



Social Interaction. Video-Based Studies of Human Sociality.  
2024 Vol. 7, Issue 1  
ISBN: 2446-3620  
DOI: 10.7146/si.v7i1.137312

## ***Social Interaction***

### ***Video-Based Studies of Human Sociality***

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#### **Collaborative Problem Solving and Literacy Practices: A Conversation-Analytic Case Study of Children's Online Pre- gaming Interaction**

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#### **Abstract**

Online video gaming has developed from a hobby to a ubiquitous, social and leisure phenomenon. Roblox, a free-to-play, online sandbox platform has thrived in this time, with a substantial global userbase, where the majority of Roblox users are under 16 years old. Using video recorded data from single case, this study examines the ways in which two preteen players collaboratively participate, solve problems, and share strategies during a pre-gaming interaction. The analysis highlights the affordances of this form of online play for social and language learning. Using Multimodal Conversation Analysis, this study explores how participants leverage cooperative learning strategies including mutual scaffolding techniques and fluidity of epistemic participation that includes material ecology, knowledge exchange, joint problem solving, instructing, and help-seeking. The analysis elucidates a relationship between these pre-gaming activities and participants' utilization of resources for learning related to language, technology, literacy, and teamwork.

*Keywords:* online gaming, collaborative problem solving, literacy, multimodal conversation analysis, epistemics, children, interaction

## 1. Introduction

Online video gaming, once considered a fringe hobby for computer enthusiasts, has developed into a ubiquitous social and leisure phenomenon. During the first two years of the Covid-19 pandemic, the popularity of online gaming increased substantially. Games such as Minecraft, Fortnite, PUBG, Duolingo and others played a vital role for some people who came to rely upon the internet for human connection (Barr & Copeland-Stewart, 2022). For example, the use of Roblox, a free-to-play online gaming platform, surged during the pandemic (Levy, 2020). As of 30 June 2022, it has 204,568,804 active online users, and Roblox corporation has earned \$1.9 billion revenue in 2022 – an increase of 107% over the prior fiscal year (Curry, 2022).

With the surge in online gaming participation, gamers have progressively embraced online communication platforms for in-game interactions (Lufkin, 2020) Popular tools like Zoom, and Microsoft Teams have facilitated audio and video calls concurrent with online gaming, allowing players to seamlessly blend social interaction with their gaming experiences. As the proliferation of online video games has reached all generations, including children, it becomes pertinent to explore the dynamics of children's interactions in the realm of online video gaming which is a relatively novel form of children's entertainment and social interaction. This is the overarching focus of this study as this paper aims to elucidate some of the dynamics of children's interactions within the domain of online video game play sessions. This paper first examines prevailing research related to this topic, including work on epistemics and children's online gaming activities, followed by an overview of the methodology employed in this study. Subsequently, the analysis is presented, attending to key practices that unfold during a pre-game session, while highlighting their implications for children's communication and learning in the wild.

### 1.1 Learning, literacy, and online games

Video games are a source of multimodal texts that employ a range of strategies which contribute to novel forms of literacy, such as combining text, still and moving images, sounds, movements, and bodily sensations (Kankaanranta et al., 2017). Therefore, playing video games requires the use of different communicative means (Gee, 2003, 2004; Kankaanranta et al., 2017). The use of online technologies to engage in social interactions during online gaming is a relatively novel form of human sociality where the situated practices, actions, sense-making, and their constitutive features are still not well understood. Accordingly, this is a human experience that is worthy of scientific inquiry.

Regarding research into literacy aspects of video games, Burwell and Miller (2016, p. 111) argue that literacy is primarily discussed through two interrelated areas of research. First, some have attempted to normalize video game playing as human activity, and to critique traditional concepts of literacy (Gee, 2003, 2004; Sefton-Green, 2006). Second, some studies discussed literacy in terms of games, game play, and game culture in and out of school. This stream of research examines how video

games can be appropriated as tools for learning, in and out of classrooms as well as the relationship between games, games culture and the enactment of the literacy skills through everyday encounters (Buckingham & Burn, 2007; Burwell & Miller, 2016).

Over the last few decades, there has been a gradual shift towards acknowledging that games are a part of human sociality and everyday human behavior (Huizinga, 1987). As games are associated with playfulness, fun, and the lucid nature of human experience, conceptualizing literacy in relation to video games might be seen as somewhat counter-intuitive. In everyday discourse, video games have been widely regarded in pejorative terms relating to claims about their impact upon children's sociability, education, and literacy (Gunter, 1998). Traditionally, the concept of literacy was bound to relatively constrained concepts such as the acquisition of skills necessary for making sense of print-based information, and, in particular, the skills of reading and writing within formal classroom settings. By contrast, video games are highly contested arenas regarding literacy and learning as they embody intuitive conceptions of youth culture. Consequently, they give rise to difficult questions about the relationship between popular culture and education, polarize thinking about culture and identity, and confront us with concepts of texts and textuality (Beavis et al., 2012; Bourgonjon, 2014). Despite much evidence to the contrary, video games continue to be associated in popular discourse with anti-social, adverse outcomes (Ferguson et al., 2008). A reconciliation between the traditional, serious, print-based conceptualizations of literacy, and literacy relevant to emerging digital media, especially video games, is evident through efforts of exploring the utility of games as a tool for learning. The effort to distinguish serious games from leisure games (Linderoth & Sjöblom, 2019), as well as introducing game-based learning (GBL) (Krath et al., 2021), educational games is also part of this ongoing narrative of normalizing video games relative to learning and literacy (Chen & Law, 2016; Connolly et al., 2012). Examples of this include mobile applications such as the fitness application, MyFitnessPal, and the language learning application, Duolingo. This trend can also be viewed as an effort to reframe discussions around literacy (Mills, 2009, 2010), as well as a legitimate critical response relevant to the changing nature of meaning-making in the context of digital media and culture (Potter & McDougall, 2017).

There is some social interactional research on video games, particularly on the learning outcomes of using video games in and out of schools using social interactional perspectives (Aarsand & Aronsson, 2009; Marsh & Tainio, 2009; Rusk & Ståhl, 2022; Sylvén & Sundqvist, 2012; Thorne, 2008). Piirainen-Marsh and Tainio (2009) illustrated how gaming can be a beneficial resource for second language learning. Situated in the Finnish context, they observed how two players – while playing Final Fantasy X – used other repetition as a pedagogical resource. While the players' mode of talk was primarily Finnish, they repeated the English phrases used by game avatars. In other words, the players, besides playing the game, utilized game relevant L2 texts as learning resources. Likewise, Thorne (2008) demonstrated how players in a multilingual World of Warcraft gaming session collaborated with each other by alternating expert-novice roles, and, in particular, by creating a languaging

space where both gamers exchanged their know-how in L1 to successfully navigate their gaming session within a shared, virtual world.

Under the term extramural English, Sundqvist and colleagues (2012) argued a positive correlation between English language learning through popular media such as TV, streaming media, and, in particular, video games. Sylvén and Sundqvist studied extramural activities of 86 Swedish preteens (aged 11-12) and observed a correlation between frequent use of video games and L2 learning. Categorizing gamers into three categories of non, moderate, and frequent, they observed that frequent gamers secured the highest scores in vocabulary tests. Moreover, they argued that the informal incidental learning was a resource for good performance in the tests (Sundqvist, 2019; Sundqvist & Wikström, 2015).

Likewise, some social interactional studies have also examined the implications of video games in terms of everyday encounters of video game playing. Research has demonstrated how video games can serve as a productive site for participants' development of collaborative and problem-solving skills (Aarsand & Aronsson, 2009; Danby et al., 2018; Rusk & Ståhl, 2022), critical thinking and autonomy (Thorne et al., 2012), and positive affective, motivational, behavioral, and cognitive outcomes (Krath et al., 2021). For instance, Danby and colleagues (2018) argued that gaming provides a context for peer learning where participants learn from each other through collaboration and instruction, and they highlighted "the value of young children's digital gameplay as a context for practicing social skills and collaboration" (2018, p. 960). Using participants' perspectives, social interactional studies have also explored the role of interactional resources during playing such as collaborative problem solving, joint planning in psychically co-present gaming situations (Aarsand, 2007; Aarsand & Aronsson, 2009; Danby et al., 2018; Mondada, 2011; Sjöblom, 2011), as well as online games where players are physically separated from each other (Crawford et al., 2011; Rusk & Ståhl, 2022).

## 1.2 Epistemic stance and children's online gaming activities

Pioneering research into epistemics has helped to build foundational theories of how participants construct and negotiate claims to knowledge during social interactions (Goodwin, 1979; Heritage, 1984; Labov & Fanshel, 1976; Pomerantz, 1980; Terasaki, 1976). According to Heritage, "research into epistemics focuses on the knowledge claims that interactants assert, contest, and defend in and through turns-at-talk and sequences of interaction" (2013, p. 370). While a growing number of studies in recent decades have investigated epistemics in interaction, relatively few studies deal with children's literacy practices and knowledge management in online gaming. In interaction, epistemics relates to the interactive management of knowledge and knowledge asymmetries in various settings. Co-participants' common goals and understandings are contingent on their acknowledgement of what they know or do not know in a particular epistemic domain (Garfinkel, 1967). This understanding is

encapsulated by concepts of epistemic status and epistemic stance. According to Heritage (2012, p. 4), epistemic status refers to:

...the relative epistemic access to a domain or territory of information as stratified between interactants such that they occupy different positions on an epistemic gradient (more knowledgeable [K+] or less knowledgeable [K-]).

Epistemic stance refers to how epistemic status is expressed through moment-by-moment, turns-in-interaction. Epistemic domains are morally ordered (Stivers et al., 2011), and interactants use language, embodied actions, and material artifacts to build into their turns, an interactant stance.

On children's sharing of knowledge while playing games, Danby and colleagues (2018) studied young children's gaming activities, demonstrating that children coordinated their actions and instructions according to situations arising in situ which is accompanied by displays of knowledgeability (Koschmann, 2013), and learning of knowables (Pomerantz, 1980). In this respect, gaming is a social enterprise and competence in gaming is socially built through children's own experiences of helping each other and the sharing of knowledge (Björk-Willén & Aronsson, 2014). Moreover, Danby and colleagues (2018) also demonstrated that children's pedagogic actions showed their agency in learning occurring through social interaction and gameplay.

While there is a growing body of epistemics in L2 interaction research (Jakonen, 2014; Koole, 2010; Sert, 2011), relatively few studies have focused on gaming interaction as well. In the context of L2 language learning, research has highlighted how L2 learners can make use of computer-mediated interactions as a site for development of linguistic competencies (Musk, 2016). In this study, school pupils developed their spelling abilities while orienting to the socially organized preference for self-repair in social interactions (Schegloff et al., 1977). Balaman and Sert (2017a) studied the interactional competence in English of the first-year university students during collaborative online tasks in Turkey. The study demonstrates evidence of development of interactional resources in L2 which was displayed through participants' focus on their online collaborative task accomplishment and epistemic positioning displays by the participants. The epistemic organization of multilingual activities has been examined in relation to children's knowledge dynamics while co-experiencing a single player video game (Piirainen-Marsh & Tainio, 2014). The study demonstrated how two children interactively managed their epistemic asymmetry across a 2-year period by increased claims of epistemic rights to participate in gaming interaction. The study also highlighted how the less knowledgeable participant was able to acquire resources through multilingual interactions to become more active in gameplay sessions, gaining expertise across the 2-year period.

