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Collaborative Discussion during MMORPG: How Game Features and Incidental Vocabulary Learning Influence ESL Learners' Language Learning

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Abstract. Digital games could potentially foster learners' motivation to collaborate with peers and self-directed learning. In line with that, this study aims to explore the influence of game features in massively multiplayer online role-playing games (MMORPGs) that motivates collaboration among ESL learners. 16 ESL game players who have experience playing online games were recruited for the study. The participants were required to play Lost Ark for 60 hours, and their interactions during the gameplay sessions were video recorded. The participants were interviewed, and the sessions were audio recorded. A qualitative content analysis was conducted on two sets of data collected from the excerpts transcribed from video and audio recordings, namely (a) participants' collaborative discussions during gameplay sessions, and (b) participants' responses during online semi-structured interview sessions. The findings from the interviews revealed that the game features of MMORPGs seemed to motivate ESL learners to engage in collaborative discussions during gameplay sessions. The findings also revealed episodes of incidental vocabulary learning during collaborative discussions, which implied that digital game-based learning via MMORPG could influence ESL learners' mastery of the English language, indicating that MMORPG could enhance the lexical knowledge of ESL learners. The findings show that MMORPG may potentially improve learners' lexical knowledge and English proficiency, which could prove beneficial to future researchers who may wish to explore how online game genres and attributes of players influence the process of collaborative discussion that is linked to incidental vocabulary learning.

Keywords: digital game-based learning; game features; incidental vocabulary learning; collaborative discussions; Massively Multiplayer Online Role-Playing Game (MMORPG)

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1. Introduction

In the era of digital technology, the younger generations are prone to playing online games as their primary form of entertainment and social interaction. This trend presents a unique opportunity for language acquisition, particularly in the context of learning English. As individuals immerse themselves in intricately designed virtual worlds, they are exposed to autonomous language learning, collaborating with peers from different parts of the world, and navigating through complex storylines that require effective communication. The interplay between gaming and language acquisition fosters motivation and engagement that form an immersive environment for authentic language use. In addition, past studies (Bytheway, 2015; Rasti-Behbahani & Shahbazi, 2020) have indicated that online games could be used as a language tool to help learners improve their language skills during gameplay. Therefore, understanding how online games can be leveraged as a tool for English language education is crucial for educators and researchers, as it could provide opportunities to enhance ESL learners' language proficiency within an immersive and dynamic online game environment.

However, there is still a dearth of evidence in addressing how features of online games could potentially influence learners to collaborate with peers and enhance their language performance. While online games, specifically massively multiplayer online role-playing games (MMORPGs), offer a rich environment for social interactions, language skill development (i.e. vocabulary acquisition, reading comprehension, pronunciation, etc.) and immersive gameplay experiences, the specific features through which these games foster collaboration and language proficiency remain inadequately understood. Yang and Quadir (2018) explored the effects of learners' prior knowledge on learning performance and anxiety in an English learning online role-playing game. The findings underscore how contextual game-based learning environments yielded a positive language learning experience among learners. In the same vein, the benefits of online games have also been highlighted in past studies (Bytheway, 2015; Calafato & Clausen, 2024), whereby computer games do help learners to learn new English vocabulary during gameplay.

While the findings from Bytheway's (2015) study indicate how learners were able to employ vocabulary learning strategies to learn new vocabulary that was presented in the game, as this helped them grasp the game mechanics and storyline. However, the dearth of empirical data from these past studies hinders the identification of key game features in MMORPGs (i.e. game's storyline, in-game cutscenes, digital game environment) that could entice learners to engage in collaborative activities, which are essential for language development. Understanding how these features function and interact with ESL learners' language learning experience during gameplay is crucial for educators and researchers seeking to leverage the educational potential of gaming environments.

Therefore, to address the research gap, this study aims to investigate the features of MMORPG that motivate the learners' engagement in collaborative discussions during gameplay sessions and how these features affect their English language

performance. The ESL learners' opinions were analysed and discussed to determine which features of MMORPG influenced them to engage in collaborative discussions during online gameplay. This is to answer the research question of this study: What are the features of MMORPG that influence the learners' engagement in collaborative discussions during gameplay sessions and their English language learning?

2. Literature Review

2.1 Incidental Vocabulary Learning

Incidental vocabulary learning (IVL), as explained by Sinyashina (2020), is a spontaneous and non-deliberate process that occurs when the learning sessions take place. IVL is heavily influenced by the learners' degree of attention on vocabulary encountered while participating in authentic language activities (Laufer & Hulstijn, 2001, as cited in Karimi & Nasouri, 2024). As such, IVL occurs when the items being learned are not the main focus of the task at hand. Instead, learners engage in an activity primarily to enjoy it or to comprehend a specific message. During this process, they may acquire new vocabulary without any conscious effort to learn those words (Ender, 2016; Laufer & Hulstijn, 2001). In addition, Hapsari et al. (2018) also stated that the social interactions between learners and peers could stimulate incidental language learning, which leads to contextualised learning that helps them to understand how the vocabulary functions in different situations.

Relevant studies have investigated IVL within digital game-based learning, specifically focusing on learners' incidental language learning within the online gaming context (Calvo-Ferrer & Belda-Medina, 2021; Hapsari et al., 2018; Huang & Yang, 2014). Hapsari et al. (2018) investigated the use of the online game, Defence of the Ancients 2 (DoTA 2) as a tool for incidental language learning among gamers. The study used field observation and semi-structured interviews. The results revealed that DoTA 2 facilitates incidental English language learning due to the use of English in collaborative social interactions that occur through voice chats with other gamers (Hapsari et al., 2018). Furthermore, the findings from Hapsari et al.'s (2018) study also highlighted that due to the non-overly complex nature of the language instruction within DoTA 2, participants were seen to be able to utilise tools such as Google Translate when encountering difficulties in understanding the new vocabulary during gameplay. Participants were seen to resort to Google Translate to clarify the meanings of unfamiliar words or sentences, thus enhancing their understanding of the game. Despite IVL having been observed across different online game genres (Hapsari et al., 2018; Huang & Yang, 2014), the question of whether specific features and mechanics of MMORPGs could facilitate IVL during gameplay remains underexplored.

