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# Chapter 7

## Player Agency, Team Responsibility, and Self-Initiated Change: An Apprentice's Learning Trajectory and Peer Mentoring in Esports

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### ABSTRACT

*An important aspect of what constitutes beginning gamers' learning trajectories is guidance from experienced players. However, there is little educational research on these processes within a competitive gaming scene. In this chapter, the authors analyse the mentor-apprentice relationship in a team in the multiplayer FPS CS:GO within an esports and educational context. By assuming a dialogic approach to agency and meaning making, they analyse how the team orients towards the apprentice's agency and how the apprentice responds to these orientations. The other players' orientations towards the apprentice's decisions indicate that support diminishes, and responsibility and expectations grow over time. **Communication and collaboration appear to be an inherent part of functioning as a team and teaching others in the team, and all players are expected to develop agency and reach a level of independence.** In the chapter, they show and discuss how this happens.*

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## INTRODUCTION

Becoming a competent esports player of online multiplayer games involves complex social processes and networks of online and offline life where the player is socialised into social norms and expectations (Gilje & Silseth, 2019). In-and-through this socialisation process, “novice” players have been shown to rely on guidance from more experienced “expert” players (Rambusch, Jakobsson & Pargman, 2007; N. Taylor, 2016). In other words, an important aspect of what constitutes players’ learning trajectories is guidance from experienced players. This connects to the value of communication and collaboration skills, which appears to be important for esports players to learn when the games, as part of the esports scene, become more competitive (Rambusch et al., 2007). Nevertheless, the research on novice and expert relationships often focuses on an idealised version of an ‘expert’ gamer and the experts’ actions and decisions as the norm for how the game is supposed to be played. In addition, there is also a tendency, when studying how novices learn, to focus more on the agency of the ‘experts’ or on how ‘experts’ facilitate the learning and teaching of novices (Kirschner & Williams, 2013).

Scholars have suggested that games have motivational effects and provide opportunities for active engagement with knowledge, which prepares players for future learning (Gee, 2003). Therefore, in educational research there has been considerable interest in the implementation of games in instructional designs (Arnseth, Hanghøj & Silseth, 2018; de Freitas, 2018; Gros, 2007; Shaffer, 2006; Squire & Barab, 2004; Wouters & van Oostendorp, 2013). However, there is a need to better understand commercial games from an educational perspective (Barr, 2019). Commercial games have also been shown to be a social learning platform, which may improve collaboration skills and other advanced competences (e.g., Barr, 2018; 2019; Gee, 2017; Steinkuehler, 2006). Nevertheless, there is little educational research on how these competences are cultivated and employed within the competitive esports gaming scene (N. Taylor, 2016).

In this chapter, we study participants’ online in-game interaction, with a focus on an apprentice’s agency (Rainio, 2008) as part of an esports team and how collaboration skills and other advanced competences are developed within the team. We analyse an apprentice’s trajectory towards becoming an independent player and part of the team while learning to play the game together with the team. The team includes a team leader with vast individual knowledge, a higher ranking and skilful gaming performance who will be referred to as the “mentor” (Hatifnatten)<sup>1</sup>. All teammates function as mentors; however, Hatifnatten has received an explicit role as mentor for the apprentice. The player being referred to as the “apprentice” (Lux) is the newest member of the team who had to be ‘prepped’ before joining and who is, in interviews, referred to as the one with the least experience playing the multiplayer first person shooter (FPS) *Counter-Strike: Global Offensive* (CS:GO, Valve Corporation & Hidden Path Entertainment, 2012). By assuming a dialogic approach to meaning making, agency and learning (Rainio, 2008), we will analyse how the team, as a whole, orients towards the apprentice’s development of agency and how the apprentice responds to these orientations.

## ESPORTS, AGENCY AND DIALOGUE

The growing esports scene has turned games that used to be a spare time activity into professional and educational contexts. In these contexts, learning is actively co-constructed in the in-game interaction with both the game itself, as well as with co-players (Rusk & Ståhl, 2020; Rusk et al., 2020; Ståhl &

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Rusk, 2020; Steinkuehler 2006). The potential of using video games in an educational setting has been researched and confirmed in many studies (e.g., Clark, Tanner-Smith & Killingsworth, 2016). Esports, as a learning environment, has drawn attention from educators and researchers regarding the implementation of games in education (Arnseth, Hanghøj & Silseth, 2018; Ögland 2017). There is a need to better understand commercial games from both an educational and participant's perspective, since they have been shown to be a social learning platform that improves problem solving and collaboration (Bluemink & Järvelä 2011; Barr 2018; 2019; Gee 2017; Brevik 2019). The social contacts that a player has with other players can be a complex network of online and offline life, and the player is socialised into the social norms and the complex social hierarchy of multiplayer games (T. L. Taylor, 2009). Communication in-and-through videogames is predominantly done through different forms of audio and text chatting with other players. One important factor contributing to players' learning is the guidance from more experienced players (Rambusch et al., 2007). This connects to the value of communication skills, as well as the fact that all players in a team are expected to develop individual agency and reach a level of independence (Rainio, 2008), since there are situations where the player is without direct support from the team.

The esports scene, with its focus on competition, appears to provide a stimulation and motivation for apprentices and mentors to explicate their knowledge to each other. This is central for the team to succeed (Rambusch et al., 2007) and co-construct each other's agency regarding the transformation of the activity (playing the game) by acting on it and, through that, develop oneself and others (Rainio, 2008). In the current chapter, we build on Rainio's (2008) sociocultural perspectives on agency to investigate the development of an apprentice's development of competence as a player in the context of esports and education. According to Rainio (2008), the development of individual agency is related to three important issues: (1) self-change and transformation of activity, (2) responsible membership, and (3) resistance and transformation of power relations. The first one focuses on agency as the outcome and the tool for learning. That is, to become an agent of a specific activity, one needs to develop oneself. The second one focuses on agency characterised through membership in socially collaborative practices (e.g., Lave & Wenger, 1991). In other words, agency develops as the player participates in the community and gains understanding, experience and knowledge of the practices, as well as responsibility for the team. The team provides the players with a community that provides stimulation, motivation and possibilities for learning in-and-through communities of practice. The third issue emphasises that the development of agency does not only mean a positive and aligning participation. Agency can also be understood as changing, resisting or opposing current ways of doing.

