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Original Research

The Impact of Massively Multiplayer Online Role-Playing Games on Language Development and Motivation: Perceptions from EFL Learners and Teachers

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Abstract

The digital age has ushered in innovative avenues for language learning. In this line, the present study explores the motivational factors influencing EFL learners' engagement with Massively Multiplayer Online Role-Playing Games (MMORPGs). Drawing on Self-Determination Theory (SDT), the research investigates how social interaction, exploration, and escapism within MMORPGs contribute to motivation for EFL learning. The study involved 200 international World of Warcraft players, termed as frequent gamers, and five language teachers with two to three years of teaching and MMORPG experience. Quantitative data on player preferences was collected through a questionnaire and analyzed using Partial Least Squares Structural Equation Modeling. Moreover, qualitative data was gathered through semi-structured interviews. The findings pointed to participants' sense of competency in group leadership, their feeling of power and satisfaction derived from in-game achievements, and increased personal and social understanding. The research suggests that MMORPGs, when utilized effectively, can be a valuable supplementary tool for EFL learning, fostering real-life social interaction and increasing learner engagement. These findings offer valuable insights for educators, curriculum developers, and game designers seeking to leverage MMORPGs for language learning.

Keywords: EFL learners, Language development and motivation, MMORPGs, Self-determination theory, Social interaction, World of Warcraft.

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1. Introduction

Digital technology and high-speed internet have transformed language learning, creating opportunities for interactive and immersive experiences beyond traditional classrooms (Dehghani & Mashhadi, 2024; Traxler et al., 2023; Momenanzadeh et al., 2023). The advent and proliferation of digital technologies have fundamentally altered the language education landscape by providing immense resources and innovative methods to facilitate language acquisition (Díez-Arcón & Martín-Monje, 2023; Mashhadi et al., 2023a; Vahdat et al., 2023). Digital gaming, especially Massively Multiplayer Online Role-Playing Games (MMORPGs), is now a major part of modern life, particularly for the younger generation, thanks to advancements in internet and computer technology (Bawa & Brockport, 2021; Khazaie et al., 2018; Miftahuddin & Malihah, 2022; Ng et al. 2022). MMORPGs, with their dynamic virtual environments and emphasis on social interaction, hold promise for fostering language development (Peterson, 2010; Yee, 2006). They provide immersive experiences, fostering emotional connections, relationships, and leadership skills (Yee, 2006). Motivations for playing these games vary, which is crucial in language learning where motivation significantly impacts outcomes (Deci & Ryan, 2000; Dincer et al., 2019).

While these games offer a context-rich environment for practicing language skills, challenges like engagement, adaptability, and curriculum integration require careful consideration (Mashhadi & Khazaie, 2018; Peterson, 2010; Sylvén & Sundqvist, 2012). This study aims to address these issues by investigating the motivational factors influencing English as a Foreign Language (EFL) learners' engagement with MMORPGs. Self-Determination Theory (SDT), which provides the theoretical framework for this study, posits that intrinsic motivation, fueled by feelings of autonomy, competence, and relatedness, fosters effective learning (Ryan & Deci, 2000). MMORPGs, with their emphasis on player agency, goal achievement, and social interaction, have the potential to satisfy these psychological needs and enhance intrinsic motivation for language learning (Dincer et al., 2019). Nonetheless, research on the relationship between SDT components, MMORPGs, and EFL learning remains scarce. This study seeks to bridge this gap by investigating learners' motivational processes involved in playing MMORPGs and teachers' perceptions on the efficacy of MMORPGs in promoting language development and motivation among EFL learners.

