

Dialogic Teacher Facilitation of Esports Activities for Vulnerable Youth

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Abstract: The study is part of an on-going research project entitled “Esports as learning space and gateway for vulnerable youth” (2023-2026) funded by the Velux Foundation. In the project, researchers explore the esports programmes at three Specially Planned Youth Education schools (Særligt Tilrettelagt Ungdomsuddannelse or STU). STU is an offer to vulnerable youth unable to attend regular forms of youth education in Denmark. More than 30% of the STU students are diagnosed with disorders such as ADHD and autism and many have experienced school refusal and suffer from low well-being and/or stress, isolation and anxiety. The project explores the pedagogical approaches used by teachers in three esports programmes, where students (aged 16-25) play competitive multiplayer games, primarily *Counter-Strike 2 (CS2)* and *League of Legends*. This study analyses video observations from an esports class through the theoretical perspective of *dialogic space* to examine how a teacher facilitates dialogue in the classroom. We uncover how a dialogical approach to facilitating the esports programme is valuable for the teachers, especially because some students' gaming expertise exceeds the teachers' expertise, both in terms of game sense and understanding of game mechanics. The analysis shows how the students' dialogic participation is part of a teacher facilitated dialogic space, which is used as a starting point to create common goals for the programme and foci of students' collaboration. In this dialogical space students are invited to share game knowledge, strategic considerations, and analytical expertise about their gameplay. Further, the analysis will show how the teacher positions himself differently in the classroom to facilitate students' reflections on taking different perspectives in the dialogic space. Finally, the study discusses how the aim of perspective taking, and communication for successful gameplay in CS2 aligns with the pedagogical aim for the vulnerable students in the esports programme.

Keywords: Esports, Special education, Vulnerable youth, Teacher facilitation, Dialogic education, Dialogic space

1. Introduction

Most studies on gaming in special education have been carried out using learning games (or “serious games”) designed to address specific learning aims – e.g. cognitive training of executive functions in relation to attention, working memory, and cognitive flexibility (Durkin et al. 2013; Rodriguez Timaná et al. 2024). Even though learning games may have clear benefits in addressing specific educational aims, they often lack the motivational and social aspects of the leisure games that children and young people play in their everyday life. In recent years, there has been a growing interest in studying how children with special needs may benefit from playing leisure games with others. Some studies have described the social, communicative and emotional benefits for children with autism and ADHD playing multiplayer games such as *Minecraft* (Ringland et al. 2016; Stone et al. 2023). These studies show how some of the challenges in video game play might be more manageable, more enjoyable and more rewarding, than other tasks that neurodiverse children have to tackle. This is similar to recent findings from our on-going project on esports education for young people at Specially Planned Youth Education (STU) (Jensen et al., 2024). These findings show how vulnerable youth benefit from strengthening their social relations and communicative skills by playing team-based multiplayer games such as *Counter-Strike 2 (CS2)* and *League of Legends*. Similar findings were identified in The School at Play project, which used the cooperative video game *Torchlight II* to promote motivation and social inclusion for vulnerable secondary students (Hanghøj et al. 2018). Despite these promising findings, there is a lack of knowledge on how teachers can or should facilitate interaction in and around multiplayer commercial games within special education. A review of earlier studies has shown that teachers need to play many different roles in game-based teaching (Kangas et al. 2018). This involves selecting specific games, planning their teaching, negotiating expectations with students, orienting students toward learning goals in and around the game, supporting students during gameplay, and evaluating outcomes of game sessions. However, most of the studies on game-based learning that focus on teachers' approaches are conducted within the context of general education. This context may differ significantly from special education in terms of teacher-student interaction. Further, mentoring practices among peers in online esports communities display dialogical aspects like shared goals and mutual engagement (Rusk et al. 2020). In the STU context, where students have varying levels of *gaming expertise* and some even surpass the teacher's,

co-construction of knowledge then becomes a potential viable teaching strategy. This brings us to the aim of the current study, which is to analyse the dialogue between a teacher and a group of STU students (age 16-25) ranging from expert to novice players of the game CS2. We explore the following research question: *How can we understand teachers' esports facilitation at STU as the framing of a dialogic space and what forms of participation does this enable for the students?* Methodologically, we will explore the question through an interaction analysis of video observations from the esports classroom. Our analysis is informed by a dialogic approach to game-based learning (Arnseth et al. 2018) as well as game research (Fanfarelli 2018).