To understand the complexity of the development of agency in an esports and educational context, we need to put the perspectives on the development of agency into dialogue. Dialogic interaction analysis offers the tools to be able to understand how meanings are created in situated interactions between participants in particular contexts and settings (Linell, 2009; Rainio, 2008). From a dialogic perspective, individual contributions to social interaction are situated in social practices, including online gaming practices (Wegerif, 2019). That is, meaning making, agency and learning are situated within social practices when persons interact with others and cultural tools (such as games) that are both structured by norms and regulations, and flexible in the sense of being appropriated and given meaning by situated and contextual use for specific purposes. Games exist only through a dialogic relationship between players, the game and other co-players (Arnseth, 2006; Silseth, 2012). To understand how games are part of learning processes that emphasise collaboration and dialogue, it is essential to study in-game interaction. The implementation of collaboration does not improve learning in and of itself. The col-

laboration needs to stimulate learners to explicate their knowledge (van der Meij, Albers & Leemkuil, 2011). A dialogic approach encompasses an interest in how an utterance represents a certain position of a speaker and an orientation towards a recipient (Bakhtin 1981; Wertsch, 1991). This dialogicality, that every utterance has a dual nature, also informs the analysis of how participants orient to each other in the situated interaction.

In the current chapter, we analyse the mentor-apprentice relationship between an apprentice and a mentor in the multiplayer FPS CS:GO within an esports and educational context. By assuming a socio-cultural and dialogic approach to meaning making, learning and agency, we will examine what characterises peer mentoring and learning in in-game interactions, with a focus on one apprentice's learning trajectory and development of agency as part of an esports team.

## **DATA AND METHODS**

### **Context and Participants**

In this chapter, we strive to apply a descriptive ethno-case study (a qualitative case study informed by ethnographic methods, see Parker-Jenkins, 2018), and we approach gaming and participation in a team from the participants' own perspectives. Case study as a methodology focuses on an immersed understanding of a phenomenon through a specific case (Scwandt & Gates, 2018). By researching the activities conducted by an individual or a group, case studies can offer insight into how previous research and empirical data are connected (Cohen et al, 2005). Ethnographic research on FPSs, one of the most popular genres in esports, has been limited (Kiuorti, 2019; N. Taylor 2011; Rambusch et al., 2007), especially in an educational context, with some exceptions (Rusk & Ståhl, 2020; Ståhl & Rusk, 2020; Nielsen & Hanghøj, 2019). The ethnographic approach provides a perspective on the relationship between the game and the learning and teaching that peers are involved in as they interact in-and-through the in-game environments.

The ethnographic data was collected in collaboration with a vocational school in Finland that the participants (17-18 years old) attended. All participants are multilingual (Finnish, Swedish and English). The participants study esports as a minor subject. However, the esports programme does not focus on gaming. Instead, it focuses on skills and knowledge around gaming, such as collaboration and communication skills, health education and sportsmanship (Ögland, 2017). The aim of the programme is to get the students to see similarities in the skills and knowledge needed in both esports and schoolwork, such as responsibility, collaboration, planning and scheduling, and social conduct on- and offline (Ögland, 2017). Students do not play video games together during lessons; they are, instead, encouraged to play a popular esports game together as a team outside school on a weekly basis to acquire study credits. The teammates and CS:GO might not otherwise be their primary choice. However, the focus of the study is not on the programme per se. The programme functions, for the study, as an access point to a setting with serious gamers that are playing esports with a goal of becoming better at gaming. The students volunteered to participate in the study through a teacher.

The FPS game genre is popular among young adults (Kinnunen, Taskinen & Mäyrä, 2020) and one of the main genres within esports. In a CS:GO match, two teams have 5 players each, and the game is played for several rounds. The team that wins most rounds wins the match. Rounds are approximately 2 minutes long, and usually the matches are played for 20–45 minutes. You drop straight into the ac-

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tion and start as either a counterterrorist (CT) or a terrorist (T) and then switch. The game is played on different maps that have different goals for CT and T. Our data only included bomb detonating (T) or defusing (CT). Entire matches are played on a single map. Your team wins a round if you succeed in exploding/defusing the bomb or stopping the opposing team from achieving their goal. The latter can be done by eliminating every opposing player in the round or by hindering them from achieving their goal for the entire round. When you are eliminated, you must wait until the round ends, then you start again. During this time, you function as a spectator, which means that you can view the rest of the round from the perspectives of your teammates that are still alive in the round. The game keeps statistics on different parameters and variables. Stats are a form of ranking within a particular match based on several variables, such as kills, assists and deaths. Each player is, basically, ranked based on their performance in each match in competitive mode. There are 18 ranks in total and the ranking algorithm takes into account several factors, such as, for example, the ranking of your teammates and opponents, and the round difference of competitive games you play. In other words, the ranking is based on a multitude of factors and since the players in the studied team do not, necessarily, play CS:GO actively and always with the same team, the rankings do not seem to accurately mirror the positions that different players have in the team. For example, all other players' rankings fluctuate between Gold Nova III (rank 9 of 18) and Master Guardian Elite (rank 13 of 18), which means that Lux (the apprentice) from time to time has a higher ranking than players that are, in the in-game interaction, oriented to as mentors to him. Hatifnatten (the leader) is the only one who consistently holds higher rankings than the others, moving between Master Guardian Elite (rank 13 of 18) and Legendary Eagle (rank 15 of 18). In other words, it seems that the use of ranks as an indicator of who is more skilful and experienced in the team is not necessarily that accurate.

## **Data and Analysis**

The data consisted of seven matches and four scheduled interviews (see Table 1). Lux became part of the study in the last months of the data collection. The focus students recorded and shared their matches regularly with the researchers through a secure file sharing service. The matches recorded were played in competitive mode but were not part of organised events. The team has submitted recordings from various maps (five recorded games were played in Mirage, one in Cache and one in Dust II). The all-male group of participants was not a choice made by the researchers but supposedly a result of the predominantly male online game culture resulting in few female students in the esports programme (Kinnunen, Taskinen & Mäyrä, 2020; N. Taylor 2011). The design of the study is dependent on the students' engagement due to the physical distance between the researchers and participants. During regular meetings, held at their school, interviews of students were recorded and transcribed.

