words that refer to specific in-game locations and, when provided, point to opponents' locations. The aim is to investigate how participants employ callouts as part of their in-game interaction and teamplay, and what they orient to as 'callout competence'. With a greater understanding of the social organisation of the multilingual game environment and actions, such as callouts, we can better understand the affordances for collaborative and multilingual learning that games can provide for education. Callout competence appears to align with skills and knowledge that may be transferrable into the educational setting; that is, the components that are part of callout competence require collaborative skills and multilingual competence. These skills are part of what makes the teamwork work, as well as an inherent part of activities in an esports education programme that has broadened the classroom to encompass esports game play outside of the classrooms.

Keywords: esports; multiplayer; collaboration; conversation analysis; multilingualism

1. Introduction

In esports contexts, learning and multilingualism are actively and contextually co-constructed in and through in-game interactions with the game itself and with co-players from all over the world (Sylvén and Sundqvist 2012; Rusk, Ståhl and Silseth 2020; 2021; Ståhl & Rusk, 2020). Esports and commercially released games have been shown to be social learning platforms that students may find authentic and motivating, which may improve collaboration skills and multilingual competence (Bluemink and Järvelä 2011; Barr 2019; Gee 2017). The skills needed for gaming, such as problem solving and collaboration, are often manifested and learned in-and-through players' second or foreign language (Chen and Huang 2010; Hung 2007; Sylvén and Sundqvist 2012; Brevik 2019; Polat 2020). Findings suggest that when players teach in-game and collaborative skills to each other, they use English (Gee 2017; Brevik 2019; Rusk, Ståhl and Silseth 2020; 2021). Adolescent gamers have more proficiency in English as a second language than their non-gaming counterparts (Brevik 2019; Sundqvist 2019; Sylvén and Sundqvist 2012) and this out-of-school use and proficiency is translated into in-school use (Brevik 2016).

Communication and collaboration skills are oriented to as important for esports gamers to learn (Rambusch, Jakobsson and Pargman 2007; Rusk and Ståhl 2020; Ståhl and Rusk, 2020). There is, nonetheless, a need to better understand the social organisation of the interaction in online game environments, from both an educational and participant's perspective. Game play in cooperative online video games, as a "new" form of interaction, has importance but is still under explored (Bennerstedt 2013; Reeves et al. 2009). Ethnomethodological conversation analytical (EMCA) studies can contribute to the investigation on members' in-game methods to enable an account and understanding of the social organisation of the in-game interaction. This may help to better understand what kind of learning and teaching of competences games can afford

(Reeves et al. 2017; Bennerstedt 2013; Reeves et al. 2009; Rusk and Ståhl 2020; Rusk, Ståhl and Silseth, 2021). Many EMCA studies on learning approach learning as observable and accountable social actions that participants actively do in interaction (cf. Melander, 2012; Rusk, 2016), and consider the learning object as locally established, co-constructed, and relevant for the participants doing learning.

In this article, we view learning as social action and investigate a multilingual and collaborative gaming practice; providing and employing 'callouts'¹. The term 'callout' can refer to both "precise, timely verbal instructions" (Taylor 2011, 233) of what is happening in the game and English, known-in-common, words that refer to specific locations in the game map (see Total CS:GO for a database of most callouts in the CS:GO community). In this study we use the term 'callout' when referring to the name of the location and 'provide/give/do a callout' when referring to the social practice of sharing information on the locations and actions of opponents (this is similar to how participants, themselves, engage with the term).

The video game play data is of a multiplayer first-person shooter (FPS) game, Counter-Strike: Global Offensive (CS:GO), as part of an esports programme at a vocational school (Ögland, 2017). The programme does not focus on gaming per se, instead it focuses on learning possibilities regarding skills and knowledge 'around' esports and gaming, such as collaboration, health, physical exercise and analytical ability (Ögland, 2017). To get credits for the studies they need to play an esports game in teams outside of school. Hence, parts of the school programme has been broadened to encompass playing, in teams, online multiplayer games outside the school. The focus, educationally, is on teaching and learning life skills that are relevant both in- and outside of gaming (Ögland, 2017). That is, the concept of 'classroom' has been expanded to encompass a multilingual online game environment and the notion of

‘classroom’ is broadened beyond physical borders (Jones 2004). The focal participants are all Finnish-Swedish bilinguals who are also proficient English language users.

The aim is to investigate how participants orient to and employ callouts as part of their in-game interaction and teamplay, as well as how this orientation indicates what participants perceive as ‘callout competence’. Through inquiring into members’ in-game methods regarding callouts, we can better understand how participants collaborate, and learn to collaborate, through the use of multilingual practices in a broadened classroom context.

2. EMCA studies on video game play

The study of multiplayer video game play is becoming a legitimate topic in EMCA studies (cf. Aarsand 2010; Aarsand and Aronsson 2009; Baldauf-Quilliatre and Colón de Carvajal 2015; 2020; Bennerstedt 2013; Hung 2011; Mondada 2011; 2012; 2013; Piirainen- Marsh and Tainio 2009a; 2009b; 2014; Reeves et al. 2009; Reeves et al. 2017; Sjöblom 2011). The studies all employ a participant’s perspective to understand the practical methods used by players when playing. However, they have mostly focused on how physically co-present players interact and draw upon on- and off-screen resources. In the current article, we join a smaller group of CA studies that employ CA’s understanding of sequentiality to analyse geographically dispersed players’ video game play embodied through in-game characters and resources, such as verbal chat channels (e.g. Bennerstedt and Ivarsson 2010; Baldauf-Quilliatre and Colón de Carvajal 2015; Brown and Bell, 2004; Laurier and Reeves 2014; Polat 2020; Rusk and Ståhl 2020). These studies have found that actions on-screen are organised in a similarly sequential manner as actions in everyday social settings are. Talk through the verbal chat channel is central, however non-verbal actions displayed through the movements of

players' in-game characters, are as important for achieving mutual understanding and orientation.