2. Case: Esports Education at STU

Since 2007, Danish students who are unable to complete their education due to physical or psychological issues, have been offered an alternative, called Specially Planned Youth Education (STU). Some of the students have general learning difficulties, others also struggle with neurodivergent conditions, such as autism and ADHD in addition to other challenges such as anxiety, loneliness and/or depression (Ministry of Education, 2017). The students often have issues with school motivation, due to previous negative school experiences, as well as generally struggling to communicate with others. In a STU context, classroom interaction often differs from regular school, as students may struggle to participate or even show up to class. To address these issues, the STU observed in this study offers an esports programme to provide a space, where students have an incentive to directly communicate and participate. The objective of this esports programme established in 2017, is to enhance students' social competences in combination with developing their game expertise. This assumes that building up social skills and a sense of community around the games will have significant positive impact on the students' lives beyond the esports setting. In this study, we see how a specific STU utilizes esports to shape the classroom and build up a space for dialogue and communication with different viewpoints. The example explored is from an esports class that plays the game CS2, which is a first-person shooter where one team (the terrorists) must try to plant a bomb and plays against another team (the counter-terrorists), who must try to prevent the bomb from exploding. The game offers a realistic setting and a fast-paced gameplay in which precise communication of each team members' locations and actions are imperative. At this STU, the teachers often organize their classes in a particular three-part structure, consisting of a pre-game briefing, a game session, and a post-game debrief. In a briefing, the teacher will engage in discussion with the students about the focus of the current lesson. After the briefing comes the game session, consisting of one or more gameplay sessions. Afterwards, there is usually a debrief, which can involve feedback and discussions of the focus and the outcomes of the lesson. The teaching is therefore not only focused on the gameplay sessions themselves, but also creating a space for learning through both discussions and reflections in the briefing and debriefing sessions.

3. Gaming Expertise

This study seeks to explore how teachers and students take on a variety of different perspectives during esports facilitation. To do this we define what determines a players' understanding of- and their skills within, the game. We will focus on two aspects of gaming expertise that relates to *game sense* and *game mechanics* (Fanfarelli 2018). Game mechanics is the least ambiguous, simply referring to the mechanical ability of a player. When playing CS2, this includes the players' ability to aim, their ability to move and position themselves on and around the map, as well as their understanding of character abilities and synergies between different game elements. The game mechanics are therefore mostly concerned with motor skills and understanding of specific game elements and synergies. Game sense is more complex and abstract. It concerns the player's ability to quickly get an understanding of a situated game state and using this to make good game decisions. For making these snap-judgements, it is important for a player to understand how to survive and be able to anticipate and predict other players' actions, e.g. having an overview of their own and other players' economy, weapons and map placements. In multiplayer games this also concerns understanding which information to *communicate* to other team players, and how this leads to what Fanfarelli (2018) calls *thoughtfulness*. Thoughtfulness, in this context, refers to how players use the available information about the game state. This includes other players' positions, characters and their powers etc., to make thoughtful decisions, often quickly, with the goal of constantly getting a slightly better position to win the game. In this study we see varying levels of game expertise among the teacher and students, particularly in relation to game sense. Additionally, we will distinguish between an individual- and a team- player perspective. Game mechanics refers to both, including the individual's ability to aim, choose weapons and navigate the maps, but may also be related to how these choices synergize with the team's roles, choices of weapons, map locations etc. Game sense focusing on the overall game state, however, must include some level of team perspective, as it will include both the rest of a player's team as well as the

opposing team. This means that game sense expertise in CS2 inherently involves the ability to take on the team perspective and make thoughtful choices on behalf of the entire team.