2. Review of the Literature and Theoretical Background

2.1 MMORPGs and Language Learning

The field of language learning has seen the introduction of multimedia content, multivarous language-learning applications, and virtual environments, all offering benefits such as accessibility, customization, and contextual language practice (Andujar & Spratt, 2023; Bocanegra-Valle, 2023; Díez-Arcón & Martín-Monje, 2023; Hayati et al., 2013; Kukulska-Hulme, 2013; Mashhadi et al., 2023b). In a similar strand, computer-assisted language learning (CALL) has enhanced learning through interactive and personalized experiences by incorporating Artificial Intelligence (AI), chatbots, and virtual reality (VR) for immediate feedback and immersive practice (Chen et al., 2022; Grgurović et al., 2013; Godwin-Jones, 2016; Khazaie et al., 2020; Monjezi & Mashhadi, 2021; Zaghlool & Khasawneh, 2023). Several studies have particularly investigated the influence of video games on language development among ESL and EFL learners, reporting positive impacts on learners' language development, especially in areas of vocabulary and grammar (Bondareva & Potemkina, 2021; Camacho Vásquez, & Ovalle, 2019; Janebi Enayat & Haghighatpasand, 2019; Kayan & Aydin, 2020; Mashhadi & Khazaie, 2018; Winaldo & Oktaviani, 2022).

Similarly, there is an increasing interest in utilizing video games, particularly MMOGs and MMORPGs, for language learning (Jabbari & Eslami, 2019; Vosburg, 2017) from the sociocultural theory of learning, which posits that learning occurs through engagement in cultural and social activities (Lantolf & Thorne, 2006). MMORPGs create engaging, immersive language learning environments (Peterson, 2010), and facilitate language learning since the learners are intrigued and engaged (Rama et al., 2012). These games provide authentic, real-time interactions in the target language, promoting negotiation, collaboration, and competition, thus offering ample opportunities for language input and practice (Thorne et al., 2009).

As an exemplary MMORPG, World of Warcraft (WoW) has captivated millions of players with its immersive world, customizable avatars, and diverse realms, enhancing player engagement and fostering a deep sense of connection (Susaeta et al., 2010). It encourages critical thinking, collaboration, and problem-solving through quests and challenges while offering vast exploration opportunities and fostering community and belonging (Susaeta et al., 2010; Nardi, 2010). However, challenges include high game costs, the steep learning curve of MMORPG mechanics, and the risk of inappropriate content and

cyberbullying (Zheng et al., 2012). Moreover, the effectiveness of MMORPGs depends on game design, learner attitudes, gaming proficiency, and language learning strategies (Reinders & Wattana, 2015).

2.2 SDT and Language Development

According to Deci and Ryan (1985, 2000), SDT is a macro theory of human motivation and personality concerned with the extent to which human behavior is self-determined. SDT posits that the character of human functioning and psychological health is determined by satisfying three inherent psychological needs: autonomy, competence, and relatedness. Autonomy refers to the urge to initiate one's actions and to act with a sense of volition. Competence is the need to feel effective in one's interactions with the environment, and relatedness is the need to feel connected to others, to love and care for them, and to be loved and cared for (Deci & Ryan, 2000). Satisfying these three psychological requirements, according to SDT, fosters the most volitional and high-quality forms of motivation and engagement for activities, such as enhanced performance, persistence, and creativity. As a theoretical framework, SDT offers valuable insights into how MMORPGs can support language learning by addressing learners' intrinsic motivation through autonomy, competence, and relatedness.

MMORPGs enhance autonomy by allowing players to control their gameplay, such as choosing characters, roles, and quests, which increases intrinsic motivation (Reinders & Wattana, 2015). These games provide self-paced, self-directed exploration in complex narratives and open worlds, supporting autonomy through authentic, meaningful language use (Peterson, 2010). Social interactions in MMORPGs also promote autonomy by enabling players to initiate and manage communication in the target language, fostering personal agency (Rama et al., 2012). However, the level of autonomy varies based on individual learner differences (Reinders & Wattana, 2015). The immersive nature of MMORPGs significantly boosts language learners' motivation, promoting independent learning behaviors (Voulgari et al., 2014).

As pertains to competence, MMORPGs expose players to diverse vocabulary and grammar in context and facilitate vocabulary retention and grammar internalization (Sylvén & Sundqvist, 2012; Rankin et al., 2006). Active communication with other players fosters productive language skills and pragmatic competence as learners adapt language to various

social contexts (Zheng et al., 2015; Thorne, 2008). Accomplishing game objectives provides a strong sense of achievement, motivating learners to continue improving their language skills (Voulgari et al., 2014). Social recognition within the MMORPG community further reinforces learners' sense of accomplishment and encourages continued language learning (Zheng et al., 2015).