The concept of accountability is shown to be of importance when players analyse their own and others' conduct in-game to determine what the possible, or relevant, next actions are (Brown and Bell 2004; Polat 2020; Bennerstedt and Ivarsson 2010). That is, players do things in a way that makes their 'doings' recognisable to others. The accountability of actions becomes more visible in deviant cases; that is, when things 'go wrong' and participants explain themselves and give an account for their actions (Reeves et al 2017; Sidnell, 2012). These findings are of special interest to studies of online game play settings, where the players are not physically co-present but have to rely on a verbal chat channel and on-screen actions. In this article, we argue that EMCA informed approaches (Garfinkel 1967; Sacks, Schegloff and Jefferson 1974) can be utilised to study players' social practices in CS:GO matches, with a focus on callouts. EMCA provides the tools to analyse how callouts are oriented to, by players and between players, as sequentially organised and accountable in-and-through the context of the game (Reeves et al. 2017; Schegloff 2007). Using an EMCA participant's perspective, we analyse how players employ callouts and when and how they are made explicitly relevant and oriented to in the multilingual game environment. What does it mean, from a participant's perspective, to provide competent callouts? And how is this competence connected to broader learning affordances, such as the use of several languages and learning how to collaborate?

First-person shooters and callouts

In FPSs, the player views the game from a first-person perspective, and they focus on weapon-based combat that requires quick actions (Tang et al. 2012). There are different variants, and the variant relevant for this article is "sabotage" in which a team attempts

to plant a bomb on one of two specific sites and the other team defends those locations under time constraints. To succeed in playing FPSs, teams need to coordinate their play and communicate efficiently, since the first-person perspective does not allow for players to directly share a deictic reference to the game play (Tang et al. 2012; Rambusch et al. 2007). Each player has a different audio-visual perspective on the game play (see Luff 2000; Luff et al. 2003; Rusk and Pörn 2019 regarding similar issues in other video-mediated interaction data). Therefore, if players are geographically dispersed and play an online multiplayer FPS, they have to construct a shared understanding of actions and events in-game through a shared verbal chat channel and on-screen actions (Manninen 2001).

The culture in the gaming community has, since the onset of esports, been steadily moving towards more professional gaming (Rambusch et al. 2007) and more emphasis on team coordination and tactical play (Taylor 2011). In this context, the shared understanding of game events and actions becomes crucial for in-game success and players orient towards the verbal chat channel and callouts as immensely relevant and central (Rusk and Ståhl 2020). In the investigated esports context, the most common response to an event where a player dies is not to topicalise the event and, for example, vent one's own frustration, but to provide a callout in the immediate next turn (Rusk and Ståhl 2020).

Next, we analyse a short example (excerpt 1) to give an idea of how callouts are (most often) provided and acted upon. The data used in this study stems from an educational esports setting (the gameplay and the data collection are described in more detail later in the article). The data was collected in collaboration with a Swedish-speaking vocational school in Finland that the participants (Finnish-Swedish bilinguals who are proficient in English, 17-18 years old, all male) attended. Participants use

Swedish as their school language and Swedish with some Finnish and English codeswitching with each other both in- and outside of the gaming context. All participants are geographically dispersed and use a verbal chat channel to communicate with each other.

Excerpt 1 is observed from Hatifnatten's first-person perspective². There are two teammates (Hatifnatten and Aster) and one opponent still alive in the round. Excerpt 1 exemplifies how the team employs callouts to coordinate their game play.

Excerpt 1. Under window eller connector. Map: Mirage.

```

00          örn is killed by en
01 Örnen:   *(windo-) under window.
           hat      *runs from market towards window and walks towards jungle----->
02          (1.3)
03 Aster:   la:st.
04          (1.5)
05 Örnen:   >tydiligen=jä<
           >apparently=yea<
06          (0.7)
07 Örnen:   kanske connecto: >ren<
           maybe connecto: >already<
08          (0.5)
09 Mastodon: under window ellä connector*#
           under window or connector
           hat      ----->*#
           fig      fig.1#
10          *(0.6)      *
           hat      *takes cover*
11 Aster:   *ja checka: connecto men de kan no hända han fa: tiba:ks ti be:
           I'll check connecto but he may be going back to B
           hat      *walks towards connector----->
12          (0.4)
13 Aster:   **>NÄ: han e connecto:+ han e connecto:<** ( )#
           >NO: he is connecto: he is connecto:< ( )
           en      +enemy runs out of connector towards hat
           hat      **stops and waits      ----->**kills en
           fig      #fig.2

```



fig.1



fig.2

Örnen calls out where the last opponent, that killed him, was positioned (line 1, 'window' in fig.1). Hatifnatten (purple line and dot in fig.1) aligns with the call and moves towards a position where the opponent could be moving ('jungle' in fig.1). Aster (green line and dot in fig.1) asks if it's the last enemy (line 3). Örnen confirms and adds to his previous callout that the enemy may now be in 'connector' (lines 5–7). Mastodon repeats the callouts that have been provided (line 9). During this time, Hatifnatten moves to 'jungle', from where he can see 'connector', and takes cover (purple line and dot, fig.1). Aster says that he'll check 'connector' (green line and dot, fig.1), but that the opponent may have gone back to bombsite B (line 11). However, Aster sees the opponent (red bomb symbol, fig.1) and speaks in an excited and fast manner when he calls out twice that the opponent is in 'connector'. Hatifnatten waits for the enemy to rush out of 'connector' and kills the opponent and the team wins the round (fig.2). Hatifnatten never utters a word in this situation. However, the in-game movements and choices that he makes, show that he aligns with and orients towards the information that the callouts provide. The excerpt also exemplifies how callouts are often repeated both individually and as a team. Through employing callouts, a multilingual practice, the team can pinpoint where the last enemy is moving and take him out, collaboratively, to secure the points.