4. A Dialogic Approach to Teacher Facilitation

In addition to identifying gaming expertise, we will also explore a dialogic approach to teaching and learning, which emphasizes interaction between participants, working with multiple point-of-views, and the co-construction of meaning (Wegerif 2020). In this way we view games as *dialogical tools* that can structure and mediate classroom interactions (Arnseth et al. 2018). Unlike traditional instructional tools, games invite students to engage with disciplinary content, pedagogical structures, in-game scenarios, and everyday knowledge practices in dynamic ways. Introducing commercial games into the school domain means introducing cultural phenomena from students' everyday lives, including pre-existing attitudes, motivations, and gaming identities into the classroom (Arnseth et al. 2018). This creates opportunities for both meaning making and tensions across domains with different validity criteria for what counts as valid knowledge. This potentially means that some students can play and/or understand the game at a higher skill level than the teachers. As one teacher notes: "[Student name] has 3000 hours in CS2, I'm in no position to argue with that knowledge." This highlights how disciplinary knowledge in this context is distributed among participants and is not necessarily provided by the teacher. This emphasizes the need for a dialogical approach to understand the classroom interaction.

Moreover, games may also be used as tools for creating *dialogic spaces*, where participants can enact and discuss multiple views on game-related aims, relations and topics (Arnseth et al. 2018). According to Wegerif (2013), teachers' facilitation of dialogic spaces can be examined in terms of how they *open*, *widen*, and *deepen* a dialogic space (Wegerif 2013). Opening the dialogic space involves inviting multiple opinions by asking open-ended questions such as "how?" or "why?". Widening the space occurs when diverse viewpoints are introduced, allowing students to explore different interpretations. Deepening the space involves critically reflecting on assumptions and reasoning processes (Wegerif 2020). Teachers can therefore be understood as facilitators of dialogic spaces that support peer learning and distributed authority, encouraging students to articulate reasoning, justify strategies, and reflect critically on each other's viewpoints.

5. Methods, Data and Analysis

This study is a part of a larger project that conduct video recordings, interviews with teachers and students, and document analysis to research the esports programmes at three STUs (Jensen et al. 2024). In this study, we focus particularly on one teacher's pedagogical approaches in the classroom through *focused ethnography* (Knoblauch 2005) to document and analyse classroom interactions in an esports class. Focused ethnography is a methodological approach that investigates specific social situations through short-term but intense field visits, often supported by video recordings. Unlike traditional ethnography, it relies on condensed, targeted observation and seeks to produce in-depth insights into how meaning is locally negotiated within complex, real-world settings (Knoblauch 2005). Across the three STU's we have recorded situations that show characteristics of dialogic spaces, where games, strategies, and player/student performances are discussed, and dialogue is being opened, widened and deepened, e.g. students sharing reflection on a particular strategy or debriefing with a student taking the lead reflecting on team performance. For this study, the example is a teacher that facilitate students' co-creation of knowledge concerning in-game roles in CS2. As the analysis show, this involves opening a dialogic space, widening the space by inviting different students and viewpoints to join the dialogue and using the students' perspectives to deepen the dialogue.

The data for this study consists of transcripts from a classroom observation captured by video. The situation is a teacher that opens a dialogic space to discuss in-game roles for students in CS2. We analysed the material by first viewing video recordings and then selecting sections for transcribing and analysis using Wegerif's theory of dialogic space (Wegerif 2013). Further we used the concepts of gaming expertise (Fanfarelli 2018) in combination with teacher interviews to understand the esports programmes subject domain as a compound of gaming expertise and individual/team perspective taking. These two theoretical perspectives were used in a deductive approach to code the data and interpret the students and the teacher's intentions and positions. The data presented is from a singular class and was selected because it shows how the teacher, a relative novice in CS2, navigates different student levels of expertise and his own perspective of creating a learning space. A further consideration for choosing the example was that the different aspects of dialogic space were identified in the same continues dialogue. This continuation has a communicative value that hopefully helps the reader to understand both the context and the significance of the example. Our methodological approach supports a detailed analysis of teacher facilitation and how the dialogue involves different student and teachers'

perspectives being: individual perspective, team perspective and teacher perspective that include varying levels of foci on game mechanics, game sense, and student learning.

6. Results

Here we present an analysis of dialogic interaction from a game session facilitated by an esports teacher. We show how it can be understood as a dialogic space and what student positions are enabled. The session is divided into several excerpts and presented below. Except for a few omissions due to repetition, the excerpts are taken from the same dialogic exchange, which only lasts a few minutes. The session is a morning pre-game briefing session facilitated by the teacher with five esports students and one IT student. The teachers focus for the session is to collaboratively create in-game roles to give the students a framework for peer feedback after gameplay. We use synonyms for all participants. T is the teacher.