First-hand experiences in relevant settings, in combination with interviews, provide access to a participant's perspective in online contexts (Parker-Jenkins, 2018), as well as reliability and validity to the analysis of an ethno-case study (Hammersley, 2018). Researcher immersion was obtained through the in-game screen recordings and corresponding interviews. Playing in a setting of the participants' own choice and on their own computers was considered a naturally occurring setting and was crucial from an ethnographic perspective (Hammersley, 2018). Through the recordings, conducted by the participants on their own devices, the researcher could observe and re-observe in-game situations. During a number of interviews (see Table 1), relevant recordings were discussed with the participants in order to confirm an insider's perspective. The design was informed by the autonomy principle within ethnographic research

(Murphy & Dingwall, 2001), as well as insights into ethnographic research design where participants take an active role (Rusk, 2019; Sahlström, Tanner & Olin-Scheller, 2019). The research approach was player centred (e.g., Kiuorti, 2019; Ratan et al., 2015; T. L. Taylor, 2009), which aligns with ethnography, and the focus remained on accessing a participant’s perspective on the game in question. This was

*Table 1. Matches and interviews*

	Hatifnatten	Lux	Örnen	Mastodon	Aster*
Interview 1 (April 2017)	+	-	+	+	-
Match 1 (May 2017)	x	-	x	o	-
Interview 2 (September 2017)	+	-	-	+	-
<b>Match 2 (Oct 2017)</b>	x	o	x	o	o
Match 3 (Nov 2017)	x	-	x	x	-
<b>Match 4 (Dec 2017)</b>	x	o	x	x	o
Interview 3 (January 2018)	+	+	+	-	-
<b>Match 5 (Feb 2018)</b>	x	x	x	o	o
<b>Match 6 (April 2018)</b>	x	x	x	o	o
<b>Match 7 (May 2018)</b>	x	x	x	-	-
Interview 4 (May 2018)	+	+	+	-	-

x = participated in the match, submitted a screen recording to the researchers

o = participated in the match, did not submit a screen recording/issues with participant file

+ = participated in interview

- = did not participate

\* = Aster is part of team 1 and a student at the same vocational school as the other participants. He was informed of the research project and was aware that his presence during these matches would in part be recorded by his teammates.

emphasised by participants being in charge of the screen recordings.

Through an interaction analysis inspired by ethnographic methodology and a dialogic approach to meaning making, we analyse the apprentice’s (Lux) trajectory towards increasing agency and how peer teaching and learning manifests in the mentor-apprentice relationship between Lux and the other players in the team, with a specific focus on the team leader (Hatifnatten). The transcription builds on the Jefferson (2004) system (see Appendix 1).

## **Ethical Considerations**

Evolving ethnographic methods places new demands and ethical challenges on the ethnographer (Beaulieu, 2007; Shumar & Madison, 2013), especially regarding online content (Sahlström, Tanner & Olin-Scheller, 2019). Several steps were taken to avoid the research being perceived as an intrusion into the students’ privacy (Murphy & Dingwall, 2001). These included using faux names instead of the students’ real names and informing students, parents and teachers of the study’s aim and what participation entailed. The screen recordings were sent over an encrypted and secure file sharing service and all gamertags (the players’ in-game names) have been altered or removed to secure the participants’ privacy. The participants were given as much control of the data as possible (Murphy & Dingwall, 2001): (1)

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they volunteered to be part of the study; (2) they handled the screen recording software and decided which matches to send; and (3) before showing any in-game data to an outside audience, the data was sent to the participants to acquire consent to show it (Rusk, 2019; Sahlström, Tanner & Olin-Scheller, 2019). For the most part, the excerpts have been translated into English by the researchers, except for statements originally in English.

## **RESULTS**

When reviewing the data, we found three features of Lux's learning trajectory regarding how participants orient towards Lux's development of agency in the in-game interaction. These are connected to the three aspects of agency described by Rainio (2008): (1) self-change and transformation of activity, (2) responsible membership, and (3) resistance and transformation of power relations. However, the analysis also shows that the development of agency and the teammates' orientations are interwoven and interdependent. The three features are (1) how the team orients towards Lux developing a specific weapon handling skill, (2) how the team orients towards Lux needing support and what they expect from him, and (3) how the team orients towards Lux's own, independent, decisions and how he justifies them.

Hatifnatten is considered, by himself and his team members, a team leader in CS:GO. The authority appears to be (partly) connected to having the highest rank and often the highest number of kills per match (Ståhl & Rusk, 2020). The position as leader is emphasised on a couple of occasions in both the game play data and the interview data. In the third interview (Interview 3, January 2018), when asked if Hatifnatten considered himself the team leader, he pointed out that he was the one to coach Lux, so that Lux could become part of the team. But how does the mentoring manifest itself during in-game interactions? How is the apprentice's development regarding independent actions, decisions and skills oriented to by the entire team? By assuming a dialogic approach to meaning making and agency, we analyse Lux's trajectory towards increased agency and the mentor-apprentice relationship between Lux and the team, with a specific focus on Hatifnatten (team leader and mentor). We exemplify these processes through an interaction analysis of seven excerpts of the game play.

### **Change in a Weapon Handling Skill**

Excerpts 1 and 2 exemplify how agency is the outcome and the tool for learning. The other players' orientation towards Lux's spray shooting changes as Lux becomes an agent of it through developing himself in that skill. Excerpt 1 is from Lux's first recorded match (match 2 in October 2017). Hatifnatten and others from the team are providing in situ instructions to support Lux. They are playing as T, and Lux is the last survivor from his team against one last opponent. Everyone else on the team is spectating, and they see the in-game action from Lux's point of view (see Figure 1). Lux has planted the bomb (near the blue star, Figure 1) and needs to secure that the bomb detonates, either by eliminating the opponent or stalling to prevent the opponent from having time to defuse the bomb. Lux has been directed to hide in an area close to the bombsite. Hatifnatten is providing direct and concrete support and repeats himself several times when he tells Lux to stall and wait for the opponent to make a move.

Lux follows the advice and stays hidden. Hatifnatten says that he now can hear that the opponent is at the bombsite (line 1). There is a silence for a couple of seconds, and when they hear that the opponent is starting to defuse the bomb, they tell Lux to rush the site and eliminate the opponent (lines

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3-5). Lux starts to run towards the bombsite, which is full of smoke from a smoke grenade (see Figure 1). Lux cannot see the opponent and sprays (shoots consistently) where he thinks the opponent might be (line 6, see orange circle Figure 1), based on where he recently planted the bomb behind the crates (see blue star, Figure 1). This is oriented to as incompetent by some teammates (lines 7 and 9). Lux empties the magazine fairly quickly without eliminating the opponent and needs to reload (line 8). During the reload, the opponent eliminates him. Nevertheless, Hatifnatten displays leadership and assumes the role of mentor as he points out that it was well done and good enough (line 10), since Lux's actions halted the opponent's attempt to defuse the bomb. Mastodon confirms it and points out that it was a win, after all (line 11), since the opponent did not have time to defuse the bomb and it detonates (line 12).