In the context of the education and classroom interactions, Aarsand (2010) studied how digital games are part of the everyday lives of Swedish 6 to 7-year-old boys, and how they negotiated what counts as game competence among the peer group. It is argued that inside the game play frame, demonstrations and co-operations are part of the game play encounter (Goffman, 1981). In other words, game play occurs on

several layers (Goffman, 1961). Likewise, Melander Bowden (2019) studied children's development of problem-solving practices through multimodal engagements in digital activities. Drawing on work on epistemics-in-interaction, the study highlighted children's interactional strategies to establish, sustain, and develop knowledge within the epistemic ecology. Studies highlighting these collaborative problem solving efforts and peer learning suggest that video games can serve as sites for sociocultural learning (Lantolf, 2000; Vygotsky & Cole, 1978). Moreover, they offer an indication as to how participants manage epistemic dynamics as they employ scaffolding techniques in service of cooperative, peer-based learning (Wood & Middleton, 1975).

To date, research has yet to focus on epistemics in synchronous online gaming of young children using open-world, sandbox type games found on the Roblox platform. Accordingly, this study focuses on children's epistemic positioning of knowledge claims relative to literacy and technological knowledge. Studying the nature of children's knowledge development has the potential to provide insights into knowledge and literacy development as mediated through children's online gaming in out-of-school contexts. This study therefore offers insight into this hitherto overlooked social domain. In the context of video games, Roblox is distinct as it provides users with content largely produced by its community, with an emphasis placed on shared gaming experiences. While these games regularly include core objectives such as collecting in-game objects, they afford users the freedom to create unique, open-ended play experiences in the Roblox game worlds that serve as open-world, virtual playgrounds. As such, due to the rising popularity of Roblox among children and lack of interactional studies within such virtual gaming environments, the 1st author recorded data of a pair of preteens who routinely played Roblox as a leisure activity.

While there is a body of research that has examined interactions during gameplay sessions, pre-game interactions have received little to no attention. The overall aim of this paper is to explore how these two preteens make sense of and materialize their journey of entering the game called Adopt Me! in the Roblox platform. Specifically, the paper focuses on participants' approaches to solving emerging, multifaceted troubles during the pre-gaming activity. The analysis examines the relevance of the participants' orientation towards the ongoing project of entering into the gaming activity in the Roblox platform and how knowledge gradients are displayed and negotiated throughout that journey.

## **2. Method**

This study employs Multimodal Conversation Analysis to analyze the data collected. Over the last two decades, a growing body of research has contributed to Multimodal Conversation Analysis (Goodwin, 2007; Mondada, 2013, 2018, 2019). Multimodal Conversation Analysis is used as a methodological framework in this study in order to elucidate the patterns of participants' social actions, meaning making processes, and the interplay between different semiotic modes in the interaction between two

preteens connected via online communication tools. Broth and colleagues argue that video technology allows the analysts to understand how language, embodied conduct, their surroundings, and object manipulation are synchronized, coordinated, and mutually informing (Broth et al., 2014). Therefore, using video recorded interaction of the participants within the scope of this study enables an analysis of how pre-gaming activity and participants' communication via Microsoft Teams are collaboratively accomplished. In using Microsoft Teams, participants communicated through a combination of verbal, written, and video streamed exchanges. Additionally, they augmented their communications using the share screen function.

## 2.1 Data

The data was collected during the SARS-COV-2 lockdown in the Kingdom of Saudi Arabia (KSA). It involves online communication and gaming activity of two preteens respectively pseudo-named in the transcript as Aminah (age 6) and Bushra (age 9). The 1st author recorded their gaming activity. The data was collected between 2020 and 2021. The entire corpus contains 8 hours and 38 minutes of gaming activity spanning eight days between April 2020 and August 2021. The current analysis concerns the first 18 minutes of a single gaming session that took place on the 3rd day of the recording, with an analytical focus on pre-gaming activities. The session duration for the third day was a total of 3 hours and 15 minutes. The recorded video data comprises participants' recorded talk, Bushra's front facing video camera and video recorded activities available at Aminah's computer screen.

## 2.2 Participants and recruitment

Aminah and Bushra live in the bilingual environment of Saudi Arabia where both English and Arabic are used in different settings. However, Aminah is a monolingual child with English as L1 and Bushra is a bilingual child with Urdu as L1 and English as L2. During the gaming session, both participants used only English to communicate with each other and both used personal computers to play. The participants of the current study who are also neighbors and long-time friends, regularly play games through Roblox while they use Microsoft Teams to meet, chat, and play. This friendship and these activities predate the pandemic. After data collection, it became evident from an examination of the entire corpus of data that both participants were competent in their ability to play Roblox and communicate with each other over Teams at the same time due to their regular engagement in play and communication using the tools outlined in this study.

## 2.3 Roblox and Adopt Me!

Roblox is an online gaming platform created by Roblox Corporation which was founded in 2004 (Roblox Corporation, 2023). Roblox is free-to-play and designed to

be safe to use for children aged 4+. As a gaming platform, Roblox hosts a collection of more than 50 million games, most of which were created by its community of players by using a tool called Roblox Studio. Roblox is near to ubiquitous, running on personal computers, gaming consoles, smartphones, and tablets where users browse and play what are described as “Roblox experiences” (Dredge, 2019). Roblox is enjoyed by a community of over 202 million users across the world (Dean, 2022).

The Roblox experience that is the focus of this study is called Adopt Me!. Developed by Uplift Games, this is a massively multiplayer online game (MMO), and one of several user-generated experiences on the Roblox Platform. According to the game’s website, Adopt Me is one of the most popular games on Roblox with 28+ billion visits, and a record of 1.92 million peak concurrent users (playadopt.me, 2022). Adopt Me! is a roleplaying game where the original focus of the game was to take on the role of either a parent adopting a child, or a child to be adopted. As the game was developed further, its focus shifted toward adopting and caring for a variety of virtual pets that can be traded with other players.

## 2.4 Transcripts

The data were transcribed using Transana from the beginning to the end of one gaming session by author 1. The video recordings were transcribed in line with Jefferson’s transcription conventions rendering aspects of speech such as pauses, intonation, emphases and prosody (Jefferson, 2004). The Jefferson transcripts were further refined using elements of the Mondada convention, rendering multiple temporalities of language and embodied interactions by Authors 1, 2 and 3 (Mondada, 2018, 2019).

## 2.5 Ethical considerations

This study follows the general code of ethics and is guided by King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) and King Abdullah International Medical Research Center’s (KAIMRC) research code of ethics. The researchers have maintained the code of ethics by obtaining approval of the children and the written consent from the participating children’s parents. The parents signed a consent form after a verbal explanation of the research aims, data collection procedure and management policy. This consent form protects and maintains data protection rights of the participants as agreed in reference to ethical guidelines of KSAU-HS and KAIMRC. Both parents and children were informed that participation in the project was voluntary, and they had the right to withdraw from the research at any time without offering any reason or explanation. In taking part, children were not expected to do anything other than be observed in a naturally occurring play environment with which both children were already familiar. Concerning anonymity and confidentiality, the study established acceptable practices to ensure that these assurances were not breached, and privacy was not harmed or affected. Participants’ names were



replaced by pseudo-names, and their images blurred to conceal their identities. Any elements which could reveal their identities were carefully masked in the transcripts. Parents and children were informed that the recorded data were stored on a secured hard drive, with eyes-on access to the data for analytical purposes managed by the first author.

### 3. Analysis

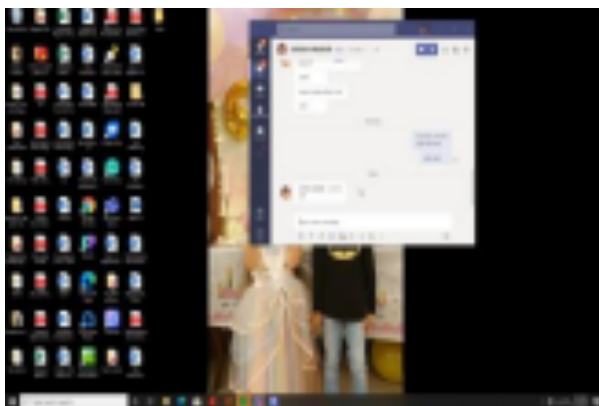
The data were analyzed in accordance with the principles of CA where the initial analysis proceeded absent of specific analytical goals, but instead oriented to how situated social practices were made visible through participants' conduct. After a thorough investigation of the data by Authors 1 and 2, an initial observation was made relating to how participants solved multiple problems arising during their entry into a gaming session. With this practice in mind, the data was further examined during data sessions among authors 1, 2, and 3 for any related phenomena of interest. Sequences were selected on the following bases: Instances of emerging troubles during the pre-gaming interaction, participants' social actions in response to emerging troubles, and their methods of making these actions available to each other during the pre-gaming interaction.

In the following extract, Aminah (AMI) and Bushra (BUS) start their gaming event while connecting remotely from their respective homes using Microsoft Teams. On May 28<sup>th</sup>, 2021, the girls established contact via a video call on Microsoft Teams. In the opening extract, we see Aminah's computer screen to which Bushra does not have access.

#### Extract 1. *Let's play adopt me*

1 AMI: oh okay so let's play †adopt me.

2 BUS: yeah I am playing adopt me #, okay join me Aminah, I don't want



3 you ah to miss miss my things (.) # ((you know)) ((inaudible))

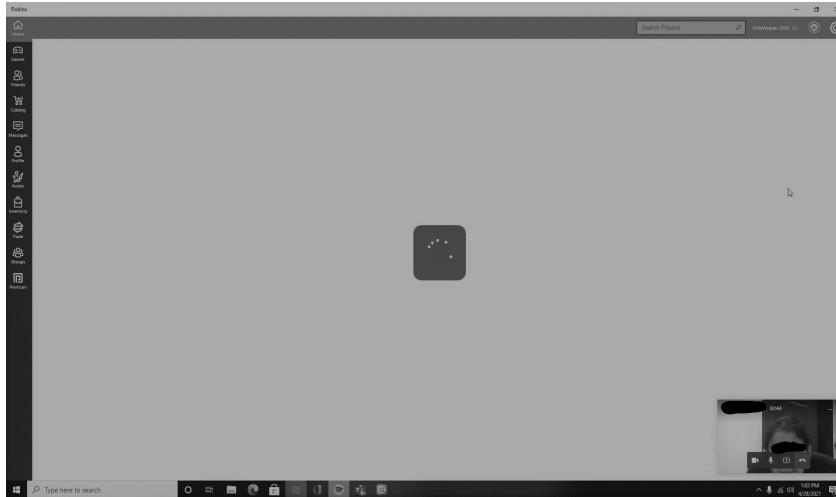


Aminah invites Bushra to play Adopt Me! on the Roblox platform (line 1). Acknowledging Aminah’s proposal (“yeah”, line 2), Bushra confirms that she has been playing Adopt Me! and accepts Aminah’s offer to play the game jointly. Following this conversation, Aminah minimizes the Microsoft Teams interface (fig.1), and clicks on the Roblox interface (fig. 2).