The results presented in section 6.1 and 6.2 follow a classroom dialogue in which the teacher facilitates student co-construction of knowledge concerning in-game roles. From a novice gaming expertise position, the teacher opens a dialogic space that invites students to contribute with their own gaming expertise. As the dialogue unfolds, we identify different individual, team and 'student learning' perspectives that both align and create tensions. The analysis shows how we understand the teacher's navigation of these tensions as an aim to open and maintain a learning-oriented dialogic space.

6.1 The Teacher Opens the Dialogue and Invites Students to Join

The following situation takes place after a short break. The students are in the classroom, sitting at their desks, each with a full gaming setup. The teacher walks around the room, writing the roles on the whiteboard as the dialogue progresses. The teacher starts with:

01 T: This is where I need your help, because I don't know enough about CS2... My problem is, and this is where I need your help, that peeking is the only role I can come up with.

Here, the teacher tries to open an authentic dialogic space because he needs access to the students' input to define relevant roles in the game to make the ensuing feedback session meaningful for the players. The teacher's statement positions him as being dependent on the student's knowledge and their willingness to participate in identifying feedback roles. As a teacher, he is explicit about his novice position and limited gaming expertise as he only knows the role as "peeker" in CS2, which is to peek out from cover to find enemy positions. This is a dialogic move that *opens* a space for the students' voices and participation in the dialogue. This example shows how lacking gaming expertise as the teacher, especially game sense expertise, can be used to open this dialogue and allow for new perspectives.

Before the teacher's statement, a student from the IT program at the STU entered the class. He is supposed to repair a PC in the room. He pauses just within the door and listens to the teacher talk for about two minutes, raises his hand and is invited by the teacher to join the dialogue. He asks: "*what are you talking about?*". The teacher's answer is a summary of his intended focus for the briefing:

04 T: We are trying to add more layers to our feedback... we experienced last time that it was very difficult to find something concrete to improve, you know, 'where is it I need to practice in CS2?' ... So now we are trying to find more concrete roles, or areas of responsibility, that we can give feedback on.

08 T: And it might be because I don't know that much about CS. So now we're trying to identify some specific roles or areas of responsibility that we can then include in the feedback

Line 04-10 explains the teacher's stated purpose for the session and establishes the premise for the dialogue, which is to co-construct concrete game roles to practice peer feedback. The teacher opens a dialogue with the students to find focal points for feedback that the students can use to guide their input in the debriefing. The teacher again positions himself as a CS2 novice and frames the dialogue as a joint investigation inviting the identification of feedback points to be a shared endeavor. Following this the teacher exemplifies the feedback with the task of throwing a utility in CS2, (excluded lines 11-13) and widens the conversation to include the visiting IT-student, to invite possible new student opinions and knowledge:

14 T: ... So, if you have any input ... we'll gladly take it.

15 ITstudent: I'm just thinking about the bomb... It depends on what you plan to do... Whether you're planning to default or rush. And if you're rushing B, then it's the last guy who should have the bomb. Then he can plant after the site is clear, after

everyone else has run in. And if everyone else on-site dies, then he can just rotate.

In line 15-19 the IT-student contributes to the dialogue by questioning the premise of the conversation, hereby deepening the dialogue. The IT-student is deepening the conversation by questioning the premise for giving concrete feedback on throwing the utility, stating 'it depends' on what they intend to do with the bomb, and their overall game plan. The deepening in this way is rooted in the IT-student's game sense and intimate knowledge of the game. In relation to the dialogic space, the teacher's facilitation is focused on opening and widening the dialogic space, by inviting more viewpoints to participate. He invites multiple opinions and again positions himself as a novice concerning game expertise to invite the students to participate with theirs. This leads to the IT-student deepening the space, from a gaming expertise position showing an expert level of game sense. This, in the teacher's own words, is not possible for him as he does not know enough about the game to construct the roles needed to guide the feedback process. Next, the esports student M joins the dialogue and suggests the role of peeking (excluded lines 20-22) to which the teacher replies:

23 T: And I think there's a lot we can learn from all of this. I think, for me, it would improve learning to be the one who peeks because I might get a deeper sense of how the opponents move.