Figure 1. Lux's perspective when rushing the bombsite and spraying (Match 2)



Excerpt 1. Lux what is this (Match 2)

```
01 Hatifnatten: han e sajt  
                he is site  
02              (2.5)  
03 Hatifnatten: [( ) far far fa fa fa  
                [   go go go go go  
04 Aster:      [( ) spring  
                [   run  
05 Örnen:      [( ) springer  
                [   running  
06 Lux:        [(rushes the bombsite, spraying))  
07 Örnen:      Lux va e dehä  
                Lux what is this  
08 Lux:        ((reloads, the opponent shoots at him and Lux dies))  
09 Örnen:      ahhahaha  
10 Hatifnatten: bra (.) bra bra bra (.) good enough  
                good   good good good  
11 Mastodon:  nåjoo de- (.) de e vinn  
                well yea i-   it is a win  
12            ((the bomb explodes and the team wins the round))  
13 Hatifnatten: jä de e fine vi fick- (.) bomben ändå å smälla  
                yea it is fine we got-   the bomb to explode
```

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Generally, excerpt 1 exemplifies how the entire team orients to Lux as an apprentice that needs tips, advice and instructions at this time. Lux takes few independent and proactive decisions; instead, he reacts to the tips and advice. More specifically, excerpt 1 exemplifies how Lux's skills in shooting (spraying) are directly challenged and questioned. Lux has a way of using spray shooting that others in the team do not use, because they appear to approach it as incompetent and laugh at it in this situation (lines 7 and 9). Lux's use of spraying is a topic of conversation from time to time. The others mostly use tapping (shooting one bullet at a time) and bursting (shooting 3–4 bullets at a time). Nevertheless, Hatifnatten also asserts his role as leader and mentor when he cuts off the teasing of Lux's rush into the bombsite and points out that it was good enough, because they got a win. By orienting to the fact that the team wins, regardless of Lux getting shot by the opponent, and the important objective of detonating the bomb, something facilitated by Lux, Hatifnatten supports Lux's agency and repositions him as an important contributor to the team. This is also an orientation towards what the esports context seems to have brought in; that is, the most important thing is how the team performs and each player should perform for the betterment of the team.

The following excerpt is from the last recorded match (May 2018), and it exemplifies how Lux has changed and developed into a skilful spray shooter. He displays increased skills when eliminating two opponents in quick concession, one with the spraying technique (line 3) that was laughed at in excerpt 1.

*Figure 2. Lux's perspective when spraying opponent (Match 7)*



*Excerpt 2. Lux is spray boss (Match 7)*

```
01 Lux: ((eliminating opponent by tapping and bursting))
02 ((waits, hears steps, moves crosshair towards direction of steps))
03 ((eliminates opponent by spraying))
04 (1.0)
05 Örnen: Lux e spraynings chef ja förstår int hu han träffar domdä skotena
Lux is spray boss I don't understand how he hits those shots
06 Lux: ((reloads and backs up))
```

Lux is moving through the map towards connector when he sees and eliminates an opponent in the window using tapping and burst shooting (line 1). Shortly after, he hears steps coming from connector. He waits, points the crosshair to where the opponent will appear and sprays (lines 2–3 and Figure 2). Öرنen is impressed by Lux’s skills in spraying and calls Lux a “spray boss” (line 5). He explicitly says that he does not understand how Lux hits those shots. This display of competence and skill by Lux is impressive enough for Öرنen to make it public how well Lux used the spraying technique. Lux’s spray shooting is also implicitly hinted at in excerpt 4 when he eliminates three opponents in the round and the last one with a long spray.

Excerpts 1 and 2 shows how Lux perfects a skill that was, by the team, laughed at and turns it into his skill in the team. He has developed into an agent of the activity by developing himself into a skilful spray shooter, and his teammates recognise his development and agency. Spraying is a skill that not many in the team possess, except for him. In line with Lux displaying increased independence and skill with regard to spray shooting, he also receives increased recognition by the team. Lux has transformed the object, spray shooting, by acting on it and understanding it not as something to move away from, but as something to understand differently and learn about.

## **Support, Expectations and Responsibility**

The following excerpts (3 and 4) from match 4 (December 2017) and match 5 (February 2018) exemplify the team’s orientation towards what they expect of Lux and how they hold him responsible as his agency and independence develops. The team’s expectations regarding Lux’s abilities appear to increase in concert with Lux’s development as a player. His membership appears to become more legitimate, and he gains responsibility for the team, based on how the teammates orient towards him having gained knowledge and experience so that they do not need to correct and direct his actions as rigorously in match 5.

In excerpt 3 from match 4 (December 2017), Lux is his team’s last man standing against one opponent. This excerpt exemplifies how Lux receives direct and explicit instructions, as well as that he does not know what “switching” (fake rushing one bombsite and then silently move to the other bombsite) means. In other words, his teammates orient towards him as one needing support. The other players, who are spectating Lux, provide several direct instructions and comment on several of Lux’s actions. To comment on players when spectating is common; however, in those situations the player being spectated often resists and justifies their own actions. Lux plays as T and has the bomb. He is currently near bombsite B, where all other players have been eliminated.

Hatifnatten and Mastodon instruct Lux to go to bombsite A (lines 7–8). Lux moves towards bombsite A (see the yellow line in figure 3) during which he makes considerable noise; that is, he runs and jumps. This helps opponents to hear him and predict what he is about to do. This is, sarcastically, commented on by Öرنen, and Lux joins the sarcasm by saying “I know” (lines 13–14). Mastodon suggests a new strategy (line 15): a switch (see white circle in figure 3). He says that Lux would still have time to do it. Lux indicates that he is new to CS:GO when he asks what that means, and Mastodon orients to Lux’s question as genuine and shows that he did not expect Lux to know what switching means (lines 16, 18 and 20). Aster rejects Mastodon’s proposal (line 17) and Hatifnatten tells Lux to hurry up (lines 19 and 21). Lux plants the bomb (line 22), and Öرنen says that he should do it now when the bombsite is empty (line 23). Lux, as he stands at the bomb, looks nervously and twitchingly around (line 24). Öرنen orients to this when he instructs Lux to run away (line 25). Lux, still looking nervously around, moves behind cover near the bomb (near the arrow in figure 3, line 26). Hatifnatten and Öرنen recognise that Lux is

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nervous and scared (lines 27–28) and snicker. Lux plays along and says nervously “yes” (line 29). Lux waits for several seconds and says that this is not his comfort zone (line 33). Örnen orients to this and attempts to reassure Lux that he just needs to listen for the opponent (line 34). As Örnen finishes his turn, the sound of an opponent defusing the bomb is heard (line 35). Lux says “kockoo” (peekaboo in Swedish) and Hatifnatten, Aster and Örnen, almost simultaneously, tell Lux that the opponent is defusing (lines 37–39). Lux runs out and eliminates the opponent (line 40). This is acknowledged by Hatifnatten with a “nice” (line 41); however, Örnen asks Lux if he really did not hear the opponent (line 42). Lux says that he did not and Hatifnatten adds that he became really scared that they would lose the round (lines 43–44), and several teammates snicker and giggle.