Extract 1 shows how both participants negotiated their roles as co-players of the upcoming gaming activity. As a consequence of their mutual agreement to play and join the game Adopt Me! in Roblox, both participants loaded the game and expressed communal motivation to take part in the gaming activity (Burn & Carr, 2006). In this case the common agenda was playing Adopt Me! online (Cromdal, 2001), and laying the groundwork for transitioning from non-gaming to gaming interaction (Mondada, 2012). In extract 2, the participants encounter some issues and fail to resolve all but those contingent upon their current goal.

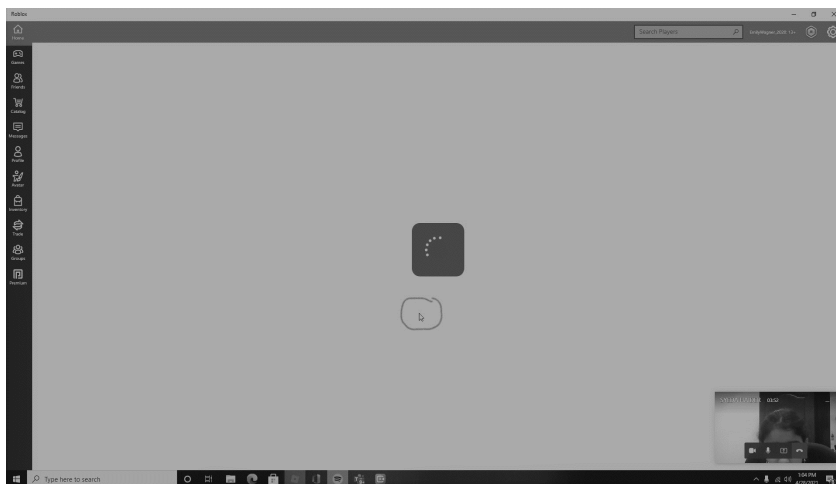
### **Extract 2. *I am still loading in Roblox***

6 BUS: come on Aminah ((inaudible)) it's loading save loading house I  
7 loaded (.) I loaded in (.) come on now join me if you don't see me  
8 playing then ah:: like ah::: refresh your page okay Aminah  
9 (1.8)  
10 AMI: Refresh what is that mean.  
11 (2.4)  
12 BUS: oh my God(.) I got a hundred bucks(.) refresh mean, oh wait  
13 a minute(.) are you (.) oh my go::d wait (.) a minute my pet gave  
14 me love (1.0) [wow] (0.3) my pet gave me ↑love=  
15 AMI: [wow]  
16 BUS: =oh my gash  
17 AMI: I know that's what your pet does when you first get in the game.  
18 (2.8)  
19 BUS: oww I have ((inaudible)) joy but not accessories but lay and  
20 ((inaudible)) but let me see right now  
21 (3.0)  
22 AMI: ((kissing sound))



24 BUS: okay ((inaudible)) myself (.) come on Aminah

25 AMI: okay I am still loading in Roblox#



As both participants wait to start playing the game, Bushra verbalizes her readiness to play on line 6 (come on) and informs Aminah about changes which are happening on her screen (lines 6 - 7). Next, on line 7, Bushra asks Aminah to join in (now join me) followed by an instruction on line 8, informing her what she should do in case Bushra's avatar is missing in the Roblox world (refresh your page) and a confirmation check (okay). In doing so, Bushra initiates a transition from non-gaming to the gaming world-relevant actions; the need for both gamers to now start recognizing their avatars in the gaming world (Aarsand, 2007).

However, a semantic trouble source arises on line 10. Following Bushra's confirmation check on line 8, Aminah does not initially respond, only initiating a turn 1.8 seconds later. In the following turn, Aminah verbalizes a turn that conveys a problem with the term "refresh" (line 10). Aminah's turn is hearable as an initiating action, warranting an explanatory response from Bushra relating to the meaning of the word "refresh" in this context. In this initiating action, Aminah displays her lack of knowledge in a bid to solicit knowledge from an "old-timer" (Lave & Wenger, 1991).

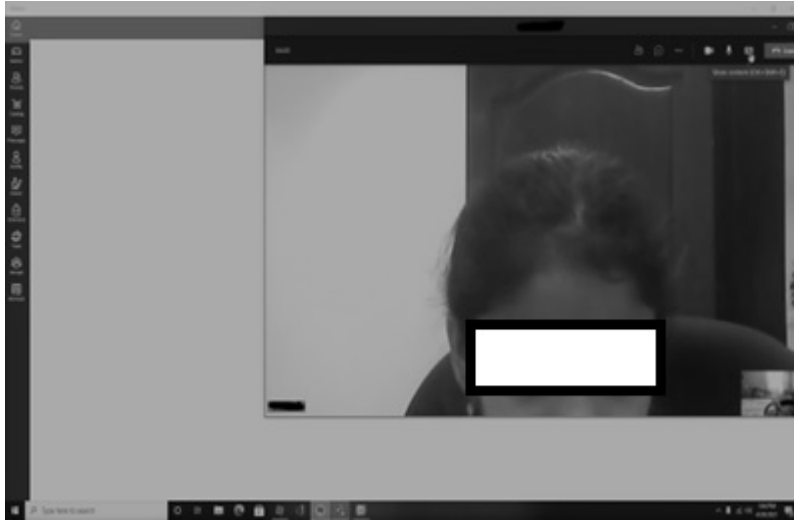
However, the project of addressing the semantic trouble gets waylaid as Bushra verbalizes a response cry on line 12 that she has received one hundred bucks reward (Aarsand, 2007; Aarsand & Aronsson, 2009). This is a routine event that happens after entering Adopt Me!. Next, Bushra exclaims with joy across lines 13-14 upon receiving the virtual currency (Oh my God wait a minute my pet gave me love). Response cries have been shown to invoke different types of participation frameworks where co-participants could be positioned differentially (Goffman, 1981). Depending on the local interpretation of the response cry, the question arises as to which actant is addressed, virtual or physically present (Aarsand & Aronsson, 2009). In this extract, the exclamation is a production of Bushra's own amazement, and it follows Aminah's weak, yet affiliative acknowledgement token ("wow", line 14) followed by her verbalization of the relevant knowledge as more knowable, old timer on line 17 (I know).

Concerning the meaning of refresh, from lines 10 to 21, both participants had the opportunity to discuss this as evidenced by the initiating action on line 10 and the 2.4 second gap on line 11. Instead, the issue is sidelined. Bushra returns to the issue of addressing the meaning of refresh on line 12 by reiterating the item. This turn demonstrates that the initiating action was received as Bushra's turn displays orientation to Aminah's request. In pivoting to exclaiming her joy on line 12 (oh my God!), Bushra reveals that her in-game pet gave her love. Aminah joins in, uttering "wow" (line 15), before informing Bushra that a gamer's pet always does that when someone gets access in Adopt Me. The emerging trouble of explaining the meaning of refresh can be seen as sidelined due to these extempore events. As Aminah's game is still loading (line 23, fig.3), Bushra pursues her initial invitation to Aminah on line 24 (come on) which conveys her eagerness to get into the game proper. As Bushra cannot see Aminah's screen, Aminah offers an account for her apparent delay, noting on line 25 that the game is still loading in Roblox. This turn serves as an explanatory account, offering justification for her delayed entry to the shared game experience (Rusk & Ståhl, 2022). From here, the issue of refresh is not discussed again, and participants proceed with the agenda of how to start playing the game.

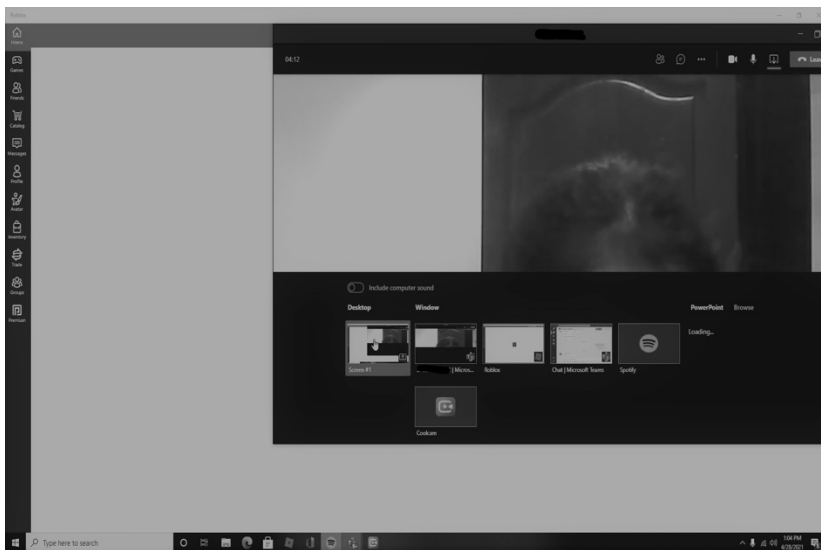
In sum, though semantic trouble arises during the pre-gaming interaction, there is no uptake by the participants to resolve the trouble source. Although the K- participant asks the meaning of it, the attempt of explaining it by K+ participant is waylaid due to intervening gameplay events that shift the conversational trajectory. This demonstrates that participants can leave emerging problems if resolving them does not have any direct bearing on the overarching project, which in this case is entry into a shared gaming world. However, the current extract also reflects as a counter example to those situations where both gamers need to address troubles and thereby mutually negotiate the issues relevant to their gaming interaction, as bypassing those would not serve the participants primary objectives. The next extract elucidates this point.