As this study is set to explore the features of MMORPG that motivate the learners' engagement in collaborative discussions, it is also equally important to investigate how these game features stimulate IVL, which could influence their English language performance after gameplay.

2.2 Online Games and Collaborative Learning

The assimilation of online gaming into collaborative learning has accumulated substantial attention from the academic field due to its potential for promoting engagement and knowledge acquisition among learners. Past studies have highlighted the benefits of incorporating online games in stimulating collaborative learning processes (Dhiyaneshwari & Devi, 2023; Laakso et al., 2021; Perez-Aranda et al., 2023). For instance, Perez-Aranda et al. (2023) investigated how collaborative and gamified online learning activities could influence students' attitudes and social interactions. Their findings showed that attitudes such as perceived usefulness, entertainment, and habit had a positive influence on students' active participation in collaborative and gamified online learning activities, such as online board games and online card games (Perez-Aranda et al., 2023). Additionally, online games are also viewed as a catalyst in encouraging teamwork among students and their peers, as the task-based activities presented in online games often simulate real-world scenarios (Zheng & Qiuyung, 2023). As a result, students were seen engaging frequently in collaborative discussions, which allow for an effective knowledge exchange and negotiation of meaning that lead to the completion of these task-based activities. Based on the aforementioned studies, it is evident that online games could serve as a catalyst in prompting collaborative discussion engagement among online ESL game players, allowing them to effectively exchange knowledge and negotiate on meanings to complete the task-based activities within the online game environment.

2.3 Game Features in Massively Multiplayer Online Role-Playing Game

Game features refer to the various elements and characteristics that define a video game, contributing to its overall design, functionality, and player experience. These features encompass a wide range of aspects, including gameplay mechanics, visual and audio design, and technical capabilities. There are several features that have been described to enhance immersion and engagement in MMORPGs, and one of these features is the quest system. In this context, quests are considered a type of in-game content featuring linear and organised missions that include players' interactions with the digital game environment. Culbertson et al. (2016) examined this in their research featuring the language learning game known as "Crystallize", which employed a questing system coupled with repetition of learned languages in role-playing exercises. Notably, the introduction of the "jobs" in this game involves sequential and progressively sophisticated tasks that players need to perform and complete. Culbertson et al. (2016) further indicated that in the process of playing the game, learners improved their learning outcomes through collaborative language learning since they helped peers understand the context of the game. As stated by Culbertson et al. (2016), their study implies that the questing system that is incorporated in MMORPGs does promote collaboration for the students, leading them to a better language acquisition experience during gameplay.

Real-time communication plays a crucial role in MMORPG games, allowing players to communicate instantly with peers within the game's environment. This allows MMORPGs to be a great platform for learning and practising a foreign language. There are multiple methods through which this might occur, such as

using verbal communication within a game and using online character avatars to portray body language. These elements provide a frequent occurrence of language practice. This parallels a study by McFadyen (2020), where video games were used to enhance children's literacy acquisition. Although McFadyen primarily focused on asynchronous learning, there are situations in MMORPG contexts where activity shaping can take place in real-time with peers, and both reflection and feedback play important roles. Therefore, McFadyen (2020) believes that games could engage players in active language use due to the natural communicative environment of gameplay, which can enhance language learning and promote communicative proficiency.

Nevertheless, there are additional engaging features that have been frequently used in gamified educational environments, such as visual cues and progress bars (Luarn et al., 2023). The inclusion of these features guarantees that the players remain engaged and immersed, which is crucial when acquiring language. In addition, the quest and guild systems in MMORPGs provide an effective approach for language learning through gameplay communication. In addition, real-time communication contributes to learners' improved language and communicative competence, which is further reinforced by the questing system that provides context and understanding of the narrative in games and the guild system that contributes to the collaborative aspects of language learning. These are features in the application that allow players to get good practice for earning linguistic and communication skills in the digital game environment, emulating real contexts. Several past studies (Culbertson et al., 2016; McFadyen, 2020; Reitz et al., 2016) have proven that the use of features of MMORPG can effectively enhance language acquisition and communicative competence. Thus, MMORPGs are considered an effective and engaging tool that can be used by language educators to explore new avenues of teaching language.

3. Methodology

The study aims to investigate the features of MMORPGs that motivate learners' engagement in collaborative discussions during gameplay sessions and how this affects their English language performance. In line with this, the study adopted a qualitative approach, whereby a qualitative content analysis was conducted on two sets of data collected from the excerpts transcribed from video and audio recordings of: (a) participants' collaborative discussions during gameplay sessions, and (b) participants' responses during online semi-structured interview sessions.

3.1 Participants

This study used the purposive and snowball sampling methods to recruit 16 participants. The researcher recruited potential candidates from the online game communities via Discord (push-to-talk computer software used by online gamers for communication). Simultaneously, based on the recommendations from the selected participants from Discord, a snowball sampling was also used to recruit participants who fulfilled the selection criteria. Since the study is centred on a specific demographic related to non-native ESL online game players who actively play MMORPG, only a small sample size of 16 participants was selected. The

participants were assessed according to their English language proficiency levels and the time they spent daily playing online games. As a result, 16 interested individuals fulfilled the three selection criteria, and all 16 were selected as participants for this study.