*Figure 3. Lux’s movements throughout the excerpt (Match 4)*



In excerpt 3, Lux is oriented to as one needing direct and (almost) constant support in this specific situation (1v1). He also displays that he is a novice in that he asks about a simple strategy (switching). The others in the team orient to the question as genuine and do not tease him for not knowing. In other words, they orient towards him as having the right to not know what switching is. He also receives much support regarding how and when to plant the bomb. When Lux runs for cover, the others orient towards his actions (looking around) as indicating nervousness, not as him checking all corners and angles. They orient towards Lux as being scared, and he mentions that he is outside of his comfort zone. In other words, the support they have provided has been, in a way, warranted and useful for Lux. Lux also receives clear instructions to listen. However, he does not hear the opponent defusing and several teammates have to tell him about it, almost simultaneously. In the end, Lux succeeds in his project, with the help from his teammates, and everyone laughs at him for not hearing the opponent defusing. However, they also men-

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tion that they were concerned for maybe losing the round. The excerpt, as a whole, shows quite clearly that the other teammates' expectations regarding Lux's skills and knowledge of game strategy are not high and that they do not put too much responsibility on him to know what to do.

### Excerpt 3. *This isn't my comfort zone (Match 4)*

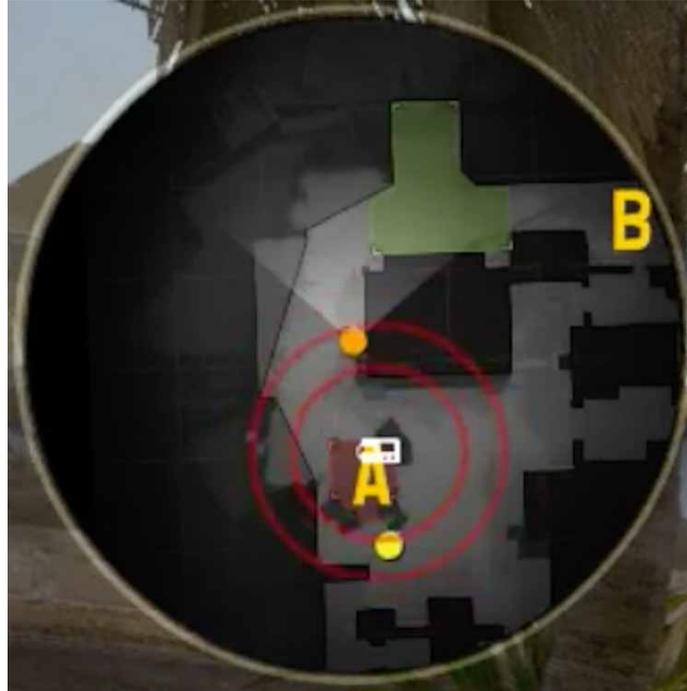
07 Hatifnatten:	far A: bisin go A: dude	26 Lux:	uu ((looks nervously around as he makes his way to cover))
08 Mastodon:	far A jä. far A fa A fa A go A yea. go A go A go A	27 Hatifnatten:	((snickers)) Lux e helt i skraj Lux is totally scared
09 Lux:	((moves towards bombsite A)) ((several lines of transcript omitted))	28 Örnen:	j(h)å(h)å y(h)e(h)e
13 Örnen:	fin sneaking nice sneaking	29 Lux:	jå::: ye:::s ((several lines of transcript omitted))
14 Lux:	ja vet I know	33 Lux:	dehär e int min comfort zone mer dehär this isn't my comfort zone anymore
15 Mastodon:	han sku hinna switcha ännu he could still have time to switch	34 Örnen:	ly- lyssna baa ( ) li- just listen
16 Lux:	va e de what is it	35	((the sound of someone defusing the bomb))
17 Aster:	jå: men int e de nån ide: egentligen yes but there is no point actually	36 Lux:	koekoo pskakoo
18 Mastodon:	att du går tillbaka (.) [men du snikar tillbaka that you go back (-) [but you sneak back	37 Hatifnatten:	Lux han defu- Lux= Lux he defu- Lux=
19 Hatifnatten:	[(nåja) Lux nu ska du nog fara ((okay) Lux now you should go	38 Örnen:	=(han defuse)= =(he defuse)=
20 Mastodon:	[at dom tror at du kom hii [that they think you came here	39 Aster:	=han defusa: =he defuses
21 Hatifnatten:	[om du ska fara å planta [if you're gonna plant	40 Lux:	((runs out and eliminates the opponent that is defusing the bomb))
22 Lux:	((planting the bomb at bombsite A)) aa (dom) tror bara sidu oh (they) just think you see	41 Hatifnatten:	nice.
23 Örnen:	planta baa fö nu e dedä tomt just plant cause now it's empty	42 Örnen:	Lux hörd du int Lux didn't you hear
24 Lux:	oj uu uu ((looking nervously from side to side)) oh aa aa	43 Lux:	m(h)m(h)m ja hörd int nå I didn't hear no
25 Örnen:	spring därifrån run away	44 Hatifnatten:	alltså Lux du skräm mig så helvete I mean Lux you scared the shit outta me
		45	((several giggle and snicker))

The following excerpt (4) from match 5 (February 2018) exemplifies how Lux has developed as a player (eliminates two opponents, one by spraying, and reads the situation proactively) and how the team's orientation to him needing support has changed. It is of a situation (1v1) similar to that exemplified in excerpt 3. Lux and a teammate, Örnen, are making their way towards bombsite A to plant a bomb. Lux has the bomb, and there are three opponents still alive. Lux makes his way straight to the bombsite to plant the bomb (see white shape in figure 4) and Örnen provides cover for Lux.