Callouts are situated practices that are contextually dependent on in-game on-screen actions and verbal communication. They are used to coordinate moving as a team (Duell 2014; Halloran 2011; Manninen 2001; Tang et al. 2012) and playing the game in a coherent way could often be seen as known-in-commons (i.e. expected actions, such as callouts and execution of strategy) and therefore often referred to implicitly in the in-game interaction. When these interactions evolve sequentially, participants seamlessly relate their actions to previous actions in ways that make it hard to analytically follow the known-in-commons (e.g. excerpt 1), except for when something ‘goes wrong’, since this often has to be accounted for (Reeves et al. 2017). Therefore, through an analysis of how players orient towards provided callouts as accountable, one can better understand what they perceive as providing ‘competent’ callouts and what kind of learning participants orient towards as they co-construct callout competence. That is, what do participants teach and learn in-and-through the in-game practice of providing callouts and, consequently, becoming more competent in employing callouts.

3. Context: CS:GO in a broadened classroom context

The data used in this study comes from an educational esports setting: two esports teams playing CS:GO matches. The participants study esports as a minor subject. They do not play video games together during lessons, they are, instead, encouraged to play a well-known esports game together as a team on a weekly basis to get study credits. The teammates and CS:GO might not necessarily be their primary choices otherwise. That is, the students play the game outside of the school, in their spare time, hence, broadening the classroom context to geographically dispersed locations (e.g. their homes) and to the online multiplayer game environments. The school programme focuses on skills and knowledge around gaming, such as collaboration and

communication skills, health education, languages, problem solving and analytical ability (Ögland, 2017). One aim of the programme is to get the students to see similarities in skills and knowledge needed in esports, schoolwork and future work, such as responsibility, planning and scheduling, and social conduct on- and offline (Ögland, 2017). The focus of our study is not on the programme per se, but on the learning that participants do through the broadened classroom when playing esports games outside of the school and classroom.

CS:GO is an online FPS multiplayer game (Valve Corporation and Hidden Path Entertainment 2012). The game world can be categorised as descriptively realistic (Bennerstedt 2013) and the CS:GO fan community is large (Kinnunen, Taskinen and Mäyrä 2020). In CS:GO, both teams have 5 players and the game is played for several rounds. The team with most rounds won wins the match. Rounds are approximately 2–3 minutes long and matches are played for approximately 20–45 minutes. You start as either a counterterrorist (CT) or a terrorist (T) and then switch after a couple of rounds. The game is played on different maps that have different goals depending on if your team is CT (e.g. defusing a bomb) or T (e.g. detonating a bomb). Your team wins a round if you succeed in your goal or if you succeed in stopping the opposing team from achieving their goal. The latter can be done either by killing every opposing player in the round or by other means hindering them from achieving their goal for the entire round. If you die during a round, you have to wait until the round ends, then you start again. During this time, you function as a spectator. In this mode you can watch the rest of the round from the points of view of your remaining teammates.

4. Data collection and selection

The students screen recorded their matches, and these recordings were shared with the researchers. The data collection was organised as a tight collaboration between the

researchers and the focus students. The focus players chosen for this study are those who sent most recordings of matches they played during the data collection period (Agnar [Team 1] and Hatifnatten [Team 2]). We use players' gamertags as names in the transcripts and have created faux names for the gamertags that are as similar as possible without revealing too much of the real gamertags. Both players sent seven recordings, and almost 9 hours of data from a total of 14 matches have been analysed. The matches are played on several different maps (Dust II, Cache, Overpass and Mirage), which all have their own set of callouts for different locations (see Total CS:GO for a database). Team 1 has 4 students and team 2 has 3 students. Both teams used a verbal chat channel, a Discord channel, to speak freely without the need to press a key. During matches when not all team members were present, they got assigned a temporary co-player, often referred to as a "random", and these co-players are as a rule not invited to the Discord channel.

All recorded matches have been analysed from the focus players' perspectives. This has implications on the analysis, in that we do not have 'complete' data to understand other players' full participation in the situations. Thanks to the verbal chat channel and visible on-screen actions (including the mini map with coloured dots for each player on the team), the analysis can include some aspects of other players' actions, nevertheless, not 'completely'. This is an issue and a challenge for several studies relying on a participant's perspective on video-mediated interaction with several participants in geographically dispersed locations. If one had video data of all participants' points of view, another challenge would be how one is to explore "a participant's perspective" on video-mediated interaction when, in fact, all participants each have their own distinct perspectives on it (Heath and Luff 2000; Luff et al. 2003; Rusk and Pörn 2019). That is, the analysis could, actually, be considered rigorous and

robust with only one participant's point of view, if the analysis pays detailed attention to how the participants communicate that they have, so far, had a common (enough) understanding of the situation and that they strive to maintain that.

Following an EMCA approach, none of the phenomena and practices analysed in this study were preconceived prior to data collection. Instead, they were, and became, emergent in the data as a result of repeated "unmotivated looking" (Psathas 1995). Callouts are important in-game actions and part of game strategy (Rusk and Ståhl 2020). This article analyses situations where a callout regarding enemy presence at a specific location on the map is provided, with a particular focus on callouts that are subsequently made interactionally relevant with regards to accountability (Bennerstedt and Ivarsson 2010; Brown and Bell 2004). The initial data selection included situations characterised by a participant providing a callout regarding enemy presence at a location. Within this body of situations (approximately 600), the data selection was focused to include situations where participants make the accountability of a callout explicit. These situations (approximately 60) comprise the data used in the analysis and discovery of what participants perceive as callout competence, which involves both collaborative and multilingual skills.