Table 1: Participants' Demographic Profile

Participants	Age	Gender	English Language Proficiency (CEFR)	Time Spent Playing Online Games
1	21	Male	B2 Upper Intermediate	More than 5 hours
2	20	Female	B2 Upper Intermediate	3 to 5 hours
3	23	Male	B2 Upper Intermediate	More than 5 hours
4	21	Male	B2 Upper Intermediate	More than 5 hours
5	23	Male	B2 Upper Intermediate	3 to 5 hours
6	25	Male	B2 Upper Intermediate	More than 5 hours
7	24	Male	B2 Upper Intermediate	More than 5 hours
8	20	Male	B2 Upper Intermediate	3 to 5 hours
9	23	Male	B2 Upper Intermediate	3 to 5 hours
10	21	Male	B2 Upper Intermediate	More than 5 hours
11	26	Male	B2 Upper Intermediate	More than 5 hours
12	22	Male	B2 Upper Intermediate	3 to 5 hours
13	25	Male	B2 Upper Intermediate	3 to 5 hours
14	24	Female	B2 Upper Intermediate	More than 5 hours
15	21	Male	B2 Upper Intermediate	More than 5 hours
16	22	Male	B2 Upper Intermediate	3 to 5 hours

Table 1 demonstrates the participants' demographic profiles. There was a total of 16 participants selected for this study, with ages ranging between 20 and 26 years old. The table also shows that the selected participants possessed B2 Upper Intermediate proficiency in English, based on their online CEFR test results. In addition, the participants spent three to more than five hours playing online games daily, indicating that they had prior experience playing online games.

3.2 Materials

A push-to-talk computer application, Discord, was used in this study as a medium of communication for participants to engage in collaborative discussions during online gameplay. The study also used Open Broadcaster Studio (OBS) as a video and audio recording tool to capture participants' interactions during gameplay and their responses during the online semi-structured interviews.

3.3 Instruments

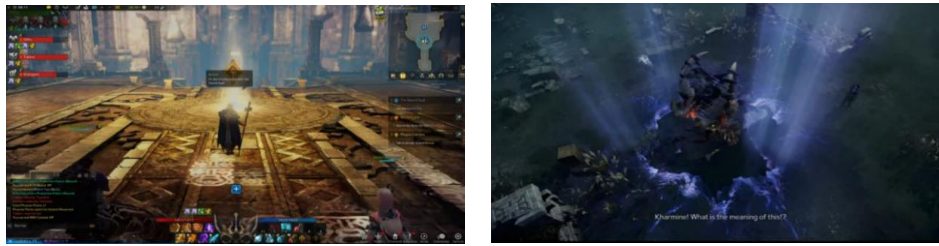
This study involved the use of three research instruments: (a) pre- and post-English language assessment, (b) online gameplay session of MMORPG, and (c) online semi-structured interviews.

3.3.1 *English language assessment*

The English language assessment consisted of 60 multiple-choice questions and five text passages, which participants were required to read to answer the subsequent questions related to these passages. The English language assessment was modelled after the Cambridge English test papers that are specifically designed to assess learners with the B2 – Upper Intermediate Level of English proficiency according to the CEFR standard. In addition, the questions and text passages in the English language assessment were related to the narratives and the game of Lost Ark's storyline, which participants were required to answer according to the storyline during the gameplay sessions. The English language assessment was distributed in two stages: (a) during the pre-test phase, which was before participants' first gameplay session of Lost Ark, and (b) during the post-test phase, which was after their final gameplay session of Lost Ark. The results of the English language assessment were used to determine the changes in ESL learners' English language performance before and after their involvement in collaborative discussions during the gameplay sessions.

3.3.2 *Online gameplay session*

The online gaming platform, Lost Ark, a free-to-play MMORPG, was selected to assess the participants' collaboration during gameplay sessions. The game offers a dynamic online environment and in-game cutscenes for participants to immerse themselves in while discovering the game's lore. Cutscenes in MMORPGs are scripted cinematic sequences, where the game screen fades out from the actual gameplay and fades into cutscenes before, during or after players complete the main story quests (MSQs). The cutscenes are initiated during the game to advance the storyline, provide context or enhance the overall gaming experience. This feature is crucial in providing a narrative context for players to understand the game's storyline. All participants were required to play Lost Ark for at least two hours per session. The accumulated duration of the gameplay sessions was 15 hours for each group, equalling 60 hours of total gameplay sessions recorded and transcribed for the study.



**Figure 1: Examples of Cutscenes Experienced by Participants
When Completing MSQs in Lost Ark**

3.3.3 *Online semi-structured interviews*

This study also adopted a qualitative research method, where online semi-structured interviews were conducted with all participants. The focus of these interviews was to explore participants' perceptions of their gameplay experiences, particularly concerning English language learning. This method was also employed to investigate participants' views on how the game features in Lost Ark facilitated their engagement or initiated collaborative discussions with peers during gameplay sessions. The online interview sessions were conducted via Discord and were audio recorded using OBS for further data analysis. As the researchers posed similar questions to ensure consistency across interviews with all participants, the participants had the freedom to elaborate based on their experiences and share their thoughts about the gameplay sessions of Lost Ark.

3.4 **Data Collection Procedure**

Prior to the data collection phase, all participants were given a consent form to ensure they were fully informed about the research they were involved in and to safeguard their anonymity and confidentiality. The next data collection phase required participants to engage in the online gameplay sessions of Lost Ark, where participants needed to collaborate with their group mates to complete the MSQs to progress with the game's storyline. These collaborative discussions were recorded by the researcher. The subsequent step was to conduct individual online semi-structured interview sessions with each participant to obtain additional information regarding which features of the MMORPG motivated them to take part in collaborative discussions during gameplay and how these features influenced their English language learning. The interviews, which ranged from 20 minutes to 30 minutes each, enabled a deeper understanding of participants' experiences during gameplay sessions of Lost Ark.