### Extract 3. 'Right' Roblox

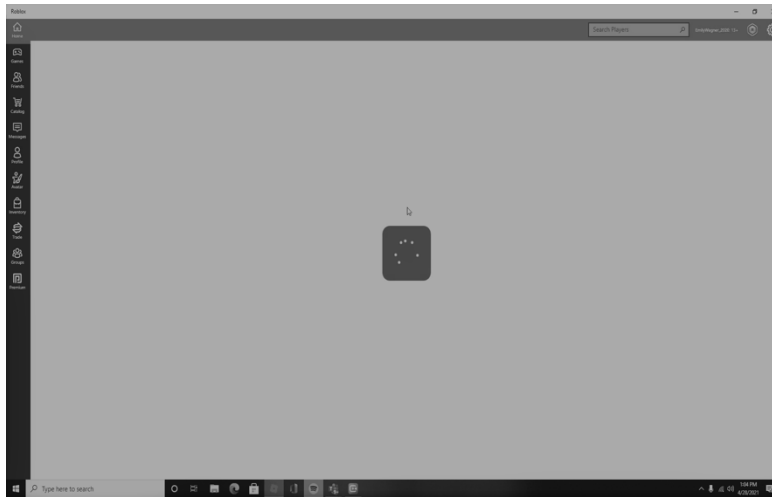
27 BUS: let me go to roblox okay still loading on roblox, I can see you  
28 are offline okay now let me go #to roblox# n see if you are



29 playing or not  
30 (3.7)  
31 you are offline (.) #you are still offline (.) ↑Aminah are you  
32 playing



33 AMI: No look I am sharing my screen see#



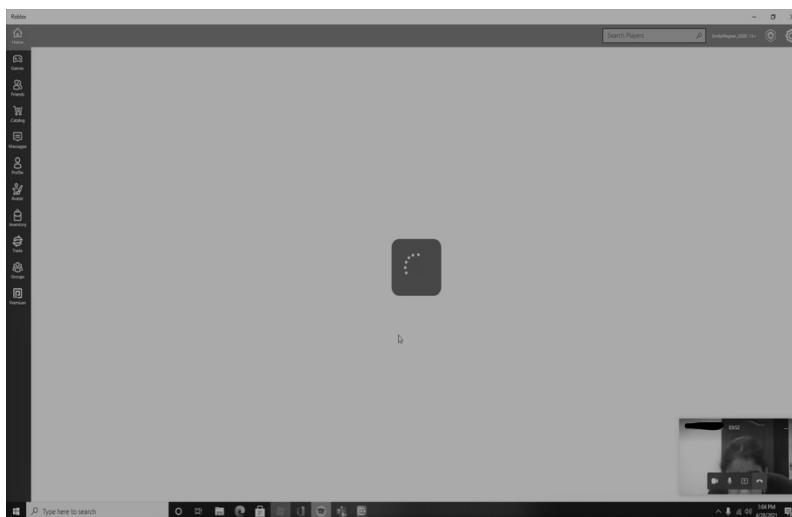
34 (3.0)

35 BUS: wait I don't see your screen ((inaudible)) (2.0) yeah now I see

36 now I see=

37 AMI: =eh

38 (8.0)



39 BUS: here(.) come on load (6.7) listen (1.1) ↑↑Aminah ↑↑Aminah (.)

40 you did something, >YOU DOWNLOADED ROBLOX<, you did and you are

41 not playing in a google, I am playing google

42 AMI: Awwww

Up to this point, both participants' attempts to start the shared gaming activity have failed. Bushra is logged on to the Roblox website. By contrast, Aminah has been trying to log on to the Roblox application that is installed on her desktop. On lines 27-29, she highlights this as a potential root cause of trouble (I can see you are offline). Following this statement, Aminah starts preparing to share her screen by maximizing the Microsoft Teams screen, then selecting the screen share option in this application (fig. 6). Amina's technical competence is on display here as she attempts to

accomplish this silently, proceeding without verbalizing her actions in progress (lines 27 - 32, fig. 5 & 6). In the meantime, Bushra exclaims that Aminah is still offline, reiterating this news delivery across on line 31 (you are offline, you are still offline). Bushra then raises the concern on line 31, enquiring if Aminah is playing in the Roblox world or not (Aminah are you playing). At this point, raising such a question turns the focus towards Aminah's accountability, particularly to sustain cooperation through successful entry into the Roblox world. At this point of the extract, sharing of the screen opens the opportunity for Aminah to respond to Bushra's concern as well as opportunity to co-watch the source of emerging trouble relating to why Bushra cannot find Aminah in the Roblox world. Aminah's turn on line 33 conveys a form of evidential vindication as screen sharing is initiated to offer a material account for the delay in joining the shared gaming world (Kendrick, 2019).

From line 34 to 37, both participants wait for Aminah's screen to be shared (fig. 7 & 8). In lines 39-40, Bushra, after gaining access to Aminah's screen, conveys recognition of the apparent trouble source, which is to say, why she cannot find Aminah in the Roblox world. It is verbalized in a highly intonated voice, (listen, you did something, you downloaded Roblox). The discovery of this trouble is followed by a potential solution as Bushra suggests that Aminah switches to google as she is also playing Roblox in google (line 38-39). Aminah accepts the suggestion with a weak acknowledgement token, which also appears to serve as an affiliative response cry (awww, line 42). It is noteworthy that Bushra, instead of using the appropriate term browser, uses the term google. Although it is arguable whether Bushra has the appropriate knowledge of the terminological differences between a browser and google, the metonymic expression, possibly google standing for the Google Chrome web browser, nevertheless displays Bushra's knowledge of how games like Roblox can often be launched from a web browser. Nevertheless, this extract (lines 31 - 42) highlights how the participants struggled to resolve their trouble due to Bushra's lack of access to Aminah's screen and how this problem was solved using material ecology, that is to say, sharing Aminah's Microsoft Teams screen as well as mutual co-gazing towards the screen that Aminah shared with Bushra (Goodwin, 1996; Mondada, 2012).

In sum, the emerging trouble addressed in this extract is that Aminah is not in the gaming space where Bushra expected her to be. The extract also shows how utilizing screen sharing to co-examine the trouble source can serve as a key resource when verbalizing the trouble source was inadequate. Next, the lack of semantic knowledge (the wrong use of google for browser) is not treated as a problem as players often develop their own idiosyncratic terminology. In this extract, the term "google" as a proxy for "browser" was mutually recognized and understood within the local context of playing Roblox and the two methods of entry (browser or application). The lack of any repair initiation here offers evidence to this mutual orientation toward, and the acceptance of the term "google". Bushra's particular K+ epistemic stance (Heritage, 2012), however, does not necessarily reflect her epistemic status. The unfolding interactions in this case offer insight into the problems that can arise in a particular moment if a K+ participant does not have inherent knowledge of the object of

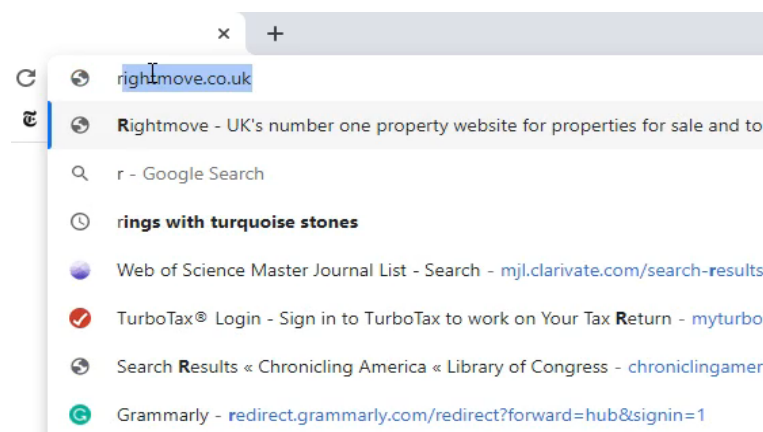
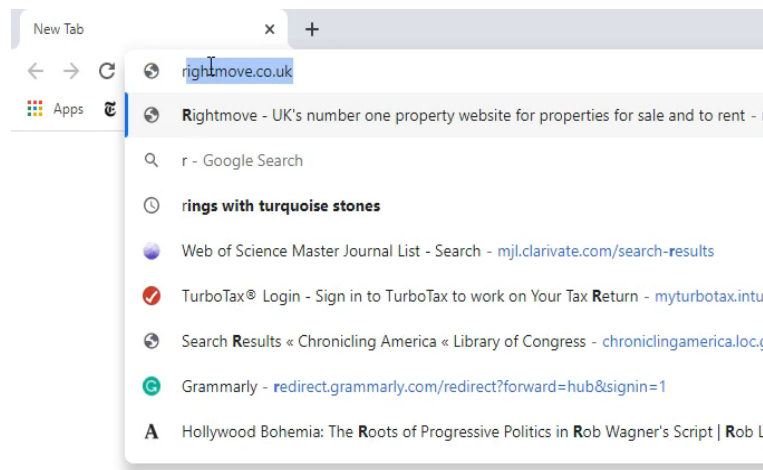
learning, either conceptually, semantically or in any other way. Finally, it also illustrates how participants can develop a shared orientation toward solving problems collaboratively in situations where solving these problems is tied to the principal agenda of the participants, in this case, the sharing a joint gaming space in the Roblox world.

In extract 4, there are further developments with import for how both participants proceed to solve the problem of access to Roblox.

#### Extract 4. *How to spell Roblox*

62 BUS: you think something bad happen to you but it actually doesn't

63 do anything bad# (3.3) it is perfectly normal#



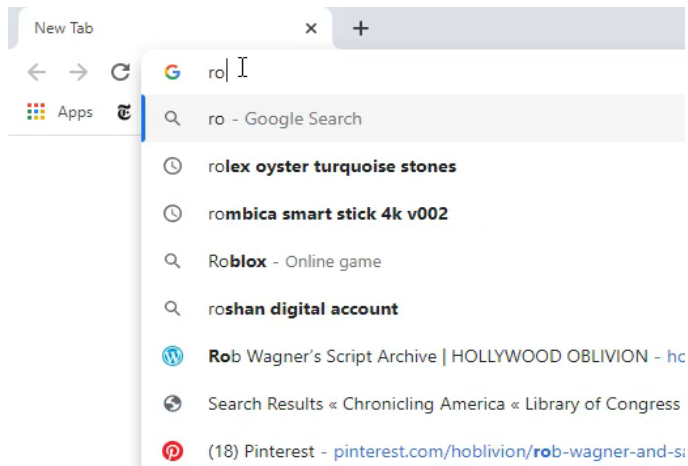
64 AMI: How to spell roblox (.) I don't know how to spell roblox

65 (1.1)