The recordings are analysed from a CA perspective (Schegloff 2007), and the transcription builds on the Jefferson (2004) system. Some elements of Mondada's (2019) conventions for transcribing multimodal interaction are also employed. These include the ones most relevant for the current article and the context under scrutiny, such as identification of participants doing the actions, characterisation of the embodied action and its temporal location, as well as delimiting where the action starts and ends. Additionally, to illustrate movements and where participants are in relation to locations on the map, we also use screenshots of in-game situations and the in-game mini map of

said situations. These figures are anonymized and, in order to enhance the readability, we have added arrows, lines and location names to highlight relevant details. The coloured lines visualize the general movements of each player on the map during the current sequence.

5. Results

In the following, we outline what participants, themselves, appear to orient to as callout competence in the multilingual game environment. What does it mean, from a participant's perspective, to provide and employ callouts, a multilingual collaborative practice, competently? The analysis is not restricted to only verbalisations of callouts, but also on how callouts are part of multimodal configurations as participants coordinate verbal and on-screen resources.

Based on the analysis, we discovered four specific components that appear to be part of what is understood as callout competence. Three of these relate to the participant providing the callout (give information, precision and temporality) and one to the participant(s) receiving it (alignment).

5.1 Give information

The most important component for providing competent callouts, appears to be that you have to provide information on opponents' movements as soon as you have it. Excerpts 2 and 3 exemplify how participants make teammates accountable for not providing relevant information, as soon as they have it, regarding opponents' locations.

Excerpt 2 exemplifies how callouts are oriented to as crucial in CS:GO. Excerpt 2 is observed from Örnen's first-person perspective. Örnen makes the team accountable for not providing information on opponents' whereabouts.

Excerpt 2. När man int sir någå å int får information. Map: Mirage.

```

01 Mastodon: *^>var=i< helvete,
                >where=< the hell,
örn            *moves from palace towards balcony----->
mas            ^gets killed
02            (0.4)
03 Mastodon: site. *
örn            ----->*
04            *(1.0)
örn            *walks out onto balcony----->
05 Aster:      makkara**# e (vår)                **makkara
                sausage is (our)                sausage
örn            ----->**#shoots teammate on A site  **stops, moves back towards
fig            fig.3#
06 Aster:      [(peruna)                **                ]
                [(potatoes)                ]
07 Lux:        [(de va)   ***                **värsta aime]
                [(that was)                worst aim ]
08 Örnen:      [aa fel typ**+      (.) **å:                ] så do: ja ändå
                [aa wrong guy      (.)                a:nd] then I still die
örn            palace----->**dies      *
en            +kills örn +
09            (0.3)
10 Örnen:      voi: vi:tsj >när man int sir någga å man får int nån
                gh shjt >when you can't see anything and don't get any
11            informatIOn<
                informatIOn<
12            (0.8)
13 Aster:      a: åkej (.) (hit) [e:n e på A: så.]
                o: okay (here's) [one at A: so.]
14 Lux:        [°>en e stairs<°]
                [°>one is stairs<°]

```



fig.3



fig.4

In excerpt 2, Örnen (yellow line in fig.4) is moving towards 'balcony' from where you can see 'bombsite A' where there is a firefight. Mastodon dies (line 1) and provides a callout ('site', line 3) for the area that Örnen is moving towards. Örnen moves onto 'balcony' (yellow line fig.4) and shoots at a player that is on 'bombsite A', just like Mastodon had called out (fig.3). However, that is a teammate (Lux, orange line and dot

in fig.4) and Öرنen realises it, stops shooting and admits shooting the wrong guy (line 8). In lines 5–7, Aster (green line and dot in fig.4) is using Finnish regarding a simultaneous discussion on another issue not related to Öرنen’s situation (lines 5–6), and Lux is commenting on his own aim, using English (line 7). At the same time, Öرنen is killed (yellow cross fig.4) by an enemy at ‘stairs’ (fig.4) that no one had provided a callout for (line 8), which he also explicitly points out (line 10–11). In the immediate next turns, two teammates provide callouts (lines 13–14) and Aster utters ‘oh okay’, indicating that he knows he should have provided callouts (line 13). In a fast-paced game, like CS:GO, it can be tricky to provide information fast enough. However, in excerpt 2, the team appears to align with them being accountable for not having provided information, since two teammates provide callouts in the next turns after Öرنen’s complaint. That is, they orient towards not having collaborated efficiently.

Excerpt 3 is observed from Hatifnatten’s first-person perspective. In excerpt 3, LegArnold provides a callout regarding an opponent that is at an area called ‘short’ (lines 1–2 and fig.5).

Excerpt 3. Så ingen CT. Map: Dust2.

```

01 LegArnold:  sho:*rt (.)
               hat      *runs from B site towards CT mid and short----->
02 LegArnold:  >short one<
03             (2.6)
04 LegArnold:  vttu. han visst he:lt vart >ja va.<
               fuck he knew to:tally where >I was.<
05             +(2.0)                **##++                +
               hat      ----->                **dies*
               en      +moves out from behind cover on CT mid ++kills hat+
               fig      fig.6#
06 Hatifnatten: >en e ju< sEEtEE,=>vaffö saa=i- ä(h)<
               >one is< cEEtEE,=>why didn't anyone sa- a(h)<
07             (0.6)
08 Hatifnatten: siitii.
               ceete.
09             (1.4)
10 Hatifnatten: såå ingen at nån va seetee
               did noone see anyone at ceete
11             (0.6)
12 LegArnold:  nej vttu han kom å killa mej.=e(h)e(h)
               no fuck he came and killed me.=e(h)e(h)
13             (0.4)
14 LegArnold:  .hhh >ellä=ja=glömd=ti-<
               .hhh >or=I=forgot=to-<