4. **Results and Discussion**

The researchers conducted two English language assessments, i.e. before the participants' first gameplay session (pre-test) and after their final gameplay session (post-test) of Lost Ark. The results (refer to Table 2) show that participants seemed to have improved their English language performance based on the post-test.

Table 2: ESL Learners' Pre-Test and Post-Test Scores

Participant	Pre-Test Score	Post-Test Score	Increment in English Language Performance (%)
1	36/60	44/60	22.22
2	43/60	49/60	13.95
3	33/60	43/60	30.30
4	36/60	44/60	22.22
5	32/60	40/60	25.00
6	40/60	51/60	27.50
7	44/60	49/60	11.36
8	41/60	47/60	14.63
9	38/60	45/60	18.42
10	38/60	44/60	15.79
11	40/60	50/60	25.00
12	44/60	50/60	13.64
13	35/60	42/60	20.00
14	37/60	47/60	27.03
15	34/60	43/60	26.47
16	40/60	46/60	15.00

Following this, a qualitative content analysis was conducted on the transcribed recordings of participants' conversations during the collaborative discussions and their responses during the online semi-structured interview sessions. Upon coding and categorising the ideas from the observation and interview sessions into different themes, the data analysis revealed that three features of the MMORPG influenced participants' engagement in collaboration with peers during the gameplay sessions of *Lost Ark*, which led to their improved English language performance. The three features were: (a) narrative-driven game's storyline, (b) in-game cutscenes, and (c) immersive digital game environment.

4.1 The Impact of Narrative-Driven Game Storylines on ESL Learners' Collaborative Discussions

According to Voulgari and Komis (2012), it has been observed that as learners navigate a game's storyline and encounter in-game challenges, they are prompted to collaborate with their peers to exchange ideas, clarify misunderstandings and practise their language skills. The observational notes produced from observing participants' collaborative discussions that transpired during gameplay sessions of *Lost Ark* indicate that learners were able to comprehend the intended narrative presented in the game, which contributed to their thorough comprehension of the game's storyline. The compelling narratives and engaging gameplay of MMORPGs have been found to foster intrinsic motivation for autonomous language learning (Reinhardt & Ryu, 2013), as observed in the collaborative discussions that transpired among participants during gameplay sessions of *Lost Ark*.

P1: Not going to lie, the music is so relaxing.
 P6: It's good. The death scene and this music give Benard's death **more depth and meaning**. Can actually feel what Thirain feels.
 P5: He was the one who said the quotes in Passage 2, right?
 P6: Guys, I think **we need to talk about this later after the session. You want to revise the passages?** (referring to the text passages in the English assessment test)
 P5: Let's do that. I also think I messed up some parts in Passage 2 and 3. Let's compare our answers.

Figure 2: Transcription Excerpt on Collaborative Discussion Between P5 and P6

The analysis of the collaborative discussions between P5 and P6 seems to suggest that they collaboratively worked their way through by completing the MSQs. The narrative-driven storyline in Lost Ark presented within these MSQs necessitated discussions between participants and their peers. According to the collaborative discussions that involved P5 and P6 in Figure 2, it was observed that P6 was immersed in the narrative that had been presented in one of the MSQs in Lost Ark. P6 was seen to have a more comprehensive grasp of the events that occurred in the game's storyline. Consequently, P6 proposed a group discussion after the gameplay sessions of Lost Ark to analyse the text passages found in the English language assessment, compare test answers, and discuss with peers regarding sections of the game's storyline that were deemed challenging. As a result, during the post-test, P6's test scores improved compared to his previous performance during the pre-test.

Researcher: Do you feel online games (MMORPGs) could be used as a supplement to language learning in academic settings?
 P1: Yes, I think it makes sense to use online games in language learning because it gives you more **incentive to learn the language to understand the story** (in Lost Ark). Especially if you are like me, who likes storytelling aspects in MMORPGs, **being able to understand it makes me feel satisfied**.

Figure 3: Transcription Excerpt Taken from the Online Semi-Structured Interview with P1

In addition, the transcription excerpt above demonstrates the responses from P1 that show the function of the storytelling feature provided in Lost Ark and other MMORPGs. P1 agreed that MMORPGs should be used more in academic settings, particularly in language learning contexts, as the narrative-driven storylines in online games could incentivise language learners to invest time and effort into understanding the content, such as vocabulary items and the game's storyline, to fully comprehend and immerse themselves in the gaming experience. As such, the participant agreed that online games, particularly MMORPGs, could be used as a supplement to language learning pedagogies in academic settings, as they encourage learners to explore different aspects of the language. The findings from the collaborative discussions and online semi-structured interview sessions seem to corroborate Quintin's et al.'s (2016) study, where the researchers believed that MMORPGs are beneficial for English language learning due to the immersive nature of the virtual environment provided by these games and the relevant

features that incentivise language learners to discuss and learn language collaboratively through narrative-driven storylines.

Similarly, in their study, Dixon and Christison (2018) emphasised how the English language has been authentically presented in a game's storyline to simulate the use of English vocabulary in real-life applications and daily social interactions. Consequently, the narrative-driven storyline feature was presented to illustrate authentic language use related to the English vocabulary that learners encountered in the online game. The findings from these past studies (Dixon & Christison, 2018; Quintin et al., 2016) seem to corroborate the findings from the current study, as participants were seen to be more incentivised to engage in collaborative discussions with their peers during gameplay sessions of *Lost Ark* in order to understand the narrative content provided in the game's storyline. Therefore, the findings suggest that the storytelling feature in MMORPGs could serve as an incentive to encourage ESL learners to engage in collaborative discussions during gameplay. The ESL learners' interest in understanding the narratives of the game's storyline could serve as a catalyst in stimulating authentic language use.