In line 23-25 the teacher tries to deepen the dialogue from a new perspective we call "student learning". In this way we can see two perspectives in the dialogue; the game sense expert that is focused on the optimal way of playing the game, and the teacher perspective that frames the gaming activities as learning opportunities. How these perspectives create tension in the dialogue is made clearer in the next excerpts where the teacher looks for more team roles to perform in-game.

6.2 Navigating Different Team Members' Perspectives

The next excerpts show the teacher navigating between the different foci and perspectives of the students.

26 T: I would really like to find a few more things (roles), if there are any... There must be. If we think a little creatively.
28 Student j: Those roles or whatever?
29 T: Yes, a few more things.
30 Student K: I mean, there is, well we basically already have it, but like a sniper.
31 T: Yes.
32 Student K: We have kind of unofficially already designated two people already for that.
33 Student M: There are three of us who can AWP.

In lines 26-31, the teacher invites the students to suggest more roles, and they bring up the Sniper role. Three of the esports' students, J, M, and K, join in the dialogue. In line 33, Student M suggests that three of the students 'can AWP' (AWP is a sniper weapon, so Student M suggests that three can take the sniper role). Which sparks a dialogue between two different perspectives, firstly the team as students in a school setting and secondly the team as an esports team.

34 Student J: Yeah, but there shouldn't be. There shouldn't be three who play AWP.
35 Student M: No no, but if needed, three of us can.
36 Student J: Sure sure, but the mindset shouldn't be that we have three AWP players.
37 Student M: No no, we just know there are three who can play it.
38 T: Well, I actually think that ...uh, we are a school, we are here to learn, so I think that we... Not that we should be five AWP players, but I think it's healthy that we all try out the sniper role once in a while... Then it might not go as well... But we are not in any competition either, we're practicing, so I think.
43 Student M: It also depends on which weapons people prefer.

Student M's suggestion that three people can take AWP is immediately rejected by Student J. An important context for this, is that Student J is a third-year student and one of only two students on the CS2 team that currently acts as the team leader role when playing the game. Relative to his teammates, Student J exhibits a high degree of gaming expertise in relation to both game sense and game mechanics. His perspective in lines 34 and 36 rejects the notion that having three AWP's is a valid approach to the game. Student J's statement reflects a team perspective as it does not strategically make sense to have three AWP's when playing as a team. Alternative to this, the teacher introduces the 'student learning' position and highlights the learning aspect of the situation, suggesting a learning benefit of more students trying the Sniper role. This is contrary to Student

M, who in line 40 maintains a more individual perspective, which assumes that the choice of weapons should depend on individual player preferences.

44 T: I thought that one, the sniper, that was a really cool one. Then you also must think... you also have to think a bit differently economically, I think. Because it is, as far as I know, pretty expensive.

47 Student J: Yeah, it is, but that's also why, if—for example—Student K picks up an AWP. That's when you think, okay, who plays AWP, who has the AWP role. And then he drops me the AWP, and I drop him an M4 or uh ...that one I dropped him last time, the SG or whatever it was.

In line 44-46, the teacher cautiously tries to deepen the dialogue with the economic aspect of the Sniper role. In line 47-50 this is further deepened by Student J, again with the team perspective, and that the AWP must go to the AWP player. In this way, Student J can understand the roles both from the team perspective; that having multiple AWP's is strategically unbeneficial, and from a teacher's perspective; that it makes sense to designate the AWP role to one student. He addresses the teacher's perspective of needing roles and deepens the conversation with game sense expertise explaining to drop items to the person with the AWP role to maintain game economy balance.

51 T: But I think we ...I would like us to go through all of these (*points to the roles on the board*) before we start a game. Like, who is the first, who is the second, who is the third, fourth, fifth. Yes, Student M?

54 Student M: Yeah, that thing about, uh, I'm also thinking that the sniper role also depends on which weapons people prefer. Because we can't just switch weapons around if we're not comfortable with them.

57 T: Think that's the...

58 Student J: That's exactly why we have roles.

59 T: I think that if you're given a task, sometimes ...I can't just sit down and say: Listen, I only play Desert Eagle, and I won't play anything else.

61 Student M: Exactly, but it also depends on what weapons people are...

62 T: So it might be, that if I have the sniper role today, well then I can choose between—isn't there two? So it might be that you're not used to playing sniper, or don't see yourself as a sniper, but I actually think it can be quite healthy to try it. Because then you also understand, okay, what it's like to be the sniper. Then we can better put ourselves in the position of being the sniper. Then we can better put ourselves in each other's shoes when we are in the middle of a game.