66 BUS: Seriously Aminah (.) it is R O B L O X roblox

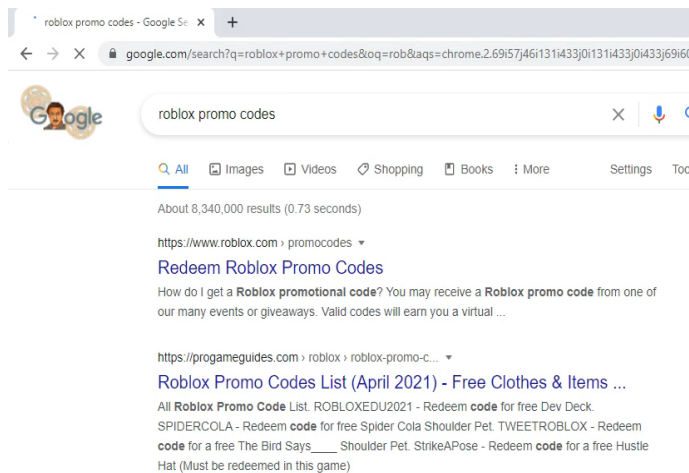
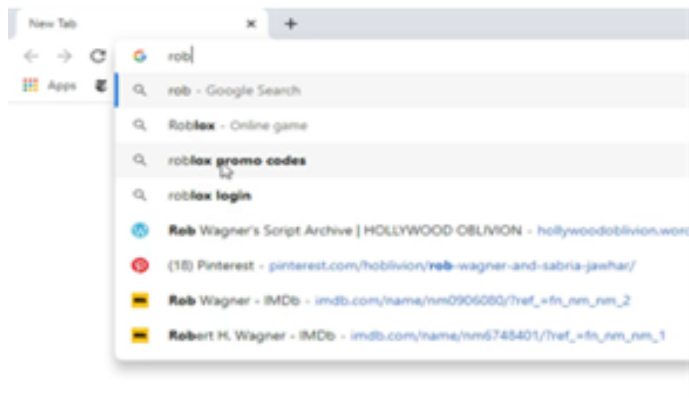
67 AMI: b-# R O b=





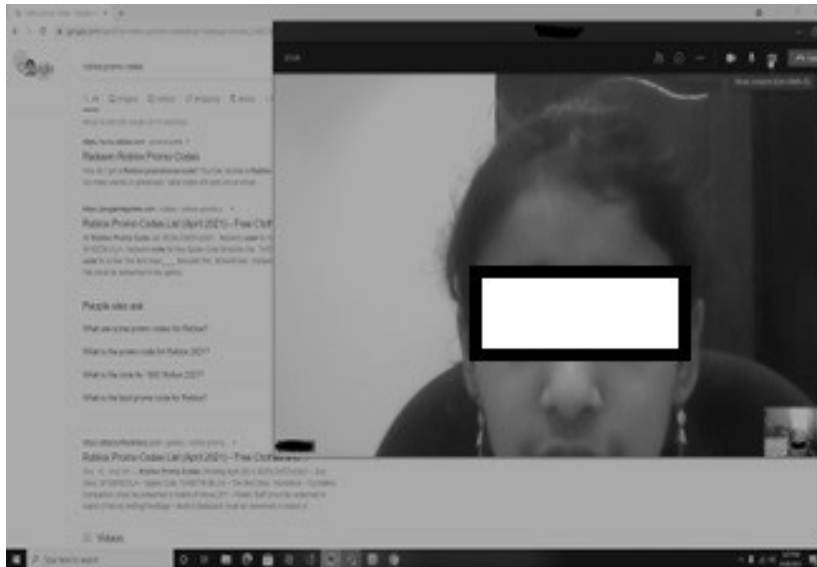
68 BUS: =B L O X

69 AMI: I ↑found it, # (1.5) I found roblox here (.) WHAT, where is# the



70 roblox

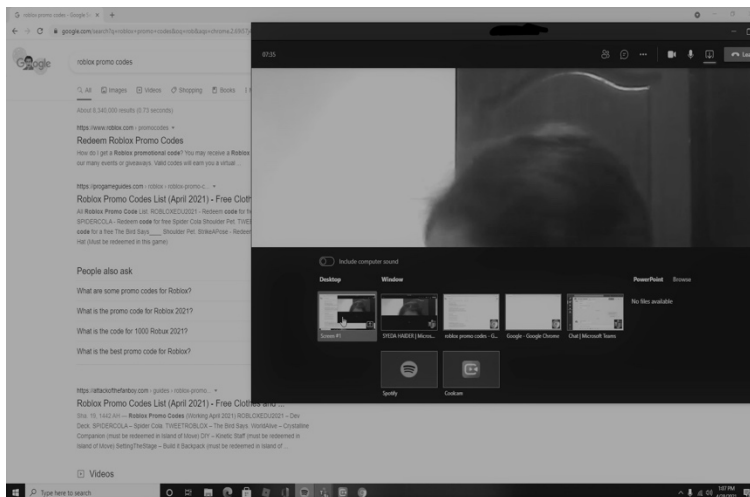
71 BUS: Wait (.) share the screen, I'll help (.) share the screen#



72 (5.6)

73 ↑↑Aminah share your screen

74 AMI: I am tr- I am going ↑too, just wait, be patience#



75 (3.0)

76 BUS: Well I am always patient but somehow your taking long

77 (4.0)

78 AMI: okay, am I sharing now.

79 BUS: wait you're not sharing (.) you're not sharing you're almost

80 sharing a::nd (1.5) now you're sharing,

81 now you're sharing okay

82 (1.9)

83 no:: you searched roblox promo kods (2.2) seriously Aminah

As Bushra continues a turn-at-talk (lines 62-63), Aminah enters “Roblox” in the web browser’s search bar. Fig.9 and 10 respectively show how writing ‘r’ in the web browser progressively offers some autofill suggestions relevant to the letter ‘r’.

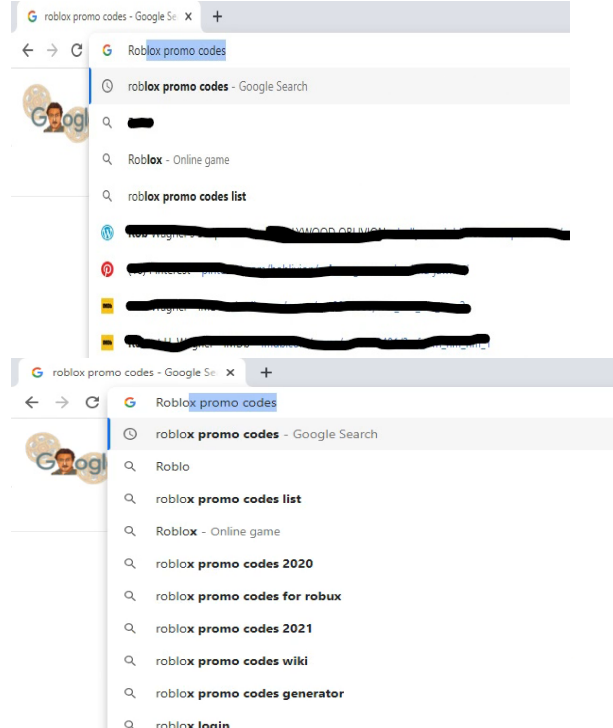
In this case, the object of inquiry is Roblox, and this does not appear readily. Aminah therefore verbalizes her lack of knowledge regarding the correct spelling of Roblox (line 64). Following a short pause (1.1, lines 65) and exclamation (seriously, line 66), Bushra offers the correct spelling of Roblox. Following Bushra’s suggestion, Aminah enters it into the browser’s search bar. Fig. 11 shows how typing ‘ro’ in the browser offers Aminah several relevant suggestions, with ‘Roblox online game’ now an available suggestion (fig. 11, first suggestion from top). Nevertheless, Aminah missed the opportunity to select this item from the autofill suggestions and instead kept typing.

In line 69, the correct search item is again available at the top of autofill suggestions (Roblox - Online game, fig. 12). However, Aminah clicks on the second suggestion (Roblox promo codes). Clicking on the wrong suggestion transfers Aminah to a new webpage offering search items relevant to ‘Promo Codes’ (line 69, fig 13). At this stage, the screen is not shared with Bushra, so she was unable to help Aminah. As Bushra cannot see the changes as they occur on Aminah’s screen, she requests that Aminah share her screen. Following Bushra’s requests (lines 71 & 73), Aminah complies and shares her screen. Between the requests, there is a 5.6 second gap with the 2nd request hearable as a pursuit of the initial request, with Aminah’s turn on line 74 performed in orientation to this pursuit. Aminah’s response opens with a self-repair (I am tr-) that shifts to “I am going to”, which is followed by a plea for patience. As Aminah shares her screen (fig. 15), the content of the web page becomes available to Bushra (line 80). Upon seeing the screen Bushra exclaims with a repeat of the earlier plaintive (seriously), noting that Aminah has selected the incorrect item, which is to say, Roblox promo codes instead of the correct item relating to the Roblox website (lines 81 – 83).

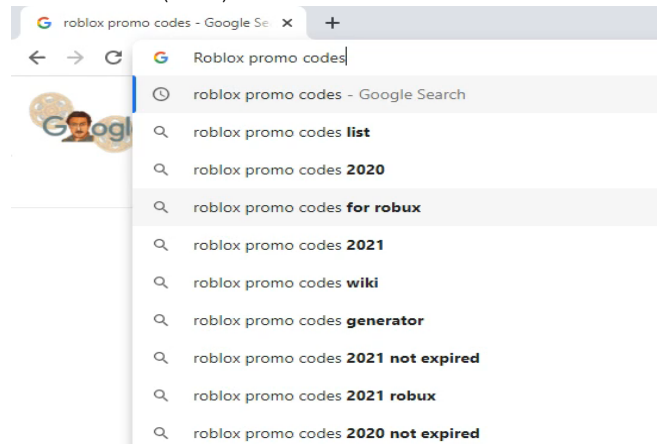
The main challenge the participants face here is to find Roblox website through a web search (in extract 3). To find the website, Aminah needs to know the correct spelling of the word Roblox either in the web browser or be able to know that she can select-and-click the correct suggestion from the autofill suggestions. Nevertheless, the project is not successful due to several complications. Firstly, Aminah lacks the knowledge of how to correctly spell Roblox. Secondly, Aminah is also unable to differentiate between the correct and incorrect autofill suggestions. Finally, Bushra is unable to access Aminah’s screen as screen sharing is deactivated at this point. The next extract illustrates how both participants, with the help of Microsoft Teams, resolve this trouble.