MMORPGs create dynamic social environments with high levels of player interaction, providing authentic contexts for language use (Peterson, 2012). Structured and unstructured social interactions within these games foster a sense of belonging and relatedness, significantly boosting language learning motivation (Zheng et al., 2015). Collaborative gameplay and positive interactions contribute to a supportive community, encouraging learners to actively use the target language and learn from their experiences (Voulgari et al., 2014). Peer learning and immediate feedback within MMORPGs create a community-driven environment that enhances language development. Intercultural communication in these games broadens learners' perspectives and promotes relatedness (Thorne, 2008). The social nature of MMORPGs also makes the language- learning process more engaging, meaningful, and effective (Voulgari et al., 2014).

2.3 Curricular Challenges and Ethical Concerns of MMORPGs for Language Learning

Although researchers have recognized the pedagogical value of MMORPGs for cultivating skills like problem-solving, leadership, communication, and critical thinking (Alsaleh, 2022; Strachan et al., 2016; Yaşar, 2018; Zhonggen, 2014), and even though these games promote 21st-century competencies and active learning, making them suitable for educational curriculums (Rama et al., 2012), there are challenges as to aligning game content with curricular objectives (Godwin-Jones, 2014; Hickey et al., 2009), and managing classroom behavior during gameplay (Robertson & Howells, 2008). Another drawback is the significant time commitment required for progress in MMORPGs (Whang & Chang, 2004).

Moreover, using MMORPGs outside the classroom may exacerbate the digital divide due to unequal access to technology (van Dijk & Hacker, 2003). Evaluating their educational value can also be challenging without formal assessment frameworks (Halverson, 2005). In both curricular and extracurricular situations, educators play a crucial role; they should assume roles as facilitators or moderators rather than traditional authority figures for MMORPG learning to be effective. This idea is consistent with the notion of teachers as

'learning designers' who construct and supervise learning experiences using MMORPGs, allowing students the freedom to investigate, experiment, and self-discover knowledge (Arnseth, 2006). Due to the complex and often unpredictable nature of MMORPGs, educators may also find it challenging to transition into these new roles (De Grove et al., 2012). Comprehensive teacher training and professional development are necessary to familiarize educators with MMORPGs, understand their pedagogical potential, and mitigate any associated risks. Incorporating MMORPGs into education raises ethical concerns as well. These include student safety and privacy, age-appropriate content, and threats like cyberbullying and addiction (Grüsser et al., 2007). These ethical considerations must be adequately addressed regardless of how MMORPGs are used in order to provide a safe and supportive environment for students.

While previous studies have examined the role of MMORPGs in language development and the impact of SDT on motivation, there remains an underexplored area in these studies which is the nuanced interaction between these two domains. This study will provide a more in-depth analysis of how the components of SDT—autonomy, competence, and relatedness—can be specifically mapped onto the dynamics of language development within MMORPG environments. Additionally, a significant gap appears to exist in the context of the application of MMORPGs within the educational curriculum and as extracurricular activities. The literature acknowledges the pedagogical potential of MMORPGs and the possible integration into the curriculum. Still, there is less exploration of the effective strategies to align MMORPG content with specific curriculum objectives. Therefore, the current study seeks to answer the following two research questions:

1. How do SDT components aid in defining the motivational processes (i.e., autonomy, competence, and relatedness) involved in playing MMORPGs for EFL learners?

2. How do language teachers perceive the efficacy of MMORPGs in promoting language development and motivation?

3. Methodology

Drawing on the theoretical framework of SDT, this study investigates how game-based language learning can satisfy the psychological needs of autonomy, competence, and relatedness, thereby enhancing intrinsic motivation and promoting language development.

The study further aims to shed light on the perceptions of language learners and teachers regarding the use of MMORPGs for language development and motivation.