In lines 51-53, the teacher explains his envisioned organization of roles before each game. But Student M again states that the Sniper role should depend on individual preferences, clearly taking on more of an individual perspective, not considering that all players might want the same weapon, making for an unbalanced team. While Student M has enough game mechanics expertise to understand the different weapons and their connections to the different roles, he lacks game sense about the balance of the entire team. The different positions of individual or team perspectives seem to be related to the level of gaming expertise, respectively game mechanics and game sense expertise. Student J follows in line 58, framing the roles as a way of positioning the students according to their preference and what is best for the team in a fight. In line 59-60, the teacher however challenges this with a 'student learning' position, explaining that sometimes you can be given a task that you have to do. Here the dialogic space almost disintegrates as it seems difficult to keep the perspectives of the teacher; student learning, Student J; teamplay and Student M; individual preference in the same dialogue.

7. Discussion and Conclusion

As the results show the teacher and students' different levels of gaming expertise in terms of game mechanics and game sense, are intricately connected to how they participate in dialogic spaces in the esports class. Importantly, the results show that while the students' understanding of game mechanics can be exercised both from an individual perspective and from a team perspective, game sense cannot be fully understood in isolation from the other players. It requires the students to be attuned to each other's roles on the team. The example also illustrates a variation in skill level from novice to expert players, which we see across all three STU's. From a pedagogical point of view, the student's participation in the esports programmes allow them to shift from positioning themselves primarily as individual players to communicators and collaborators within a team context. Interestingly, shifting from understanding game mechanics to exercising game sense is both a pedagogical aim and a necessary progression for succeeding as a team in a competitive game such as CS2. This aligns with the broader aim of the STU esports programme: to cultivate social, communicative, and collaborative

competencies through the facilitated use of games. So, while gaming may appear to be an individualistic activity to the external views of parents or youth guidance counsellors, our analysis shows how dialogic facilitation reveals and enhances the inherently collaborative nature of successful gameplay in esports. Thus, being able to communicate effectively with teammates, participate in dialogues by assuming other players' perspectives, and being open to these, becomes an intrinsic goal for many esports students at the STU's. A goal they do not have possibilities to, or are able to, engage with in most (or any) other contexts in their life. This understanding of esports as an inherently social activity that necessitates communication and collaboration have broader implications for how the educational value of esports programmes as part of the STU education are perceived externally.

The student's transformation is enabled through dialogic teaching practices through which students potentially adopt and experiment with new perspectives. These practises rely on teachers using students' different levels of game expertise, especially game sense, as an essential resource for opening dialogic spaces and deepening them for in-game relevance. The example above would not exist were it not for the different students' input. Simultaneously, the distributed expertise challenges the teacher, who only has beginner level gaming expertise. Moreover, students' perspectives may reflect both individualistic and team-based perspectives, with varying alignment with the collective goals of the esports team as a learning situation. Student J for instance seem to value short term team success in the game over learning opportunities to become better as a team. This places the teacher in a complex position, where facilitating dialogue involves interpreting which perspectives genuinely support the development of the team both as players and as a learning community. This is seemingly a paradox as the teacher in this case might not know which game expertise perspective is most productive for the students as an esports team. However, this novice position also supports a dialogic approach: It allows the teacher to ask genuine questions and prompt reflection, rather than providing fixed answers. The teacher noted that this approach felt acknowledging for him and students, as it allowed the students to be recognized for their expert knowledge and provided a space to pass knowledge on to peers in a meaningful way. In this way, dialogic facilitation becomes both the means and the goal, supporting students in developing the collaborative awareness needed to function as a team, while also modelling how to engage meaningfully with others' perspectives. Still, such facilitation requires careful orchestration: the teacher must support students in recognizing when and how to contribute, ensure productive communicative ground rules, and help navigate moments of disagreement. The results show that a dialogic approach to teaching esports can be a valuable educational tool for beginner level gaming expertise teachers. How the dialogical approach could be implemented in future teacher training and align with curriculum goals is a promising path for future research.

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AI declaration: AI have been used for proofreading and as thesaurus.

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