Lux and Örnen move to the bombsite and check corners as they run (lines 1–5). The spectating teammates warn about opponents in an area near the bombsite (lines 3–5). When Lux reaches the plant site, a flashbang detonates (lines 6–7). Örnen says that he is blind, and Lux barely glimpses an opponent approaching behind a corner. He eliminates the opponent and starts planting (lines 8–11). Hatifnatten says “nice” regarding how Lux handled the situation (line 10). Örnen eliminates another opponent (line 12) and Hatifnatten says nice (line 13); now there is only one left. Lux moves towards an area, near the bombsite, for cover and to guard the area (line 14). Hatifnatten, half-jokingly and half-seriously, tells Lux that he cannot die because Örnen (see yellow dot in figure 4) has really low health (line 15). Lux does not answer and Hatifnatten adds that Lux is in the correct place and should just stay there (line 17, see orange dot in figure 4). Örnen is, then, eliminated by an opponent (lines 18–19), and Hatifnatten and Aster give advice to Lux regarding how to handle the situation (lines 20–21). Hatifnatten adds a motivational “you got this, dude” (line 22). The opponent can be heard running towards the bomb and he shoots in Lux's direction (line 23). However, he cannot see Lux. Hatifnatten analyses the situation for the team (lines 24 and 26). They can only hear what the opponent is doing, since Lux cannot see the opponent from his cover. Lux reads the situation and moves out, spraying and eliminating the opponent (line 27). His teammates are impressed (lines 28–31), and one says that he always wants to play the way Lux played this round (line 30).

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Figure 4. Map of the situation (Match 5)



Excerpt 4. I wanna be like Lux (Match 5)

01 ((Lux and Örnen move towards A site checking angles and corners))	19 Örnen: AAA
02 Örnen: Lux nu far vi	20 Hatifnatten: han e stairs (.) han e stairs (.) chill
03 Hatifnatten: å di: e sen bisar jungle	21 Aster: håll dig baa bakom den boksin å vänta på honom
04 Örnen: int e di någo	22 Hatifnatten: du har de bisin
05 Aster: jo man hörd dom	23 ((opponent shoots in the direction of CT area))
06 Lux: ((reaches plant site on A site))	24 Hatifnatten: han vet at du e CT ändå
07 ((opponent flashbang at A site))	25 ((defuse sound))
08 Lux: ((eliminates opponent))	26 Hatifnatten: de va fake ( )
09 Örnen: ja e bl{ind	27 Lux: ((moves out, sees opponent, and sprays and eliminates opponent))
10 Hatifnatten: [nice	28 Mastodon: nice
11 Lux: ((plants bomb))	29 Hatifnatten: HUH
12 Örnen: ((eliminates opponent approaching behind a corner))	30 Mastodon: ja vill vara som Lux den här rundan men alla rundor
13 Hatifnatten: ni:ce	31 I wanna be like Lux this round but every round
14 Lux: ((moves towards CT area to guard the bomb))	((several giggle))
15 Hatifnatten: Lux ingen press men du får sen int dö (.) Örnen har liksom (	
16 Lux: Lux no pressure but you can't die (.) Örnen has like (	
17 Hatifnatten: håll baa där så e de lugnt	
18 ((opponent eliminates Örnen))	

Excerpt 4 is a situation that is similar to the situation in excerpt 3. However, in excerpt 4 Lux has developed as a player and shows that he has increased agency: independence, skills and knowledge. He is also oriented to, by the teammates, as having gained responsibility when he takes independent decisions that are not questioned or challenged by the teammates spectating. The support provided is not as “micromanaging” as in excerpt 3 (see also excerpt 1). Lux, himself, reads the situations and decides when and how to engage or not (e.g., line 27). He impresses by using spray shooting to eliminate the last opponent, and he succeeds in what he is doing, which indicates that his skills have developed, not only his strategic sense. The team’s orientation towards Lux’s decisions and actions are different, compared to excerpt 3 (see also excerpt 1).

Lux and his teammates orient to him as having gained responsibility. The team has higher expectations of him, and they appear to trust in him knowing what to do (e.g., lines 15 and 30).

Excerpts 3 and 4, as well as excerpts 1 and 2, indicate that there is a trajectory concerning how much support is provided, how much responsibility Lux is oriented to as having, and what is expected of him. That is, the other players' orientations towards his choices and decisions indicate that support diminishes, and responsibility and expectations grow. They expect more and give more responsibility to Lux, while at the same time not providing as much explicit support in how he should be playing. Lux also indicates that he can handle the increased responsibility, and he goes from explicitly stating that he is out of his comfort zone, not understanding strategy calls and reacting to advice, to explicitly displaying increased skills (spray shooting, movement and checking corners), knowledge (reading the situation), independence and proactive actions. That is, in excerpt 4 he is already doing, or has already done, what the team advises him to do, and he does it well and with a confidence that is not present in excerpt 3. The team appears to have given up control over Lux's actions and provides Lux the possibility to increase his own responsibility toward his own development of agency and learning.

## **Developing Agency Through Resistance**

The previous excerpts (1–4) exemplify how Lux is oriented to as developing his own agency and is given more responsibility as his knowledge and understanding of the game increases. However, agency is not only aligning with the norms and actions of the community; it also includes resistance and opposition when claiming one's own position in the community. Excerpts 5 (match 4, December 2017) and 6 (match 5, February 2018) exemplify how Lux, as part of developing agency, resists and challenges corrections that he receives when playing. The final excerpt (7) from match 6 (April 2018) exemplifies how he has developed into a player that is oriented to, by the team, as being an independent agent who is given more responsibility.

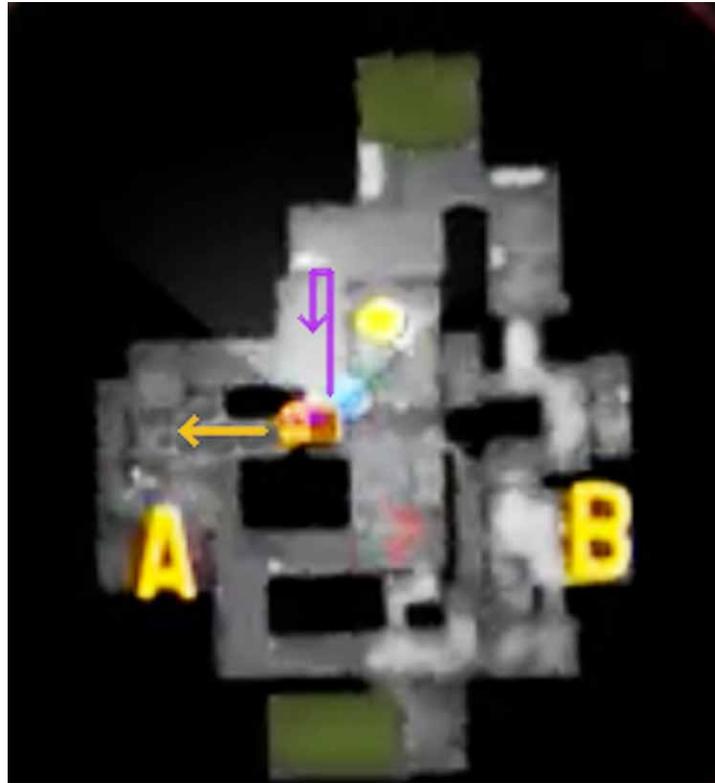
In excerpt 5, Lux is challenged and corrected for running away with the bomb, and he does not appear to be able to justify his actions. Lux has the bomb, and he is supposed to be following Hatifnatten. They run towards bombsite A.