## Extract 5. Blue Roblox

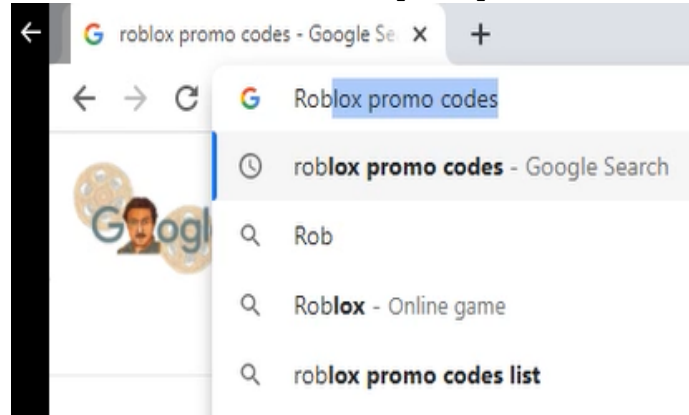
83 BUS: Search only roblox (.) #promo codes is something else#



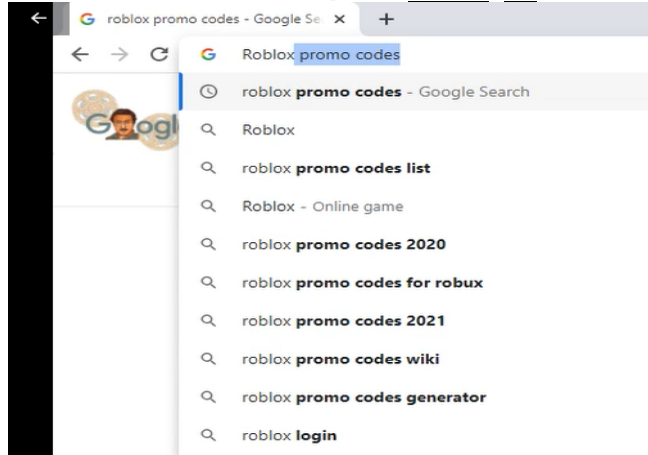
84 (2.6)



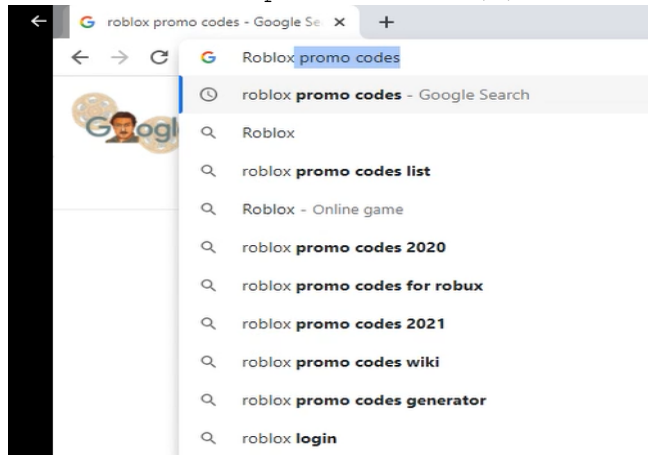
85 almost there, #yeah yeah click roblox online game click that



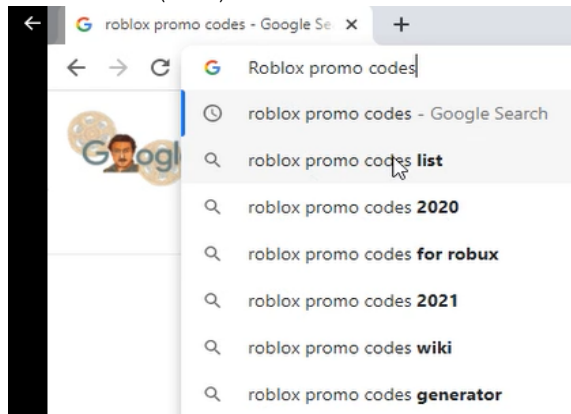
86 click that roblox online game  
87 AMI: °where is it°  
88 BUS: Down down from ((inaudible))  
89 (5.1)  
90 okay this write <ro blox>  
91 (5.2)  
92 roblox (.) just wRite IT (3.2) yeah# now -blox okay now



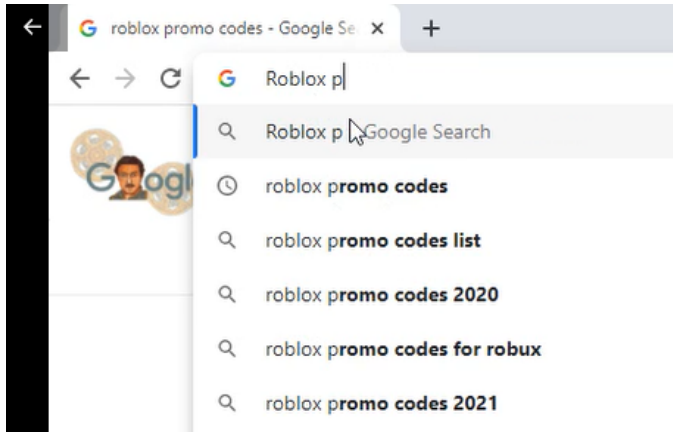
93 double again click your mouse one more time (4.6) okay (.) ah::  
94 remove promo codes# (.) remove promo codes.



95 (7.3)



96 °that's it°. okay now# enter (.) okay wait its loading



97 (3.4)

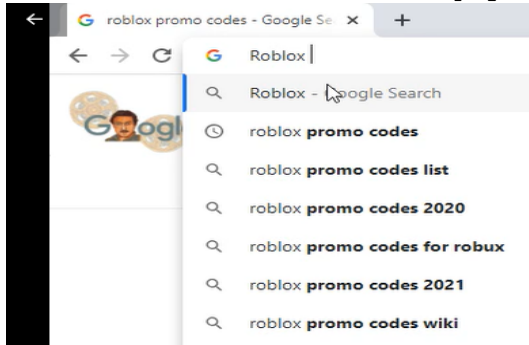
98 okay now click first website roblox

99 AMI: Where is it

100 BUS: Ah:: Aminah (.) its right there do you see something blue

101 written roblox# the blue roblox here yeah click that click

102 that and I will help you sign in okay,



103 (4.5)

104 AMI: Roblox dot com

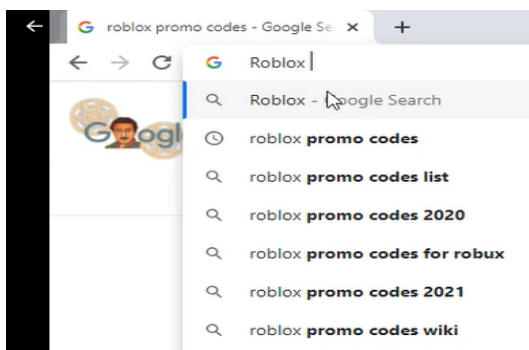
105 (1.4)

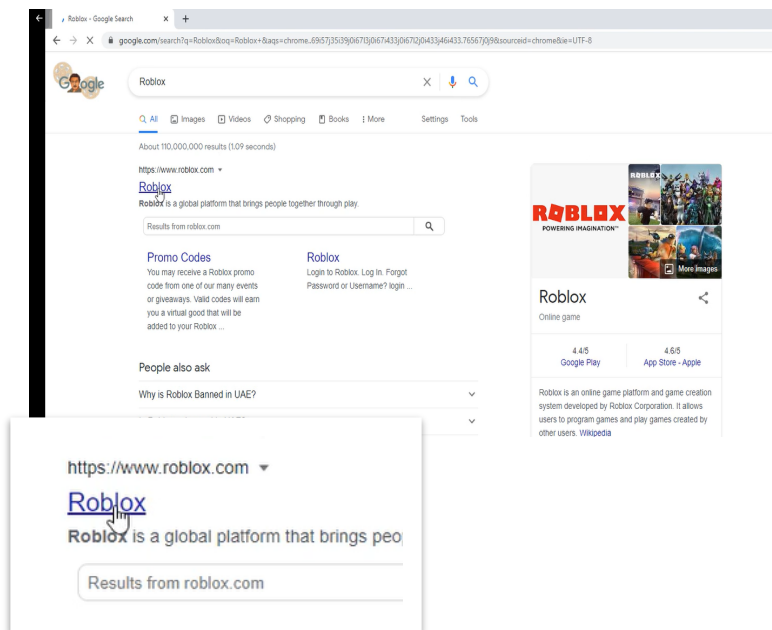
106 BUS: Yeah it's the same (1.3) ok you're gona have to sign in, ok

107 Aminah

108 AMI: Okay but I don't know how to sign in

109 BUS: Its okay, >I am gonna help< you





It transpires that the browser's autofill functionality was the cause of a trouble source. Bushra suggests a workaround strategy by way of scaffolding (Wood & Middleton, 1975). In offering step by step support to Aminah to accomplish their goal, Bushra first instructs Aminah to search only Roblox, and in order to underline and delineate further, informs her that “promo code is something else.” The autofill again offers other suggestions as Aminah is attempting to write ‘Roblox’ in the browser. As she types ‘rob’ in the browser, the autofill suggests, ‘Roblox Online game’ (fig. 16, second suggestion from the top). However, Aminah continues her typing by adding an ‘o’, that is ‘Roblo’ (fig. 17). The autofill offers new suggestions. Though some suggestions are still relevant such as ‘Roblox online game’, ‘roblox login’ (fig. 17), Aminah does not orient to the relevant search terms while currently engaged in the action of typing the word "Roblox". In line 84, Bushra draws Aminah’s attention to the correct item visible in autofill suggestion (fig. 19) by verbalizing the correct item (‘roblox online game’, line 84-85), going on to suggest that Aminah click on it. Aminah solicits further support here (‘where is it’, line 86). Bushra repeats ‘down’ twice before abandoning this strategy of spatial orientation. Bushra then adopts a different strategy in an attempt to guide Aminah to accomplish the goal of locating the correct search term. Her instruction becomes more pedagogical, specific, and step-by-step. First, she asks her to type the item into the browser (line 88), then asks her to click the mouse in a specific way of “one more time” (line 93), before instructing her to remove ‘promo codes’ (line 91). Bushra offers online, step-by-step feedback as Aminah deletes the term ‘promo codes’ (line 92) by uttering “that’s it” (line 96). To take her to the next step, she first utters, “okay now enter” followed by “okay wait its loading”. Bushra now instructs Aminah to select the correct one as there are two competing items i.e. (a) Roblox official webpage and (b) Wikipedia page on Roblox (fig. 24). Finally, Bushra directs Aminah to click the “first website Roblox”. Aminah responds with a turn that solicits further support, asking “where is it?” (Line 99). In response, Bushra directs Aminah to the correct option by flagging its color, “do you see something blue written

roblox?” (Line 101). This direction leads to a successful resolution of this particular stage of their project as Bushra indicates the next incoming step where she will provide her support, “I will help you sign in okay”. With this reassurance of continued support, the search for the appropriate item comes to an end.

This extract highlights how Bushra was able to draw upon her K+ epistemic status to guide Amina through the activity of searching, selecting and clicking the right item from a set of competing search results. In doing so, Bushra enters the position of someone in the know which is displayed in positions such as a teacher or an expert (Aarsand, 2007; Balaman & Sert, 2017b). The extract also shows how the participant in the K+ position can support the K- participant to accomplish the task in a collaborative manner. Earlier studies on situated collaborative practices in gaming activities have shown similar results, such as collaborative efforts to gain password access to a game (Danby et al., 2018), or to offer expert support to novice players (Bevemyr & Björk-Willén, 2016; Danby et al., 2018).

Additionally, the extract shows how participants need to combine varied literacy skills to solve the problem collaboratively. For instance, the K+ participant’s verbal articulation of correct spelling of the item does not help the K- participant readily in the complex, layered ecology of online activity in which these participants are engaged. As the current extract demonstrates, web browsing requires multiple capabilities:

- 1) Digital literacy, to know which ‘roblox’ is the correct item compared to other suggestions or search results.
- 2) Deictic skills, such as knowledge of left and right within the material ecology of situated bodies, machines, and online screen space.
- 3) Practical computing skills such as the knowledge of a computer keyboard layout, and the ability to use one correctly.
- 4) Numeracy skills i.e., ‘first website’.
- 5) Knowledge of colors (Mills, 2009; Potter & McDougall, 2017).