```

15 (0.5)
 16 LegArnold: °°call ou[ta°°]
 °°call ou[t°°]
 17 Hatifnatten: [°(h)]_q(h)i (h)vitt(h)u° .hhh
 [°(h)_q] (h) f(h)or fucks sake° .hhh

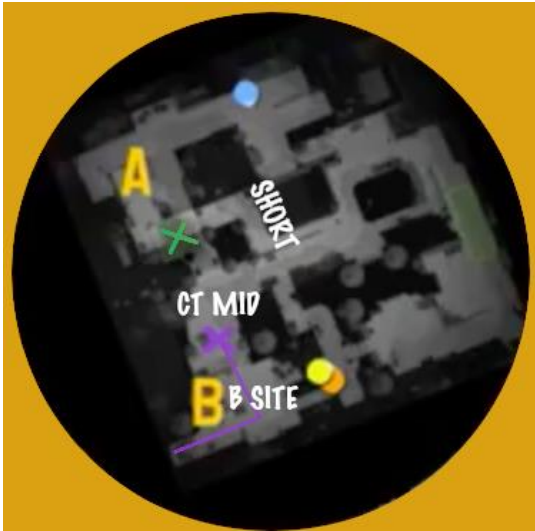


fig.5



fig.6

Hatifnatten (purple line in fig.5) aligns with the call and runs from 'bombsite B' towards 'short' (fig.5) to help LegArnold. However, to get to 'short' he needs to go through 'CT mid' (fig.5). As Hatifnatten is moving towards 'short', LegArnold (green cross fig.5) is killed (he swears in Finnish, line 4) and, almost at the same time, an opponent appears from behind cover in front of Hatifnatten in 'CT mid' (fig.6) and kills him (purple cross fig.5). Hatifnatten treats the others as accountable for not having given information about the opponent's location at 'CT mid' (line 6) and provides a callout regarding it (line 8). He then goes on to question how anyone had not seen an opponent in 'CT mid' (line 10). LegArnold swears (in Finnish) and chuckles as he attempts to explain that he got killed (using the English word 'kill') and that is why he did not provide a callout (line 12). However, in the next turn he says that he forgot to provide a callout and uses the English word for callout (lines 14–16). Hatifnatten responds by swearing (in Finnish) and chuckling (line 17) to indicate that forgetting is not a good enough explanation.

Excerpt 3 (and excerpt 2) exemplifies a propensity towards a rule that you need to provide information on opponents' positions when you have it. Both Hatifnatten and LegArnold are orienting towards this accountability. This is also evident in how Hatifnatten cuts off his frustrated remarks regarding the missing callout (line 6) and provides a callout of his own (lines 7), so that he does not make the same mistake. It is also indicated by Hatifnatten's response to LegArnold's explanation as not sufficient enough (line 17). These excerpts exemplify how the game environment is unproblematically multilingual (Swedish, Finnish and English) and that players orient to callouts and information as crucial and important to provide. You are accountable for not providing information that is relevant for your team's success in the current context. Players rely on information from others to be able to achieve a mutual understanding of where opponents and teammates are, and callouts are a crucial part of that collaboration.

5.2 Precision

The second component, related to callout competence, is precision regarding the level of detail. Excerpts 4 and 5 exemplify how this precision applies to providing information that is detailed enough for other players to be able to make use of it and to providing callouts using the correct English terms of the locations.

Excerpt 4 is observed from Agnar's first-person perspective, who is spectating his teammates. In excerpt 4, the information provided by Finn is oriented to as not being detailed enough for the specific situation. Therefore, JemBe asks where the enemy jumped, and Taskumatti explains and teaches Finn why it is important to be precise.

Excerpt 4. Du måst säga vart. Map: Cache.

```
00          en kills finn on mid#
    fig          fig.7#
01 Finn:    han e boo- uppe i boost
            he is boo- up in boost
02          (0.5)
03 Finn:    han hoppa: ner
```

he's jumping down
 04 (1.0)
 05 JemBe: (h)oppa han mid ellä:
 did he jump mid o:r
 06 (0.4)
 07 JemBe: >bakom<=
 >behind<=
 08 Finn: =mmm- (ä)
 09 *(0.6) ##
 jem *kills en in boost*
 fig fig.8#
 10 (Finn): hoppa ()
 jump ()
 11 (JemBe): (jå)
 (yea)
 12 (0.5)
 13 Taskumatti: du måst säga genast var- vike håll han hoppa:
 you gotta say right away whe- which way he jumps
 14 (0.6)
 15 JemBe: °jåo [jåo°]
 °yea [yea°]
 16 Finn: [jå] my bad.
 [yea] my bad.
 17 (1.5)
 18 Taskumatti: ja: va just inne i garage ja visste int om han hoppa (ens) (.)
 I: was just in the garage I didn't know if he jumped () (.)
 19 in i mid? ellä om han hoppa ne: dä: ti mej (nä:).
 into mid? or if he jumped down there to me (or something).



fig.7



fig.8

Finn is killed by an opponent (green cross fig.7) and he calls it out (lines 1–3). JemBe (purple dot fig.7) asks for additional information (lines 5–7) and Finn hesitates when starting to produce an answer (line 8). JemBe kills the opponent (purple dot and red cross fig.8) and Taskumatti (orange dot fig.7 & 8) teaches Finn that he needs to say, right away, which way the opponent jumped (line 13). JemBe agrees and Finn aligns with it (line 15–16), indicating that he agrees with him being accountable for not providing precise and timely information. He uses an English idiom (my bad) as he apologizes for not providing precise information. Taskumatti continues by explaining

and teaching Finn why the additional information of where the opponent jumped was important in the situation (lines 18–19). The details matter in a fast-paced game and Finn acknowledges this as he orients to himself as accountable for not having provided a precise enough callout.