3.1 Design and Context of the Study

This mixed-method study integrates quantitative data from a questionnaire, which measures behaviors and traits, with qualitative data from semi-structured interviews, which provides in-depth insights into personal experiences and contexts. This combination allows for a more thorough understanding of MMORPGs' role in language development and motivation. The context of the study is framed by the need to explore how MMORPGs influence language acquisition and learner motivation, particularly within the dynamic and interactive environment of WoW. By including a diverse participant cohort—comprising 200 frequent international WoW players and five experienced language teachers—the study captures a wide range of perspectives and experiences. The methodology was meticulously designed to not only assess the prevalence of specific behaviors and traits among gamers but also to gain a deeper understanding of their interactions and motivations within the game. This approach ensures that the findings are both comprehensive and contextually rich, highlighting the multifaceted impact of MMORPGs on language learning and motivation.

3.2 Participants

Two distinct participant groups provided written informed consent and took part in this study voluntarily. The first group consisted of 200 international WoW players, aged 18 and above, who spent at least five hours per week playing WoW. The second group included five language teachers with a minimum of two to three years of teaching experience and at least six months of MMORPG experience. The participants were assured that all data collected would be kept confidential, used solely for research purposes, and not shared with third parties. The demographic characteristics of the participants were examined in terms of gender, age, and nationality. Table 1 provides an overview of the age distribution, encompassing respondents aged between 18.0 and 50.0 years, with the largest proportion (49.7%) falling into the 25-34 years age bracket. It also illustrates the gender distribution, indicating that 89.0% of respondents were male.

Furthermore, the data revealed a diverse array of respondents' nationalities, with the most frequent being Danish (7.0%), French (6.0%), and Russian (5.5%). Other significant

nationalities included Swedish, Iranian, Saudi Arabian, Irish, Swiss, and Dutch, ranging from 3.5% to 4.5% each. A number of countries contributed between 2.0% and 3.0%, such as Hungarian, Finnish, German, and Turkish, while Belgian, Portuguese, and Spanish each account for 2.0%. Less represented nationalities, each comprising only 1.0% or less of the sample, included Moroccan, Ukrainian, and Icelandic. This distribution highlights a broad international presence with varying levels of representation from different regions.

Table 1.
Descriptive Statistics of the Demographics of the Participants

Age Group	**Frequency**	**Percent**	**Valid Percent**
18-24 years	62	31.2	31.2
25-34 years	99	49.7	49.7
35-44 years	36	18.1	18.1
45-50 years	2	1.0	1.0
Gender	**Frequency**	**Percent**	**Valid Percent**
Male	178	89.0	89.0
Female	21	10.5	10.5
Other	1	0.5	0.5

3.3 Instruments

Two primary instruments were used for data collection: a questionnaire and semi-structured interviews. Adapted from Yee's (2006) 'Motivations for Play in Online Games Scale,' the questionnaire included 39 items across ten categories to measure players' motivations and align with the self-determination theory's core needs (see Appendix). Moreover, the semi-structured interviews provided qualitative data, offering deeper insights into language teachers' perceptions and experiences regarding MMORPGs' potential in language learning and motivation. The validity of the questionnaire was assessed using convergent and discriminant validity tests, including the Average Variance Extracted (AVE) and Fornell-Larcker criteria. Reliability was evaluated through factor loading, Cronbach's alpha, and composite reliability, ensuring that the questionnaire accurately measured the intended constructs.

3.4 Data Collection Procedure

The data collection for this study was conducted in two distinct phases to gather comprehensive insights into the use of MMORPGs, specifically WoW, in language learning. The first phase involved a quantitative approach using an online questionnaire distributed to WoW players. The survey was initially sent to players within the researcher’s personal

network and then expanded to the broader WoW community through Discord channels and WoW forums. To ensure compliance with community guidelines, permission was obtained from channel owners before posting the survey link. An incentive of one million in-game gold was offered to encourage participation, with the data collection phase lasting approximately 14 days.

The second phase focused on qualitative data through semi-structured interviews with language teachers experienced in MMORPGs. Recruitment for these interviews was conducted via Discord channels and Blizzard forums over a 20-day period. The interviews aimed to explore the educators' perceptions of MMORPGs in promoting language development and motivation, as well as to identify the specific features of these games that could enhance language learning. The insights gained from these interviews provided a deeper understanding of the potential benefits and drawbacks of using MMORPGs in educational settings, contributing to a nuanced examination of their role in language education.