To summarize, the interaction between Bushra and Aminah in this extract shows how troubles during a pre-gaming activity can be handled, how Bushra scaffolds Aminah, turn-by-turn and moment-by-moment, and how this enabled a systematic journey of typing appropriate letters within online, and offline spaces, locating the correct items, and appropriate operation of the computer keyboard. This current extract highlights how this pre-gaming activity is a collaborative project that necessitates multiple resources (e.g., lexical, deictic, numerical) as well as the knowledge of how to integrate resources available at material ecology i.e., keyboard space, and features of online and offline space relevant to the project upon which the participants have embarked.



## 4. Discussion

The focus of this paper is on children's development of problem-solving practices during the key stage of entering into an online gaming world. In particular, we have traced the pre-gaming moments of two pre-teens in a Microsoft Teams video call who cooperatively addressed and solved emerging issues to materialize their agenda of entering the Roblox platform. As the agenda of playing was the common and primary goal for both participants, the entire pre-gaming session unfolds in a manner that is driven by the motivation to play the game (Burn & Carr, 2006). The analysis illustrates how participants incorporated different forms of literacy skills to solve the emerging problems during their pre-gaming interaction. Participants utilized lexical skills (i.e. spelling), deictic skills (i.e. knowledge of right and left), numerical skills (i.e. list of search results items, typing skills (i.e. know-how of material arrangement of the keyboard and using them in appropriate fashion), digital literacy (i.e. browsing web pages, choosing correct search items, differentiating specific item out of many, know-how of material ecology of an online platform such as sharing the screen via Microsoft Teams), embodied resources (i.e. co-gazing in the service of troubleshooting the source of emerging troubles), and interactional resources (i.e. response cries). The analysis highlights extempore, emerging troubles arising throughout the pre-gaming activity, and the methods that both participants employ to solve these emerging troubles on-the-fly, subsequently proceeding to the main agenda of accessing Adopt me. Although the analysis does not explicitly measure participants' competence of the above-mentioned skills, the routine use of these skills in naturally occurring, mundane settings highlight how participants identify and take opportunity to exercise these skills. This analysis highlights in particular, how participants' collective epistemic progression unfolds during a leisure activity (Balaman & Sert, 2017b).

Although the activity was carried out collaboratively, not all problems were resolved at the first attempt. If the project of playing Roblox is conceptualized as a racetrack, each emerging trouble in the gaming racetrack can be compared to a roadblock (Stokoe, 2014). This paper shows that participants are routinely successful in removing these roadblocks by talking through their troubles, negotiating the potential solutions, sharing, and collaborating to remove these emerging troubles-as-roadblocks, and executing their decisions consensually to proceed into the way of achieving the goal of accessing 'Adopt Me!' in Roblox. Furthermore, each participant's role as a K- and K+ participants was asymmetrical in nature, and sensitive to the situated practice, and, in particular, to the types of troubles that emerged as roadblocks, standing in the way of playing the game. In other words, the participants roles as K+ or K- participant changes in response to emerging troubles (Balaman & Sert, 2017a; Danby et al., 2018). This indicates that neither language status nor age difference was a factor in the construction of epistemic status and stance in these interactions. For example, Bushra mostly took up the K+ role. However, instances show that Aminah also took up the position as the K+ participant as necessary (lines 17, extract 2). For some roadblocks, creative deployment of multimodal resources helped participants. Resources such as screen sharing through Microsoft Teams, and co-gazing helped the participants to locate the trouble source

and solve it collaboratively. While the participants attempted alternative strategies to solve their trouble, not all attempts lead to the targeted result. For instance, extract 5 (lines 83-93) displays visual cues, even though it appears on the K- participant's screen, followed by co-interlocutor's scaffolding as a material intervention via the verbal cue – K- participant fails to notice and acknowledge it. Nevertheless, the task of locating the correct website is accomplished successfully, enabling the participants to move on to the next step of successful entry into their gaming session.

## **5. Conclusion**

In a detailed examination of this pre-gaming activity, the analysis has elucidated how both participants, while working to access their gaming session, prioritized issues based on their mutual agenda adapting their approach dynamically, turn by turn and moment-by-moment. As extract 2 shows, the trouble relating to the meaning of the term “refresh”, is abandoned during the pre-gaming session. It is arguable that this topic was dropped as discussing it did not have explicit import upon the mutual agenda of accessing the gaming session. By contrast, while the participants needed to both know the correct way to spell Roblox in order to identify the word in a set of search results, they needed to work collaboratively to select the correct search result in service of their primary objective. In other words, skills were made exclusively relevant in situations when doing so was aligned to progressivity of the participants' mutual agenda (Danby et al., 2018). The main implication for this study is that, by understanding the trials and tribulations of these two participants, the fluidity of their epistemic status and stance, and the dynamics of their K+ and K- participation, this study offers an example of sociocultural learning theory enacted during pre-gaming interaction. In this single case, the children's cooperative learning was facilitated through cultural knowledge, social interaction, and the utilization of the Zone of Proximal Development by a more knowledgeable other. Further studies are warranted to systematically explore the relationship between gamers' focus, and the potential for drawing upon these tools for peer-based learning. Furthermore, the study also highlights the observation that creating meaningful experience in the gaming world is a participant-oriented activity, and the analysis highlights that participants are strongly motivated to solve the emerging troubles collaboratively to accomplish their goal of gaining access in the shared gaming world. In other words, we can argue that there is a relationship between participants' engagement in the activity and must-be-solved, emerging troubles during gaming interaction. In sum, this paper shows that navigating the online world is a complex, multi-layered, praxeological activity and has implications for children's social interaction and learning while using new technologies.

## References

- Aarsand, P. André. (2007). *Around the screen: Computer activities in children's everyday lives*. Linköping University.
- Aarsand, P. André. (2010). Young Boys Playing Digital Games. *Nordic Journal of Digital Literacy*, 5(1), 38–54. <https://doi.org/10.18261/ISSN1891-943X-2010-01-04>
- Aarsand, P. André., & Aronsson, K. (2009). Response cries and other gaming moves—Building intersubjectivity in gaming. *Journal of Pragmatics*, 41(8), 1557–1575. <https://doi.org/10.1016/j.pragma.2007.05.014>
- Balaman, U., & Sert, O. (2017a). Development of L2 interactional resources for online collaborative task accomplishment. *Computer Assisted Language Learning*, 30(7), 601–630. <https://doi.org/10.1080/09588221.2017.1334667>
- Balaman, U., & Sert, O. (2017b). The coordination of online L2 interaction and orientations to task interface for epistemic progression. *Journal of Pragmatics*, 115, 115–129. <https://doi.org/10.1016/j.pragma.2017.01.015>
- Barr, M., & Copeland-Stewart, A. (2022). Playing Video Games During the COVID-19 Pandemic and Effects on Players' Well-Being. *Games and Culture*, 17(1), 122–139. <https://doi.org/10.1177/15554120211017036>
- Beavis, C., O'Mara, J., & McNeice, L. (Eds.). (2012). *Digital Games Literacy in Action*. Wakefield Press.
- Bevemyr, M., & Björk-Willén, P. (2016). Events of potential learning: How preschoolers produce curriculum at the computer during free play periods. *Tidsskrift for Nordisk Barnehageforskning*, 12. <https://doi.org/10.7577/nbf.1696>
- Björk-Willén, P., & Aronsson, K. (2014). Preschoolers' "Animation" of Computer Games. *Mind, Culture, and Activity*, 21(4), 318–336. <https://doi.org/10.1080/10749039.2014.952314>
- Bourgonjon, J. (2014). The Meaning and Relevance of Video Game Literacy. *CLCWeb: Comparative Literature and Culture*, 16(5). <https://doi.org/10.7771/1481-4374.2510>
- Broth, M., Laurier, E., & Mondada, L. (2014). *Studies of Video Practices: Video at Work*. Routledge.
- Buckingham, D., & Burn, A. (2007). Game Literacy in Theory and Practice. *Journal of Educational Multimedia and Hypermedia*, 16(3), 323–349.
- Burn, A., & Carr, D. (2006). Motivation and online gaming. In D. Carr, D. Buckingham, A. Burn, & G. Schott (Eds.), *Computer Games Text, Narrative and Play* (pp. 103–118). Polity Press.

- Burwell, C., & Miller, T. (2016). Let's Play: Exploring literacy practices in an emerging videogame paratext. *E-Learning and Digital Media*, 13(3–4), 109–125. <https://doi.org/10.1177/2042753016677858>
- Chen, C.-H., & Law, V. (2016). Scaffolding individual and collaborative game-based learning in learning performance and intrinsic motivation. *Computers in Human Behavior*, 55, 1201–1212. <https://doi.org/10.1016/j.chb.2015.03.010>
- Connolly, T. M., Boyle, E. A., MacArthur, E., Hainey, T., & Boyle, J. M. (2012). A systematic literature review of empirical evidence on computer games and serious games. *Computers & Education*, 59(2), 661–686. <https://doi.org/10.1016/j.compedu.2012.03.004>
- Crawford, G., Gosling, V. K., & Light, B. (Eds.). (2011). *Online gaming in context: The social and cultural significance of online games*. Routledge.
- Cromdal, J. (2001). Can I be with?: Negotiating play entry in a bilingual school. *Journal of Pragmatics*, 33(4), 515–543. [https://doi.org/10.1016/S0378-2166\(99\)00131-9](https://doi.org/10.1016/S0378-2166(99)00131-9)
- Curry, D. (2022). Roblox Revenue and Usage Statistics (2022). *Business of Apps*. <https://www.businessofapps.com/data/roblox-statistics/>
- Danby, S., Evaldsson, A., Melander, H., & Aarsand, P. (2018). Situated collaboration and problem solving in young children's digital gameplay. *British Journal of Educational Technology*, 49(5), 959–972. <https://doi.org/10.1111/bjet.12636>
- Dean, B. (2022). Backlinko.com. Backlinko.Com. <https://backlinko.com/roblox-users>
- Dredge, S. (2019, September 28). All you need to know about Roblox. *The Observer*. <https://www.theguardian.com/games/2019/sep/28/roblox-guide-children-gaming-platform-developer-minecraft-fortnite>
- Ferguson, C. J., Rueda, S. M., Cruz, A. M., Ferguson, D. E., Fritz, S., & Smith, S. M. (2008). Violent Video Games and Aggression Causal Relationship or Byproduct of Family Motivation? *Criminal Justice and Behavior*, 22.
- Garfinkel, H. (1967). *Studies in Ethnomethodology*. Blackwell Publishing.
- Gee, J. P. (2003). What Video Games Have to Teach Us About Learning and Literacy. *Computers in Entertainment*, 1(1), 1–20.
- Gee, J. P. (2004). Learning by Design: Games as Learning Machines. *Interactive Educational Multimedia*, 15–23.
- Goffman, E. (1961). *Encounters: Two Studies in the Sociology of Interaction*. Bobbs-Merrill.
- Goffman, E. (1981). *Forms of Talk*. University of Pennsylvania Press.