Hatifnatten peaks behind a corner and chooses to backtrack and run towards bombsite B (lines 1–2). Lux follows him but continues to run past him and goes further towards bombsite A (line 3, see orange line in figure 5). Hatifnatten does not realise this and continues towards bombsite B (see purple line in figure 5). As Lux runs towards bombsite A, he asks what is going on (line 4). Hatifnatten asks what Lux refers to and cuts off his own utterance when he sees (on the minimap) that Lux is moving further on towards A, which means that they are running in completely different directions (line 5). Hatifnatten calls out to the entire team, including Lux, that he is running alone with the bomb (line 6). Simultaneously, he runs after Lux to protect the bomb and bring Lux back towards bombsite B (line 7). Lux provides an excuse, but it is barely audible (line 8). Hatifnatten finds him and they run, together, towards bombsite B (line 9). On line 11 Lux provides an excuse for what he did (line 11). He says that he just wanted to “check it out” (line 11). He uses an exaggerated and comical version of the Swedish word “kika” (check).

Excerpt 5 exemplifies that Lux is not following the actions of the others and that he does not realise that it is not wise to run alone with the bomb into an area that has not been secured. Hatifnatten not only corrects Lux by telling him what he should do, he sees the situation as demanding him to go and get Lux and protect him and the bomb. Additionally, Lux does not have a good explanation for what he did and tries to mitigate his actions by comic relief.

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Figure 5. Lux's and Hatifnatten's movements (Match 4)



Excerpt 5. I was just checking (Match 4)

```
01 Hatifnatten: ((moves towards A site, peaks behind corner and moves back
02 towards B))
03 Lux: ((follows Hatifnatten, but continues to move towards A))
04 Lux: mitä tapahtu
what's happening
05 Hatifnatten: mitä että- (.) Lux vaf-
say what- (.) Lux what the f-
06 Hatifnatten: [Lux far ensam med bomben varför
[Lux goes alone with the bomb why
07 [((runs after Lux))

08 Lux: [(int tar ja )
[(I'm not take )
09 Hatifnatten: [((finds Lux, they run back towards B))
10 Aster: en e mid
one is mid
11 Lux: ja baa chigii
I was just checking
```

In the following excerpt (6), Lux shows increased resistance to a correction and defends his decision to shoot. Lux is standing in a clearance from where there are several paths to several parts of the map and waits for opponents to show. He is being spectated by Hatifnatten.

*Figure 6. Lux's first (left) and second (right) shooting (Match 5)*



*Excerpt 6. I thought that there was someone (Match 5)*

```
01 Lux: ((eliminates opponent))
02 Hatifnatten: ahha Lux bara pangar
              oh Lux just blasts
03 Lux: ((eliminates another opponent))
04 Hatifnatten: alltså Lux bara PANGar
              I mean Lux just BLASts
05 Lux: ((moves slightly and shoots at another location))
06 Hatifnatten: Lux
              Lux
07 Örnen: aj jessus
              oh jeez
08 Lux: ((moves away and reloads))
09 Hatifnatten: vaffö- vaffö skjuter du när där int e nån
              why- why are you shooting when there's no one there
10 Lux: ja tyckt at där va nån
              I thought that there was someone
11 Aster: en e på short
              one is short
12 Örnen: tycker han så tycker han
              if that's what he thinks then that's what he thinks
```

Lux eliminates two opponents (see lefthand white circle and crosshair, figure 6), and Hatifnatten acknowledges this by indicating that Lux is just shooting them down (lines 1–4). In other words, he acknowledges Lux's skills in eliminating the opponents. Lux moves slightly to be able to shoot at another location (line 5, see righthand white circle and crosshair in figure 6). Örnen joins Hatifnatten's cheering (line 7). Lux runs away to reload and reposition himself (line 8). During this pause in shooting, Hatifnatten asks Lux why he shot at the last location, since there was no one there (line 9). Lux defends his actions by saying that he saw something there (line 10), and Örnen backs him up (line 12).

Hatifnatten appears surprised and excited about Lux being able to eliminate the two opponents. However, the utterances are also slightly depreciating in that they display such an explicitly surprising orientation towards Lux being capable of shooting like he did. This is also indicated by using a word like “panga” (blast or bang), which, in Swedish, is a childish way of describing the action of shooting. Nevertheless, excerpt 6 exemplifies that Lux orients towards having increased responsibility and knowledge regarding his decisions and actions (compared to excerpt 5). He defends his choice to shoot

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at the last location, although Hatifnatten challenges that decision. When looking at the recordings, one can see a colour shape that may be an opponent (righthand picture, figure 6). However, it is too far away to be certain. Nevertheless, Lux resists the correction and indicates that he knew what he was doing, and he is also backed up by Örnen who did not see the situation but indicates that he trusts Lux's judgment. The fact that Lux eliminated two opponents in quick succession before also indicates that he has developed as a player.

The last excerpt (7) from match 6 (April 2018) exemplifies that Lux understands strategic calls and knows what to do and how to play as part of the team. He appears to have developed into a player that is not questioned or corrected as much as before and whose position, tasks and responsibility has increased. He shows increased knowledge, skills and independence in how he reads the situation, checks corners, moves and shoots.

Figure 7. Lux's position when waiting for opponent (Match 6)



Excerpt 7. Exhibiting increased independence (Match 6)

01 Lux:	((runs with two teammates to hold A site))	09 Aster:	bench?
02 Örnen:	ÅÅÅÅ short	10 Mastodon:	int bench men va heter dendä pallen dit i [hörne not bench but what's it called that stool in the [corner
03 Aster:	short?	11 Aster:	[chair
04 Örnen:	där va en short jo there was one short yes	12 Mastodon:	[chair]
05 Lux:	((runs from A site towards short))	13 Hatifnatten:	[chair] jo yes
06 Mastodon:	[dit e en bench (.) minus sextynie [there's one bench (.) minus sixty-nine	14 Lux:	((waits behind corner for possible opponent to show))
07 Lux:	[(moves carefully/slowly towards chair, checking angles and corners)]	15	((shoots and eliminates opponent near chair))
08		16	((checks, carefully, for more opponents and then moves back towards A site and reloads))
		17	

Lux runs with two teammates to hold bombsite A (line 1). When they are holding bombsite A, Örnen calls out that there is an opponent at short (lines 2–4) and Lux orients to it and moves towards short (line 5). Shortly after this, Mastodon calls out that there is an opponent at bench (chair), which is close to short (line 6). In the recording, one can see that Lux moves more carefully and slowly with the

crosshair (see crosshair in figure 7) steadily pointed towards chair (which is on the opposite side of the wall, approximately in the area of the turquoise circle, figure 7) as he also checks corners and angles (lines 7–8). Lux waits behind a corner for the possible opponent to show and when he sees the opponent, he shoots and eliminates the opponent (lines 14–15). After that he checks, carefully, if more opponents will show before he runs back to hold bombsite A again (lines 16–17).