Excerpt 5 is observed from Hatifnatten’s first-person perspective. In excerpt 5, Mastodon is killed (fig.9 blue cross) by an opponent (fig.9 red dot) and he provides a callout.

Excerpt 5. Int bench men. Map: Mirage.

```

00 en          en kills mas near catwalk#
   fig          fig.9#
01 Mastodon:  dit e en bench,
               there is one bench,
02            (0.6)
03 Mastodon:  minus sekstini:e,
               minus sixtyni:ne,
04            (0.6)
05 Aster:     be?nch, .h
               be?nch, .h
06 Örnen:     (int vet ja int [vil man nu fa di men)      ]
               (I don't know [you don't wanna go there but])
07 Mastodon:  [int bench men (.)                          ] va heter dendä
               [not bench but (.)                          ] what's it
08 Mastodon:  pallen dit i [hö:rne. ]
               called the stool there in [the corner.]
09 Aster:     [chAI:r. ]
10            (0.3)
11 Mastodon:  [chair]
12 Hatifnatten: [chair] jo.
               yea.

```



fig.9

Mastodon uses the English term 'bench' for the location on the map where he saw the opponent (line 1 and fig.9). He also provides information regarding how much damage he did to the opponent before he got killed (69 health damage out of 100, line 3). In the next turn, Aster (green dot fig.9) utters 'bench' with a rising intonation, which is oriented to as a repair initiation regarding where and what 'bench' is (line 5). Mastodon initiates a word search and attempts to do a repair (line 7). However, he cannot find the correct term and explains, in Swedish, where the location is on the map (lines 7–8). Before Mastodon has completed his turn on line 8, Aster overlaps and provides the correct term (line 9), which is 'chair'. Mastodon repeats (line 11) and Hatifnatten (purple dot fig.9) confirms (line 12).

Excerpt 5 exemplifies that, although there is a mutual understanding and participants know which location Mastodon is referring to, there is an orientation towards precision and using the correct known-in-common English terminology. Since Aster knows the correct term of the callout location that Mastodon is referring to, he also knows which location Mastodon is referring to as he uses the term 'bench'. The initiated repair and word search is not needed to uphold a mutual understanding. This is also evident in that Aster's repetition of 'bench' (line 5) is oriented to as a repair initiation and not as a repeated callout. Participants appear to be doing language learning and building linguistic competence, because they orient to it as important to be able to competently use callouts and collaborate.

The participant providing the callout is accountable for providing correct information and this includes the use of the correct English callouts for the locations on the specific map (all maps have their own sets of callouts). Both excerpt 4 and 5 show that precision is a key part of callout competence and that players orient towards it when it is not present. To be able to collaborate efficiently in a fast-paced game, players who

provide callouts are accountable for learning to provide precise enough callouts regarding both the details of the callout (excerpt 4) and the correct English term (excerpt 5).

5.3 Temporality

A callout also needs to be temporally and sequentially relevant. A late callout is oriented to as a useless callout. Excerpt 6 is an example of information being provided too late.

Excerpt 6 is observed from Agnar's first-person perspective. Agnar is moving towards 'bombsite B' and is killed (purple cross fig.10) by an opponent from behind as he scopes with his sniper rifle towards 'bombsite B'. Agnar orients towards the accountability of providing callouts early enough, so that the information is still viable. This can be tricky in a fast-paced FPS game. However, part of being successful in the game is to be able to provide and employ information rapidly (line 7).

Excerpt 6. Jå ja fick veta de nu. Map: Mirage.

```
01 Finn: *(en e apps )      *#( )
          (one is apps)      ( )
          agn *moves towards B site*#scopes towards B site through windows->
02      +** (0.3)#          **
          >**dies          *
          en +shoots and kills agn+
          fig          #fig.10
03 Agnar: ( ) >bakom<
          ( ) >behind<
04      (1.2)
05 Finn: en e apps.
          one is apps.
06      (1.7)
07 Agnar: [jå ] ja fick veta de nu.
          [yea] I found it out now.
08 (x) : ah[aa.]
```



fig.10

Finn (blue cross fig.10) appears to try to provide a callout, however, it is not audible (line 1). As Agnar dies, he provides a callout (line 3), and more than one second later Finn provides the callout that would have been crucial for Agnar just seconds earlier (line 5). Agnar confirms the callout and makes a sarcastic remark (line 7). Players orient towards timely information as an important part of providing callouts (see also excerpt 4, line 13). The players providing the callouts appear to be made accountable for not providing crucial information early enough.

Information gets rapidly old in a fast-paced game and it can be tricky to know exactly who needs what information and when. This orientation is also observable on line 13 in excerpt 4, where Taskumatti explains that one has to provide the information “right away”. Temporality also seems to connect to the first component (excerpts 2 and 3), which is to simply provide information as soon as you have it. The context changes every second, therefore, it is important to provide terminologically correct, and detailed, information as soon as you have it. To be able to do it, you have to know the English terms and be able to read the situation, from the entire team’s perspective, regarding what information to provide and when.

5.4 Alignment

The last component of callout competence is that receiving players are accountable for acting on and aligning with the information provided. Excerpt 7 exemplifies how participants orient towards the receiving player needing to confirm or show that he has heard the callout and that he aligns with it, they are pursuing a response, either verbally or through on-screen resources.