Furthermore, the data analysis also suggests that other game features, such as in-game cutscenes and digital game environment, also contributed to participants' overall comprehension of narrative-driven storylines in *Lost Ark*. Participants were seen actively engaging in collaborative discussions with their peers when they encountered the in-game cutscenes during gameplay. Therefore, it was evident that exposure to the in-game cutscenes led to increased involvement in collaborative discussions.

4.2 The Influence of MMORPG Cutscenes on ESL Learners' Motivation for Collaborative Language Learning

In-game cutscenes are one of the vital parts in MMORPGs, as they draw the attention of online game players to the narrative-driven storyline of games. To fully comprehend the narrative elements presented in these online games, players often have to collaborate with their peers to learn English vocabulary to understand the dialogues, interpret visual cues, and draw connections between the in-game cutscenes and the narrative-driven storylines. This collaborative process not only enhances players' understanding of the game's storyline but also aids in the enhancement of their English proficiency. Similarly, due to the immersive nature of MMORPGs and the need to comprehend the target language, ESL learners are seen to be encouraged to actively engage in the in-game cutscenes, as they are more likely to become motivated to learn new English vocabularies, practise their listening skills, and develop a deeper understanding of the game's storyline (Gunel & Top, 2022).

Based on the findings of the current study, it was observed that the in-game cutscenes in *Lost Ark* impacted participants' engagement in collaborative discussions during gameplay sessions. The transcription excerpts of both video and audio recordings of collaborative discussions and online semi-structured interview sessions revealed that participants were inclined to initiate discussions with their peers when in-game cutscenes were displayed on the screen after they

had completed different parts of the MSQs in Lost Ark. It was also apparent that in-game cutscenes were one of the key game features that promoted player engagement and facilitated language learning.

P15: Valtan is from Passage 2. This is the fight where Thirain activates his sword (referring to the in-game cutscene).

P14: Oh wow, okay so this is the part where the Vanquisher glows, right?

P15: Yeah, just like the passage. Do you remember that part in the passage?

P14: Oh, yes! Hmm... (reading Passage 2). P15, did you remember when Benard mentioned controlling anger?

P15: Yes, it's in the speech. I remembered almost messing up the answer for Question 30 (referring to the English language assessment test).

(P14 and P15 proceeded with the discussion related to the pre-test after watching the in-game cutscene)

**Figure 4: Transcription Excerpt on Collaborative Discussion
Between P14 and P15**

The collaborative discussion that transpired between P14 and P15 seems to indicate that participants were able to recall the test questions and text passages in the pre-test as they were experiencing one of the in-game cut scenes during gameplay. The transcription in Figure 4 illustrates how participants initiated and engaged in discussions with their peers to seek clarification to understand one of the test questions presented in the English language assessment. The observational notes also suggested that P15 assisted P14 in understanding the narratives depicted in the game's cutscene, leading to an enhanced comprehension of the test question pertaining to the storyline. This indicates that P15, who understood the narratives depicted in the game's cutscenes, understood what was asked in the test questions compared to his peers. These findings support the concept of the Zone of Proximal Development by Vygotsky (1978), where, in this case, participants could understand the narrative of the game's storyline with the aid of other more proficient peers.

A scaffolding approach was used during the collaborative discussion, in which a more knowledgeable peer provided temporary support to help another learner comprehend the narratives of the game's storyline in Lost Ark. This was evident in the collaborative discussion that transpired between P14 and P15. It was observed that P14 was able to enhance her understanding of the game's narrative through the help of P15, in which the narrative was closely linked to the test questions presented in the post-test. The improvement in P14's post-test scores can be attributed to the narratives presented in the in-game cutscenes, which motivated P14 to participate in conversations and seek clarification from peers, resulting in improved performance in the post-test.

P11: I think this scene right here gave so much more context to the second passage in our test. That exposition (referring to the in-game cutscene) really showed how much Thirain respects Benard as his father figure.

P9: Honestly, I feel like I misinterpreted one of the questions in Passage 2. I thought Benard was working with Scherrit when he helped Thirain to escape from the castle.

P11: I'm pretty sure he acted as the father figure to Thirain because of his speech that helped Thirain to activate his sword. He wanted Thirain to come back and claim the throne. This cutscene seems to confirm what I understand from the second passage.

**Figure 5: Transcription Excerpt on Collaborative Discussion
Between P9 and P11**

Similarly, the collaborative discussion that transpired between P9 and P11 seems to indicate that participants were inclined to guide their peers in understanding the complex narratives presented in the cutscenes during their gameplay sessions of Lost Ark. As previously mentioned, in relation to Vygotsky's (1978) Zone of Proximal Development, when participants encountered a narrative element that was slightly beyond their current level of comprehension, more knowledgeable peers can provide scaffolding to support their understanding of the game's storyline. Evidently, the interactions in the transcription excerpt show that P11 was providing explanations on the narratives depicted in the cutscene to improve P9's comprehension of the game's storyline. Simultaneously, it was also observed that the in-game cutscenes seemed to act as a catalyst for participants to initiate discussions and seek help from peers deemed more proficient than themselves. As shown in Figure 5, the in-game cutscene clearly served as an incentive for P9 to engage in a collaborative discussion with P11 to comprehend the narratives of the game's storyline. Based on the improved post-test scores, it was evident that P9 was able to enhance his understanding of the game's storyline by discussing it with his peers during collaborative discussions that occurred while they were watching the in-game cutscenes.