This excerpt exemplifies how Lux takes his own independent decisions without being corrected. He follows the strategic calls and moves and shoots with a confidence and independence that is not present in the beginning of the data collection. The other teammates do not orient towards his decisions as needing correction, support or help, and Lux succeeds in what he does. Excerpts 5–7 show that Lux resists in an attempt to display agency in all matches, but that his resistance and opposition in the beginning does not appear to be oriented to as having merit in the early matches, whereas the resistance is backed up by increased knowledge and teammates in later matches. The teammates' orientation towards his resistance and opposition appears to change as he develops agency. When Lux's experience and knowledge increases, the teammates' orientation towards what Lux does changes. He also brings in new activities and ways of understanding and playing the game (e.g., spraying). The last excerpt exemplifies that he just knows what to do, independently, and that he functions as an independent part of the team. In this context of esports and education, Lux, together with the team, increase the level of expectations on him and give him more responsibility as he becomes more competent in playing the game and functioning as part of the team. These processes are all interconnected and appear to be similarly oriented to by everyone on the team.

## **DISCUSSION**

Existing research has shown that becoming a competent player of online games involves complex social processes in which players are socialised into social norms and expectations, and that players rely on guidance from more experienced players (Rambusch et al., 2007; Taylor, 2016). However, there is also a need for more detailed knowledge about what characterises these peer mentoring processes and development of agency and learning in in-game interactions between mentors and apprentices.

With regards to the three aspects of agency described by Rainio (2008, [1] self-change and transformation of activity, [2] responsible membership, and [3] resistance and transformation of power relations), the findings of this study show how (1) Lux perfects a skill that was initially laughed at by the team and turns it into a signature skill that becomes important and recognised by the team. He develops individual agency and becomes an agent of the activity by changing the object (spray shooting) and acting on it; that is, he changes it from an action being laughed at into a skill that he is competent in. His participation changes as he develops into a skilful spray shooter. This development of agency regarding a weapon skill is connected to the second analysed aspect of Lux's trajectory towards increased agency regarding (2) support, responsibility and expectations. The other players' orientation towards Lux's decisions indicate that Lux gains responsibility, and the others appear to expect more of him throughout the entire data collection. In the beginning, they provide detailed support and do not expect him to be able to have the competence to know what to do. Later, this direct support is not present, and he is expected to know what to do and take more responsibility. The last aspect of Lux's learning trajectory, (3) development of agency through resistance, connects to both the aspects above in that as Lux develops his skills and gains responsibility and independence; he justifies his decisions and resists corrections and instructions.

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In the last matches, he repositions his decisions as competent when other players attempt to correct him, and the other players appear more prone to accept his justifications. All three aspects of Lux's learning trajectory towards increased agency contribute to the fact that Lux, in the final matches, is more competent and, therefore, does not receive as many instructions and corrections as in the early matches.

Effective communication, including mentor-apprentice processes, appears to be central in the esports context, and the school programme may play a part in making it easier for players to teach collaboratively and learn competences through a verbal chat with teammates that they know from prior experience and classroom contexts. The focus on teamwork and collaboration 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. The learning appears to take place in the form of a community of practice (Lave & Wenger, 1991), which includes a domain of knowledge, a community of people and a notion of shared practice (Barr, 2019). Within a community of practice, members assume different roles and learn from each other in ways that both maintain and reconfigure the norms and regulations for participation and engagement. This is apparent when players work in teams. Apprentices are guided, instructed and taught to become more competent, so that the team can become better (e.g., Lave & Wenger, 1991). That is, agency develops as the player participates in the community and gains understanding, experience and knowledge of the practices, as well as responsibility for the team. In conclusion, our study indicates that communication and collaboration is an inherent part of learning and teaching in, and as, a team. For the apprentices to become competent players they need the support of experts and mentors, who need to engage in learning conversations to both teach the apprentices and learn, themselves, how to function as leaders and mentors. The team provides the players with a community that provides stimulation, motivation and possibilities for learning in-and-through communities of practice. **Insights into these processes are important in order to understand learning in digital gaming cultures that are important in young people's lives as citizens in contemporary societies.**

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## ***Player Agency, Team Responsibility, and Self-Initiated Change***

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## **KEY TERMS AND DEFINITIONS**

**Agency:** A complex, and partly contradictory, concept on humans' capacity to impact and transform life circumstances and the social practices they are engaged in. Agency is both an individual and collective process as well as a product of said process(es).

**Collaboration:** In this chapter, collaboration is the process of a team working together to achieve the goal of playing and winning matches in CS:GO.

**CS:GO:** Counter-Strike: Global Offensive, a popular esports video game. It is a team-based multiplayer first-person shooter developed by Valve and Hidden Path Entertainment.

**Descriptive Ethno-Case Study:** A qualitative case study informed by ethnography. The distinction between ethnography and a case study can be somewhat blurry. However, in ethnography, more emphasis is put on extended periods of time in the field, whereas a case study can be more limited in terms of time and researcher immersion into the field.

**Dialogic:** To explore the meaning of something with an understanding that each utterance represents a position of the speaker and an orientation towards a recipient. The meaning of an utterance lies in an understanding of both perspectives.

**Esports:** A form of sport competition using video games. It often consists of organised, multiplayer video game competitions between (professional) players, individually or as teams.

**Participant's Perspective:** A focus on how participants orient to and make relevant actions and activities in their situated interaction, instead of using ready-made definitions and categories. First-hand experiences in relevant settings, often in combination with interviews, informs the ethnographer to access an insider's perspective, including online contexts.

## **ENDNOTE**

<sup>1</sup> We use players' gamertags as names in the manuscript and transcripts, and have created faux names for the gamertags that are as similar as possible without revealing too much of the real gamertags.

## **APPENDIX**

The transcription system used in the article is based on the Jefferson (2004) system.

(.) a micropause less than 0.2 seconds

(0.5) a silence indicated in tenths of seconds

[text] overlapping talk or co-occurring embodied actions

TEXT louder 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

hh (hh) hearable exhale

hh (.hh) hearable inhale

*text* English translation in italics