Excerpt 7 is observed from Agnar's first-person perspective. Agnar is pushing towards 'bombsite A' to plant the bomb (orange line fig. 16). He is his team's sole survivor against three opponents. Everyone else from Agnar's team is spectating and watching him play. Agnar pushes from 'main' towards 'A site'; that is, he is facing the 'A site' (fig.11–13) and has his back turned towards 'main' (fig.16).

Excerpt 7. Main main main. Map: Cache.

```
01 Taskumatti: *#main
   agn          *looks and moves from main towards A site----->
   fig          #fig.11
02              (0.9)
03 Taskumatti: >main<#
04              (0.8)
   fig          #fig.12
05 Taskumatti: main
06              (0.7)
07 Taskumatti: MAIN#
08              (0.5)
   fig          #fig.13
```

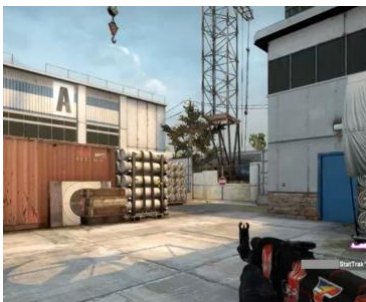


fig.11



fig.12

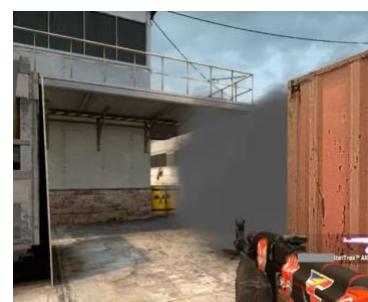


fig.13

```
09 Taskumatti: MAI:N***
   agn          ---->***turns around and looks at A main----->
   fig          #fig.14
10              (0.4)
11 Taskumatti: >MAIN<
12              ***#(2.1)          **
   agn          >***shoots and kills en*
   en          +appears in main, dies +
   fig          #fig.15
```

13 Taskumatti: *jesus. *
 agn *turns around and moves to A site*



fig.14



fig.15

((lines 14-20 omitted))

21 Agnar: .hh ja hörde honom main no: ja måst baa hålla andra vinkla:
.hh I did hear him main I just have to hold other angles

22 förrän han pusha:. h
before he pushes h

23 JemBe: ja så: int heller honom.
I didn't see him either.

24 (0.6)

25 (Finn): ()

26 (1.0)

27 Agnar: matti ja hörd no: honom men ja må- [(.) hålla andra vinkla:.]
matti I did hear him but I ha- [(.) hold other angles.]

28 Taskumatti: [>jåjåjå< men ja- ja- (.)]
[>yeyeye< but I- I- (.)]

29 de- de- de- ja: ve:t int du baa reagera int=du sku ha kunna
i- i- i- I: dunno you just didn't react=you could have

30 sagt e:ns
just said

31 (0.6)

32 Taskumatti: jå >eller någå< [så (de) ja baa ble:]
yEA >or something< [so (it) I just got]

33 Agnar: [jå men ja fösökä lyssna] på steppin ja vil
[yea but I try to listen] to steps I don't

34 int=tala [samtidi(t).]
want to=talk [the same time]

35 Taskumatti: [>jåjå<]
[>yeye<]

36 (0.8)

37 Taskumatti: ja bla ble rädd at- att typ min mikki hade (int) ellä int
I just got scared tha- that like my mic had (not) or didn't

38 for på eller nå:.
turn on or something.



fig.16

Taskumatti provides the callout several times (lines 1–9) regarding an opponent in ‘main’ (he has heard the opponent’s steps). Agnar continues to push and move away from ‘main’ (fig.11–13) and appears to not react to Taskumatti’s callout. With each turn, Taskumatti increases intensity, pace and volume until he sees that Agnar reacts to it and turns around to face ‘main’ (fig.14, lines 9–11). Agnar shoots and kills the opponent that was pushing through ‘main’ (fig.15, line 12). Taskumatti comments, in English, on the fact that he needed to repeat the callout so many times without Agnar acknowledging it (line 13). In the omitted lines 14–20, Agnar turns towards ‘A site’ and moves in. However, he does not notice an opponent near ‘quad’ and is killed as he plants the bomb.

In the subsequent discussion, Agnar explains that he heard the enemy at ‘main’, but that he had to watch other angles (lines 21–22). He uses an English term, ‘push’, which means that he waited for the opponent to make an attacking move. Agnar addresses Taskumatti (line 27) and repeats why he did not align with Taskumatti’s callouts regarding the enemy at ‘main’. Taskumatti confirms that he understands that Agnar checked other angles (lines 28–29). However, he says that it was problematic that

Agnar did not react at all. Taskumatti complains that Agnar could have said (or done) something (lines 29–32) to indicate that he heard the callout. Agnar explains that the reason for him not reacting was that he was listening to steps (using a Finnish modification of the English word ‘step’, line 33). He does not want to talk when he listens for steps (line 34). Taskumatti confirms that he understands, but that he was afraid that there was something wrong with his microphone (using a Finnish word for microphone, lines 37–38).

Agnar was oriented to as accountable for not reacting when Taskumatti provided the callout regarding the enemy at main. Agnar did not act on the information provided and was oriented to as not collaborating. Taskumatti’s only resource for reaching out to Agnar was the verbal chat channel; therefore, he gave the callout several times and with increasing intensity and volume. Agnar orients to the fact that he is accountable for not expressing a collaborative stance when he disaligned with Taskumatti’s callout. Nevertheless, Agnar orients towards collaboration as he explains why he did not say or do anything to indicate that he received the callout. Excerpt 7 exemplifies the orientation towards players being accountable for not aligning their actions with the callouts. In other words, callout competence not only involves providing callouts, but also receiving them and showing, as part of the team collaboration, that you have received them. Excerpt 7 also displays the unproblematic use of several languages in the players’ interaction. They codeswitch, unproblematically, as they use Finnish words, and English expressions and gaming terms in their communication, which otherwise is mainly in Swedish.