Based on the previously shown excerpts, the collaborative discussions seem to indicate that the in-game cutscenes that were presented during the completion of their MSQs helped participants recall and connect the game content with what had been posed in the test questions and text passages. As a result, it was observed that participants frequently engaged in collaborative discussions with their peers to gauge an enhanced understanding of the game's storyline, as this led to a better understanding of test questions posed in the English language assessment. Hämäläinen et al. (2018) explained that learners who are involved in collaborative discussions can seek and share information effectively with peers to solve problems during gameplay. A similar phenomenon was detected in the current study, as participants were more enticed to engage in discussions related to the game's storyline that were directly linked to the test questions and text passages in the pre-test. It was observed that the in-game cutscenes served as points of reference for participants and acted as a catalyst to their collaborative discussions. Participants were seen to identify gaps in their own understanding of the narratives and fill them by listening to their peers' perspectives. Through collaborative discussions that stemmed from their shared experiences watching the in-game cutscenes in Lost Ark, participants were able to verbalise their

thought processes and reasoning, as this helped them to negotiate meanings with peers and construct a more coherent understanding of the game's storyline. Therefore, the collaborative discussions that transpired from their experience with the in-game cutscenes seemed to prompt participants to evaluate the quality of their peers' explanations and provide necessary feedback. Consequently, the participants demonstrated enhanced English language performance in the post-test, particularly in areas related to English vocabulary and reading comprehension. It shows that participants' exposure to in-game cutscenes aided their cognitive processing and comprehension of the test questions and text passages in the English language assessment. Simultaneously, the analysis of the transcription excerpts for collaborative discussions and online semi-structured interview sessions indicate that participants used referencing methods to better explain the narratives provided by in-game cutscenes to their peers upon completing their MSQs.

P14: I think this cutscene right here gave so much more context to the second passage in our test. That exposition (referring to the in-game cutscene) really showed how much Armen cared for the people that were killed. I'm pretty sure he's going to kill that priest now.

P13: Honestly, I don't get it. Why did Armen care so much for these people that he barely knows?

*P14: Well, I guess it makes sense because Armen is always shown as that guy who wants to save people. **Do you remember that storyline in the Heavensward expansion in FFXIV (referring to another MMORPG - Final Fantasy 14)?***

(P14 explaining about the storyline in FFXIV that is similar to the narratives presented in the cutscenes to P13)

Figure 6: Transcription Excerpt on Collaborative Discussion Between P13 and P14

The collaborative discussion between P13 and P14 demonstrates the participant's ability to refer to another MMORPG as a point of reference when explaining the game's narrative that was depicted in the cutscenes of Lost Ark. The observational notes indicated that P13 and P14 had previously played another MMORPG (Final Fantasy XIV) and experienced the narrative-driven storyline from that game. While completing the MSQs in Lost Ark, the game presents the narrative through the in-game cutscene that is linked to the game's storyline. It was observed that P13 was having difficulty understanding the narrative; however, P14 aided P13 by using a narrative from a different game that P13 was familiar with to enhance his understanding. Figure 6 demonstrates that through guidance from P14, P13 was able to refer and relate the specific plot points or storylines from the previous MMORPG with the context of the narratives presented in the storyline of Lost Ark. This suggests that the in-game cutscenes stimulated participants' ability to recall other MMORPG storylines as points of reference to deepen their comprehension of the narratives presented in Lost Ark.

The analysis of data indicates that the narrative-driven storyline and inclusion of in-game cutscenes during gameplay sessions of Lost Ark incentivised participants to initiate or engage in collaborative discussions with peers. Through collaborative discussions, it was observed that participants deepened their understanding of the narratives presented in the game and broadened their comprehension by seeking help and guidance from peers. The discussions on

these features of MMORPG also suggests that participants were able to use external sources (i.e. MMORPG references such as Final Fantasy XIV) as points of reference to understand the narratives depicted in the cutscenes for the storyline in Lost Ark, which influenced their comprehension of the test questions and text passages in the English language assessment.

The transcription excerpts from participants' online semi-structured interview sessions also suggest that the immersive digital game environment could influence their engagement in collaborative discussions. It was hypothesised that the immersive digital game environment in MMORPGs could serve as a platform for language learners to communicate with peers and other online game players using the target language. In the context of the current study, the initial observation of the findings suggests that participants were able to use this game feature to improve their language skills by conversing with other online game players using the English language.

4.3 The Advantages of Immersive Digital Game Environments in Encouraging Collaborative Language Learning

The data analysis on collaborative discussions and responses from participants' online semi-structured interview sessions reveals that the immersive digital game environment in MMORPGs seems to motivate learners to collaborate with peers and learn the target language during gameplay. Due to the unique characteristics of MMORPGs, they present ample opportunities for social interaction and the integration of game mechanics, which are embedded in the digital game environment and are seen to promote engagement and language learning. At the same time, the ease of interaction in MMORPGs also promotes frequent interaction among online game players. This can be seen in the current study's findings, as the participants highlighted the effectiveness of the digital game environment in motivating them to engage in peer collaborative discussions actively.

Researcher: Do you think Lost Ark, or any other MMORPGs that you have played, has helped you to communicate better? Have any of these games helped you to improve your communication skills and also your English proficiency verbally and textually?