3.5 Data Analysis Procedure

Quantitative data from the questionnaire were analyzed using descriptive statistics and Confirmatory Factor Analysis (CFA) to validate the factor structure. Qualitative data from interviews were analyzed using thematic analysis to identify common themes and unique insights. CFA, part of the structural equation modeling framework, was used to validate the theoretical constructs derived from the questionnaire. This process involved model specification, identification, parameter estimation, model testing, modification, and interpretation. Thematic analysis, based on Braun and Clarke's (2006) method, was used to identify patterns within the qualitative data. This process involved familiarization, coding, theme development, theme review, theme definition, and reporting. This approach provided nuanced insights into language teachers' perspectives, complementing the quantitative findings. By combining these methods, the study achieved a detailed understanding of how MMORPGs like WoW can influence language learning and motivation.

4. Results

4.1 Player Motivations, Interactions and Engagement in the Gaming Environment

The analysis delved into various domains of the gaming experience—Achievement, Social, and Immersion—each further segmented into specific sub-themes that illuminate player motivations, interactions, and engagements within the virtual gaming world.

Achievement focuses on players' ambitions for mastery and dominance within the game. This factor includes constant progression through the acquisition of top gear and meticulous experience optimization. Enthusiasts are drawn to the intricate game mechanics, often conducting detailed research before developing their characters. Additionally, the thrill of competition plays a significant role, encompassing strategic gameplay and, at times, manipulative tactics aimed at dominating others.

Social captures the fabric of interactions and relationships woven into the game. It explores meaningful conversations, friendships forged, and emotional support exchanged within the virtual environment. The dynamics between group and solo play reflect players' virtual personas and real-world alignments, while teamwork emphasizes leadership roles and collaborative dynamics within group settings.

Immersion reflects players' aspirations for a vivid and engaging gaming experience. It highlights the joy of discovery as players explore and map uncharted territories. Role-playing involves experimenting with diverse character roles and contributing to evolving narratives. Customization is central to tailoring the gaming experience to personal preferences, while escapism offers a refuge from real-life stressors, allowing players to fully immerse themselves in a fantasy realm.

The subsequent statistical analysis (see Table 2) sheds light on respondents' levels of agreement with each factor and sub-factor.

Table 2.
Descriptive Statistics Regarding Each Component of the Scale

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Advancement	200	8.00	18.00	13.03	2.73064	.046	.172	-1.153	.342
Mechanics	200	2.00	7.00	3.93	1.48384	.169	.172	-1.225	.342
Competition	200	10.00	28.00	22.08	4.04470	-.866	.172	.877	.342
Socializing	200	5.00	19.00	9.79	3.44417	.761	.172	-.333	.342
Relationship	200	4.00	14.00	8.96	2.18915	.049	.172	-.678	.342
Teamwork	200	8.00	15.00	10.98	1.61637	.300	.172	-.771	.342
Discovery	200	3.00	10.00	5.79	1.47879	.763	.172	.949	.342
Role-Playing	200	5.00	20.00	13.73	2.86499	.380	.172	.272	.342
Customization	200	2.00	10.00	7.61	1.58444	-.992	.172	1.596	.342

Escapism	200	4.00	13.00	6.54	2.34004	.962	.172	.284	.342
Achievement	200	21.00	50.00	39.05	6.65801	-.520	.172	.102	.342
Social	200	21.00	40.00	29.73	3.98171	.310	.172	-.200	.342
Immersion	200	19.00	47.00	33.67	5.60250	.659	.172	.404	.342
Valid N	200								

The data regarding various facets of player motivations and interactions within the gaming environment revealed insightful patterns across different dimensions. Players highly value meaningful conversations, friendships, and humor in group chats, with means of 1.915, 1.63, and 1.93 respectively. However, they also show a preference for solo gameplay (Mean=3.005), alongside a need for effective group leadership (Mean=2.75) and a tendency to follow rather than lead (Mean=2.645).