6. Discussion and conclusion

Games involve “new” forms of interaction and competences, and this form of interaction, including the teaching and learning of these competences, is still greatly

underexplored. In this study, we have analysed how participants orient to and employ callouts, a multilingual and collaborative practice, as part of their in-game interaction. The game environment is inherently multilingual; that is, the focal participants are Finnish-Swedish bilinguals who mainly use Swedish with frequent codeswitching to Finnish and English (which is central for the use of callouts).

We analysed how multilingual competence, and collaboration and communication skills are an inherent part of activities in an educational esports programme that has broadened the classroom to encompass esports game play outside of the physical borders of the school. Effective communication, and teaching and learning callout competence, which involves collaborative and multilingual practices, and linguistic competence, appear to be central in the esports context; the 'broadened classroom'. The 'classroom' context, the programme at the vocational school, may play a part in making it easier for players to teach and learn these competences through a verbal chat channel with teammates that they know from before and from classroom contexts. Additionally, the focus on teamwork in the educational programme (Ögland, 2017) might have provided a setting in which players orient towards the overall success of the team and not only on individual success.

More specifically, we have analysed which specific components participants orient to as part of callout competence. Our study is in line with previous research regarding affordances for language learning (e.g. Brevik 2016) and learning collaborative skills (e.g. Gee 2017; Barr 2018) by playing games. When players make their actions recognisable to others and achieve a mutual understanding of what is going on in a fast-paced FPS online multiplayer game, they employ multilingual and collaborative practices to achieve success for their team and display competent action when providing or receiving callouts. Providing competent callouts involves a

collaborative and holistic perspective on the game, in contrast to an individual perspective. One needs to be able to read and understand the situations from the entire team's perspective to be able to effectively provide and employ callouts. This requires analytic abilities to determine what and when to call something out to benefit the entire team. To provide and employ competent callouts also requires multilingual competence to understand and make use of the multilingual interaction and information.

Callouts are common English words with a different, situated, meaning in the in-game interaction where they point to very specific locations on the map. These locations are often named according to their English real-world counterparts. Players need to know these words and what they mean, on the specific map, to be able to competently provide and receive the crucial information correctly. To also communicate outside of the team, the players need to know the correct gaming terminologies to be perceived as competent players. In competitive gaming, there is a demand to employ the correct terminology as it is effective and known-in-common within the community. However, the situated language proficiency appears to be centred around a shared understanding, rather than linguistic correctness. Apart from callouts, the participants also use several other game-specific terms in English (e.g. kill, push, step and aim) and some idiomatic expressions (e.g. my bad and Jesus). Additionally, the studied game context requires knowledge in Swedish and Finnish. The participants use mainly Swedish in their interaction with some use of Finnish (Ståhl and Rusk, 2020).

In conclusion, callout competence appears to be required in the investigated game play. This competence includes analytical abilities (reading the in-game situations), communication and collaboration (which callout to provide when), languages (knowing and understanding English game-specific terminology), teaching and learning (learning how to produce competent callouts and giving advice on this to

teammates), and problem solving (what to do with the information you receive). That is, our study indicates that multilingual and collaborative skills and competences that are inherent parts of the game play and functioning as an esports team, are similar to generative ‘life skills’. These competences can be focused on at school and transferred into the esports gaming by the participants, and vice versa.

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Ludography

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-
- ¹ To uphold a shared understanding of the in-game interaction in FPS multiplayer games, players employ callouts, which can be described as verbal instructions of what is happening in the game. In other words, callouts are, broadly, employed to co-construct a shared knowledge and understanding of the game environment through sharing information on the locations/actions of teammates, opponents, as well as other game relevant aspects, such as grenades, weapons and health. In this article we focus on the use of callouts regarding opponent presence in a specifically named location on the map.
- ² The mention of perspective is regarding whose first-person perspective the analysed data excerpt is from. Hence, the non-verbal actions are the ones that we can observe from that perspective and the talk is from the common verbal chat channel that includes all teammates.

Appendix A

The transcription system used in the article is based on the Jefferson (2004) system and Mondada's (2019) system for multimodal analysis.

(.)	a micropause less than 0.2 seconds
(0.5)	a silence indicated in tenths of seconds
[text]	overlapping talk or co-occurring embodied actions
<i>text</i>	stress or emphasis
TEXT	louder talk than normal
°text°	markedly quiet talk
:	prolongation/stretching of the prior sound
>text<	faster talk than normal
<text>	slower talk than normal
text-	cut-off or self-interrupted talk
((text))	non-verbal/embodied activity/transcriber's description of events
(text)	likely hearing of talk
(Sam) / X	the identity of speaker is not clear
()	inaudible
=	talk/embodied activity latches on previous turn
?	rising intonation
.	falling intonation
,	continuing intonation
hh (hh)	hearable exhale
.hh (.hh)	hearable inhale
<i>text</i>	English translation in italics
*	delimits actions done by one of the focus participants E (Emil) or M (Martin)
^	delimits actions done by a co-player to the focus participants (P1)
+	delimits actions done by enemy (en)
*--->	action described continues across subsequent lines until the same symbol is
--->*	reached
gif	the exact situation at which a gif has been recorded is indicated with #-signs, the first indicates the start position and the second the end position of the gif
text	use of Swedish in bold Courier New font
<i>text</i>	use of English in bold italics Courier New font
<i>text</i>	English translation of use of Swedish and English in italics Courier New font
text	use of Finnish in bold Andale Mono font
<i>text</i>	English translation of use of Finnish in italics Andale Mono font
text	callout terms (location names) in bold Courier New font with light grey highlight