*P3: Yes, I can say yes. Because for me, as I've said earlier, the storylines and quests, when something comes up, **I really don't understand what happened, so I try to interact. I try to ask questions to my group members, "What? Why? Why does it happen?"** I tried my best to interact, and I think I've improved a lot. It is also easy, you know? **The environment in the game (Lost Ark), the NPCs (non-playable characters), the dialogues. It made me feel easier to speak English with people online, verbally and textually.** When I do that, it kind of helps me to understand the storyline, feels like training for my English skills, and I think that by improving my English proficiency, I feel like I can use this in real life in the long run.*

Figure 7: Transcription Excerpt Taken from the Online Semi-Structured Interview with P3

Based on the transcription excerpt taken from the online semi-structured interview session with P3, the participant indicated that it was easier to verbally or textually interact with his peers or other online game players in English as a form of practice to improve their English-speaking skills. The participant's response seems to suggest that Lost Ark exposes players to a wide range of English vocabulary usage through interactions with other players and when they complete the MSQs. Suh et al. (2010) in their study stated that MMORPG activities such as role-playing and engaging in group activities during gameplay (i.e. completing MSQs) encourage students to communicate with peers to practise their speaking skills. The findings of Suh et al.'s (2010) study further highlighted that students were keen to engage with their peers while completing the MMORPG activities. These findings seem to validate this study's findings, where P3's response suggests that he was more motivated to engage in collaborative discussions. The response also indicates that it was easier for P3 to engage in conversations with other players in the English language, as the elements in the digital game environment (i.e. MSQs, NPCs, and main storyline, which are all presented in English) influenced him to converse in the target language.

The findings are also consistent with Hapsari et al.'s (2018) study, as the content in both DoTA 2 and Lost Ark are presented in the English language. This encouraged participants to converse with peers in English, which might have stimulated incidental language learning during the collaborative discussions. Concerning Figure 7, P3 stated that conversing in English during online social interactions with other game players helped him to understand the game's storyline, which aided his post-test scores. These results are in line with Laufer and Hulstijn's (2001) study, as cited in Karimi and Nasouri (2024), where IVL can take place when the vocabulary being learned is not the main focus of the task. Instead, learners are primarily engaged in enjoying the activity or trying to comprehend a particular message, and during this process, they may unconsciously pick up new vocabulary (Laufer & Hulstijn, 2001). In relation to this, the findings from the current study seem to indicate that as participants engaged in collaborative discussions during the gameplay sessions of Lost Ark, the immersive digital environment provided by the MMORPG might have enticed them to incidentally learn new English vocabulary.

Researcher: Do you think playing Lost Ark helps you to communicate verbally better with other players in English? For example, some people might feel awkward or stutter when they first start playing the game. As you are progressing in the game, do you feel a bit more comfortable to converse in English with other people?

*P7: I think, yeah, it has, but not that much. I am generally an introvert, and I don't speak much when I play MMORPGs with other people. But for Lost Ark, it kind of did it for me. **Being able to text other players makes me feel a bit more prepared, before I could verbally talk to them.** And of course, when we talk about Lost Ark, **the main storyline is a conversation starter, so it was easier to relate and join in the conversations with my friends.***

Researcher: I see, that's good. Do you think conversing in English with other players in Lost Ark has helped to improve your English performance?

*P7: Honestly, I am not so fluent in English to begin with. But **because I was surrounded with English language everywhere in Lost Ark, like the NPC dialogues, the cutscenes, the main storyline, it influenced me to speak English with my friends.** It kind of makes*

me feel more comfortable to speak in English, and I guess meeting other online gamers in the same guild who also speak English is good for me. Because I can improve my speaking and language abilities better by practising with them when I feel comfortable enough to speak.

Figure 8: Transcription Excerpt Taken from the Online Semi-Structured Interview with P7

Similarly, the transcription excerpt taken from the online semi-structured interview session with P7 also revealed how the digital game environment of Lost Ark led the participant to engage in conversations with other peers in the English language. As previously mentioned, the game elements in the digital game environment of Lost Ark are presented in the English language. Therefore, it is suggested that the participant found it easier to shift to the target language when conversing with their peers. In addition, P7's response indicates that the main storyline acted as a conversation starter, facilitating their ability to relate and join in conversations with other online game players. The interactions with other online game players of varied English language proficiencies might have indirectly helped P7 to improve his English-speaking skills. This suggests that by involving themselves in online collaborative discussions with other online game players, particularly native speakers of English, participants would likely be exposed to new English vocabulary and learn how to use it in real-life conversations with their peers. In a study by Azman and Dollsaid (2018), the real-time interactions between online game players in MMORPGs facilitated communicative competence through meaning-making exchanges between players and NPCs. In addition, the game elements such as the guild system that functions as a community in MMORPG, where online game players are able to form relationships and subsequently collaborate to perform group-based activities. The guild system is seen to support players in teaching and learning from each other by seeking and providing aid in vocabulary comprehension (Azman & Dollsaid, 2018). Their findings reinforce the analysis of the current study, in which the participants in this study indicated that the game elements (i.e. MSQs, NPCs, game's storyline, guild system) that are presented in the immersive digital game environment in Lost Ark motivated them to engage in collaborative discussions and social interactions with peers and other online game players using the English language.

Based on the transcribed excerpts, the participants implied that the digital game environment in MMORPGs provided game features that are presented in English, which notably helped players to communicate in English and enhanced their English proficiency. In addition, MMORPGs offer an immersive digital game environment, where language learners rely on the English language to explore the game world, communicate with peers, and achieve in-game objectives (i.e. completing MSQs, understanding the narrative-driven game's storyline). This environment replicates real-life communication instances that foster learners' practical and contextualised use of the English language. As stated by Kongmee et al. (2011), MMORPGs offer community-driven digital game environments that enhance learners' confidence to engage in social interactions and improve their ability to effectively communicate using English in both virtual and real-life

situations. In addition, the analysis of findings also suggests that learners were exposed to interactions with native speakers within the digital game environment. This exposure enabled players to immerse themselves in practising the target language spoken by native speakers, including vocabulary usage, slang, and cultural references. As a result, the digital game environments in MMORPGs can facilitate active communication with native speakers, making it easier for learners to practise and improve their English skills during gameplay sessions, as opposed to the traditional classroom settings (Kongmee et al., 2011).