- Goodwin, C. (1979). The Interactive Construction of a Sentence in Natural Conversation. In G. Psathas (Ed.), *Everyday Language: Studies in ethnomethodology* (Vol. 97, pp. 97–121). Irvington.
- Goodwin, C. (1996). Transparent Vision. In E. Ochs, E. A. Schegloff, & S. A. Thompson (Eds.), *Interaction and grammar* (pp. 370–404). Cambridge University Press.
- Goodwin, C. (2007). Participation, stance and affect in the organization of activities. *Discourse & Society*, 18(1), 53–73. <https://doi.org/10.1177/0957926507069457>
- Gunter, B. (1998). *The Effects of Video Games on Children: The Myth Unmasked*. Sheffield Academic Press Ltd.
- Heritage, J. (1984). A Change-of-State Token and Aspects of its Sequential Placement. In J. Maxwell Atkinson & J. Heritage (Eds.), *Structures of Social Action* (1st ed.). Cambridge University Press.
- Heritage, J. (2012). Epistemics in Action: Action Formation and Territories of Knowledge. *Research on Language & Social Interaction*, 45(1), 1–29. <https://doi.org/10.1080/08351813.2012.646684>
- Heritage, J. (2013). Epistemics in conversation. In J. Sidnell & T. Stivers (Eds.), *Handbook of Conversation Analysis* (pp. 370–394). Blackwell.
- Huizinga, J. (1987). *Homo ludens: Vom Ursprung der Kultur im Spiel*. Rowohlt.
- Jakonen, T. (2014). Knowing matters: How students address lack of knowledge in bilingual classroom interaction. University of Jyväskylä.
- Jefferson, G. (2004). Glossary of transcript symbols with an introduction. In G. H. Lerner (Ed.), *Pragmatics & Beyond New Series* (Vol. 125, pp. 13–31). John Benjamins Publishing Company. <https://doi.org/10.1075/pbns.125.02jef>
- Kankaanranta, M., Koivula, M., Laakso, M.-L., & Mustolo, M. (2017). Digital Games in Early Childhood: Broadening Definitions of Learning, Literacy, and Play. In M. Ma & A. Oikonomou (Eds.), *Serious Games and Edutainment Applications* (pp. 349–367). Springer International Publishing.
- Kendrick, K. H. (2019). Evidential vindication in next turn: Using the retrospective “see?” in conversation. In L. J. Speed, C. O’Meara, L. San Roque, & A. Majid (Eds.), *Converging Evidence in Language and Communication Research* (pp. 253–274). John Benjamins Publishing Company. <https://benjamins.com/catalog/celcr.19.13ken>
- Koole, T. (2010). Displays of Epistemic Access: Student Responses to Teacher Explanations. *Research on Language & Social Interaction*, 43(2), 183–209. <https://doi.org/10.1080/08351811003737846>

- Koschmann, M. A. (2013). The Communicative Constitution of Collective Identity in Interorganizational Collaboration. *Management Communication Quarterly*, 27(1), 61–89. <https://doi.org/10.1177/0893318912449314>
- Krath, J., Schürmann, L., & von Korflesch, H. F. O. (2021). Revealing the theoretical basis of gamification: A systematic review and analysis of theory in research on gamification, serious games and game-based learning. *Computers in Human Behavior*, 125, 106963. <https://doi.org/10.1016/j.chb.2021.106963>
- Labov, W., & Fanshel, D. (1976). *Therapeutic Discourse: Psychotherapy as Conversation*. Academic Press.
- Lantolf, J. P. (2000). Introducing sociocultural theory. In J. P. Lantolf (Ed.), *Sociocultural Theory and Second Language Learning* (pp. 01–27). Oxford University Press.
- Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.
- Levy, A. (2020). While parents Zoom, their kids are flocking to an app called Roblox to hang out and play 3D games. CNBC. <https://www.cnbc.com/2020/04/08/roblox-is-seeing-a-surge-during-coronavirus-shelter-in-place.html>
- Linderoth, J., & Sjöblom, B. (2019). Being an Educator and Game Developer: The Role of Pedagogical Content Knowledge in Non-Commercial Serious Games Production. *Simulation & Gaming*, 50(6), 771–788. <https://doi.org/10.1177/1046878119873023>
- Lufkin, B. (2020). How online gaming has become a social lifeline [News site]. Bbc.Com. <https://www.bbc.com/worklife/article/20201215-how-online-gaming-has-become-a-social-lifeline>
- Marsh, A. P., & Tainio, L. (2009). Other-Repetition as a Resource for Participation in the Activity of Playing a Video Game. *The Modern Language Journal*, 93(2), 153–169. <https://doi.org/10.1111/j.1540-4781.2009.00853.x>
- Melander Bowden, H. (2019). Problem-solving in collaborative game design practices: Epistemic stance, affect, and engagement. *Learning, Media and Technology*, 44(2), 124–143. <https://doi.org/10.1080/17439884.2018.1563106>
- Mills, K. A. (2009). Multiliteracies: Interrogating competing discourses. *Language and Education*, 23(2), 103–116. <https://doi.org/10.1080/09500780802152762>
- Mills, K. A. (2010). A Review of the “Digital Turn” in the New Literacy Studies. *Review of Educational Research*, 80(2), 246–271. <https://doi.org/10.3102/0034654310364401>
- Mondada, L. (2011). Understanding as an embodied, situated and sequential achievement in interaction. *Journal of Pragmatics*, 43(2), 542–552. <https://doi.org/10.1016/j.pragma.2010.08.019>

- Mondada, L. (2012). Coordinating Action and Talk-in-interaction in and Out of Video Games. In *The Appropriation of Media in Everyday Life* (pp. 231–270). John Benjamins Publishing Company.
- Mondada, L. (2013). The conversation analytic approach to data collection. In J. Sidnell & T. Stivers (Eds.), *The Handbook of Conversation Analysis* (pp. 35–56). Wiley.
- Mondada, L. (2018). Multiple Temporalities of Language and Body in Interaction: Challenges for Transcribing Multimodality. *Research on Language and Social Interaction*, 51(1), 85–106. <https://doi.org/10.1080/08351813.2018.1413878>
- Mondada, L. (2019). Contemporary issues in conversation analysis: Embodiment and materiality, multimodality and multisensoriality in social interaction. *Journal of Pragmatics*, 145, 47–62. <https://doi.org/10.1016/j.pragma.2019.01.016>
- Musk, N. (2016). Correcting spellings in second language learners' computer-assisted collaborative writing. *Classroom Discourse*, 7(1), 36–57. <https://doi.org/10.1080/19463014.2015.1095106>
- Piirainen-Marsh, A., & Tainio, L. (2014). Asymmetries of Knowledge and Epistemic Change in Social Gaming Interaction: The Modern Language Journal. *The Modern Language Journal*, 98(4), 1022–1038. <https://doi.org/10.1111/modl.12153>
- playadopt.me. (2022). Playadopt.me. Adopt Me! <https://playadopt.me/>
- Pomerantz, A. (1980). Telling My Side: "Limited Access' as a 'Fishing' Device. *Sociological Inquiry*, 50(3–4), 186–198. <https://doi.org/10.1111/j.1475-682X.1980.tb00020.x>
- Potter, J., & McDougall, J. (2017). *Digital Media, Culture and Education*. Palgrave Macmillan UK. <https://doi.org/10.1057/978-1-137-55315-7>
- Roblox Corporation. (2023, September 8). The Roblox Corporation. <https://corp.roblox.com/>
- Rusk, F., & Ståhl, M. (2022). Coordinating teamplay using named locations in a multilingual game environment—Playing esports in an educational context. *Classroom Discourse*, 13(2), 164–187. <https://doi.org/10.1080/19463014.2021.2024444>
- Schegloff, E. A., Jefferson, G., & Sacks, H. (1977). The preference for self-correction in the organization of repair in conversation. *Language*, 53(2), 361–382. <https://doi.org/10.1353/lan.1977.0041>
- Sefton-Green, J. (2006). Chapter 8 Youth, Technology, and Media Cultures. *Review of Research in Education*, 30(1), 279–306. <https://doi.org/10.3102/0091732X030001279>

- Sert, O. (2011). A micro-analytic investigation of claims of insufficient knowledge in EAL classrooms. Newcastle University.
- Sjöblom, B. (2011). Gaming interaction: Conversations and competencies in internet cafés. Linköping University.
- Stivers, T., Mondada, L., & Steensig, J. (2011). ). Knowledge, morality and affiliation in social interaction. In T. Stivers, L. Mondada, & J. Steensig (Eds.), *The Morality of Knowledge in Conversation* (pp. 3–24). Cambridge University Press.
- Stokoe, E. (2014). The Conversation Analytic Role-play Method (CARM): A Method for Training Communication Skills as an Alternative to Simulated Role-play. *Research on Language and Social Interaction*, 47(3), 255–265. <https://doi.org/10.1080/08351813.2014.925663>
- Sundqvist, P. (2019). Commercial-off-the-shelf games in the digital wild and L2 learner vocabulary. *Language Learning & Technology*, 23(1), 87–113. <https://doi.org/10.125/44674>
- Sundqvist, P., & Wikström, P. (2015). Out-of-school digital gameplay and in-school L2 English vocabulary outcomes. *System*, 51, 65–76. <https://doi.org/10.1016/j.system.2015.04.001>
- Sylvén, L. K., & Sundqvist, P. (2012). Gaming as extramural English L2 learning and L2 proficiency among young learners. *ReCALL*, 24(3), 302–321. <https://doi.org/10.1017/S095834401200016X>
- Terasaki, A. K. (1976). Pre-announcement sequences in conversation. In *Conversation analysis: Studies from the first generation* (pp. 171–223). John Benjamins Publishing Company.
- Thorne, S. L. (2008). Transcultural communication in open Internet environments and massively multiplayer online games. In *Mediating Discourse Online*. John Benjamins Publishing Company.
- Thorne, S. L., Fischer, I., & Lu, X. (2012). The semiotic ecology and linguistic complexity of an online game world. *ReCALL*, 24(3), 279–301. <https://doi.org/10.1017/S0958344012000158>
- Vygotsky, L. S., & Cole, M. (1978). *Mind in Society: Development of Higher Psychological Processes*. Harvard University Press.
- Wood, D., & Middleton, D. (1975). A Study of Assisted Problem-Solving. *British Journal of Psychology*, 66(2), 181–191. <https://doi.org/10.1111/j.2044-8295.1975.tb01454.x>