Furthermore, the game elements in digital game environments of MMORPGs (i.e. completing MSQs, interacting with NPCs, experiencing in-game cutscenes) often require learners to engage in task-based learning, which is vital for language acquisition. Learners must communicate effectively in the target language to complete MSQs or collaborate on quests during gameplay sessions. These interactions promote language acquisition for the learners, offering them opportunities to practise English in authentic contexts during gameplay. It is observed that these interactions experienced by learners in the virtual environment of digital games resemble natural language learning processes, in which they provide ample opportunities for learners to acquire and improve their language skills (Gee, 2007, as cited in Horowitz, 2019). Consequently, it can be assumed that the immersive digital game environment in *Lost Ark* includes game elements that are presented in English, which encouraged participants of the current study to use English verbally and textually during collaborative discussions and social interactions with peers. The digital game environment is seen as a platform that facilitates task-based learning and interaction, exposing participants to the language produced by native speakers and motivating them to engage in interactions using the English language. As a result, participants were able to practise and improve their English language skills through interactions with native speakers and when completing task-based activities during gameplay sessions of *Lost Ark*. Thus, the immersive digital game environment in MMORPGs contributes to participants' improved English language performance, as shown in the increase in their post-test scores.

5. Conclusion

The findings from the observation and interview data revealed three game features that influenced ESL learners' engagement in collaborative discussions during gameplay sessions and how these features impacted their English language learning. The findings also revealed how collaborative discussions can promote IVL, whereby learners collaboratively attempted to negotiate meanings via contextual discussions while completing the MSQs in MMORPGs. Studies in relation to IVL should encompass more informal learning settings such as in (a) digital gaming, (b) social media interactions, and (c) communications in the new realm (i.e. metaverse). In line with that, several practical implications were identified. First, the findings of this study revealed the potential of incorporating game features into language learning pedagogy in order to enhance students' English vocabulary skills. For instance, educators can use the in-game cutscenes in MMORPGs to stimulate student collaboration. Such game features often contain relatively complex sentences that include vocabulary that may scaffold

students' English lexical knowledge. Simultaneously, it can serve as a catalyst to motivate students to subconsciously engage in collaborative discussions with their peers, prompting IVL while still maintaining their attention towards the game's narratives and mechanics. This resonates with a study by Luarn et al. (2023), where they emphasised the importance of incorporating gamification elements (i.e. perceived collaboration, favourable feedback, self-expression) into teaching pedagogies to strengthen students' intrinsic learning motivation.

Second, the findings also elucidated how the narrative-driven game's storyline could enhance students' comprehension of the usage of relevant English vocabulary, as they become invested in the narrative and the outcomes of their in-game decisions. In addition, in her study, Roy (2024) explained that digital storytelling could be an alternative for educators who face issues motivating their students during teaching and learning sessions, as this approach could stimulate motivation and engagement among them. Referring to Roy's (2024) findings on the benefits of incorporating digital storytelling into teaching and learning instruction, the narrative-driven game's storyline also enhances students' engagement during gameplay, prompting them to negotiate the meanings of new English vocabulary encountered when understanding the game's storyline. Therefore, educators should implement this game feature into their language instruction, as motivated students will learn new English vocabulary incidentally as the game's storyline progresses, which could help them to build connections between words and concepts. Students would gain a deeper understanding of word usage as the storyline would provide a framework on how words are used in specific situations (i.e. conversations, conflicts, problem-solving scenarios). Indirectly, the findings also highlighted the relevance of instructors' digital competency, contributing to the various facets of teachers' digital skills (Karimi & Khawaja, 2025; Robles, 2024). Simultaneously, it also contributes to the field of education technology, teacher training, and education policies.

Third, in terms of IVL, the study highlighted how the digital game environments' interactive and immersive natures could expose students to new vocabulary related to actions and objects within a game context. Language instructors can potentially use this game feature to entice students to learn how to use this new vocabulary in a simulated real-world context. This would allow students to incidentally learn and experiment with the new English vocabulary in a more meaningful context, making it easier for them to associate words with their meaning and uses and paving the way towards actual usage in real-life contexts. Educators can create a structured yet flexible framework that focuses on IVL through contextual exposure and collaborative engagement by incorporating these game features into the language learning instruction. This ensures that students acquire new English vocabulary naturally and develop the necessary skills to use it effectively in real-world contexts.

The following limitations constrained the study. First, the study only focused on one online game genre, despite many other genres. Therefore, the findings from this study cannot be generalised to other online game genres such as first-person shooter, multiplayer online battle arena, and real-time strategy. This is because

each genre presents its own set of mechanics and interactions that could impact ESL learners' interactions and behaviours. Therefore, future research should explore how collaborative discussions in different genres of online games can aid language learning, as they could be specifically tailored to target specific language skills. Moreover, the findings of this study were constrained by the online game players selected for the study. As players with different cultural and linguistic backgrounds may interact differently, future studies may want to take into consideration the attributes of online game players, such as (a) the proficiency level, (b) background knowledge, and (c) age group. In addition, owing to the relatively small sample size, future research may want to consider expanding the number of online game players to attain a more thorough understanding and in-depth insight related to the role of game features in MMORPGs and their impact on English vocabulary acquisition.

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