In terms of power and goal setting, players enjoy feeling powerful (Mean=1.62) and dealing damage (Mean=1.43), but are less focused on goal-setting (Mean=1.56). They find game mechanics moderately fascinating (Mean=1.86) and do not perceive the game as overly complicated (Mean=3.515). Exploration and escapism are appreciated, with players valuing exploration (Mean=2.12) and immersion in a fantasy world (Mean=1.495) for stress relief (Mean=1.55), though they do not use games to forget real-life problems (Mean=1.67).

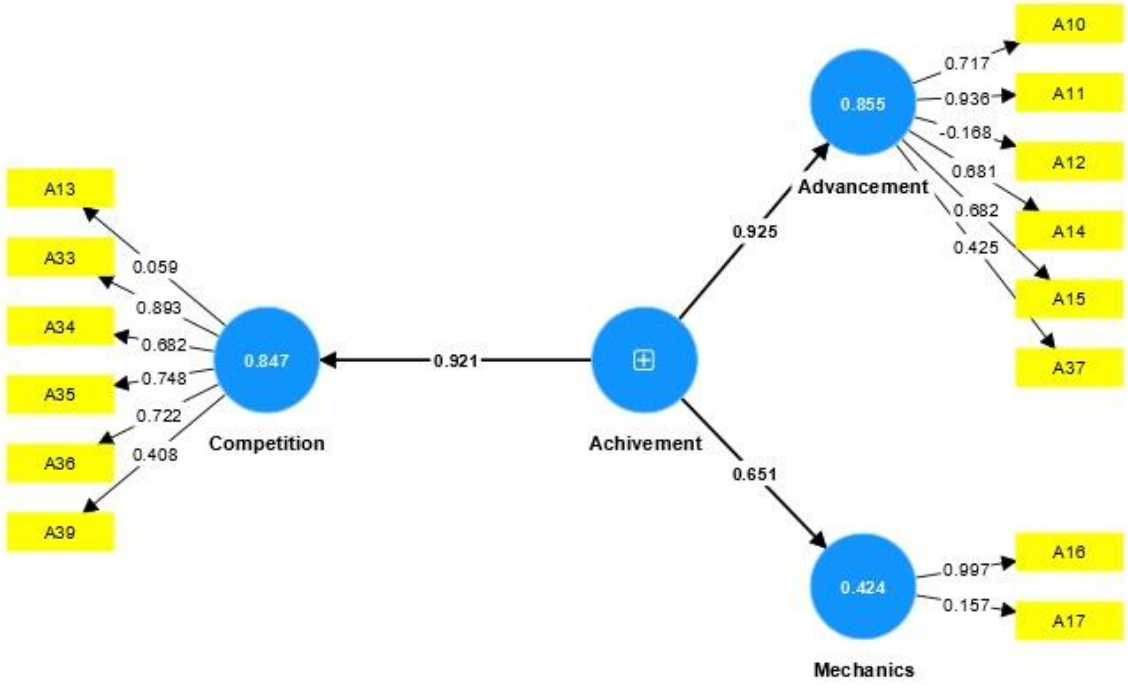
Role-playing and competition show varied responses. Players positively respond to trying new roles (Mean=2.71) and being part of a story (Mean=2.23), with a neutral stance towards extensive role-playing (Mean=3.2). Competitive behaviors such as manipulation (Mean=3.61) and domination (Mean=2.94) are generally disliked, while player-killing elicits mixed reactions (Mean=4.24). Overall, players demonstrate a preference for social interaction, exploration, and escapism in gaming, exhibit competency in leadership but often prefer collaborative roles. They enjoy power dynamics and immersive experiences but are less goal-focused and tend to avoid competitive and manipulative behaviors. These insights are crucial for game developers aiming to enhance player experiences.

4.2 Measurement Model Evaluation

4.2.1 Achievement Factor: The measurement model for Achievement was assessed using CFA. Factor loadings and t-values were examined (see Figure 1). Items such as A10, A11, A14, A15, A16, A33, A34, A35, and A36 showed strong factor loadings (>0.7) and significant t-values ($p < 0.01$), confirming their suitability for measuring the latent construct.

Figure 1.

Testing the Measurement Model of Achievement



Note: A1 to A39 represents the items used in the questionnaire.

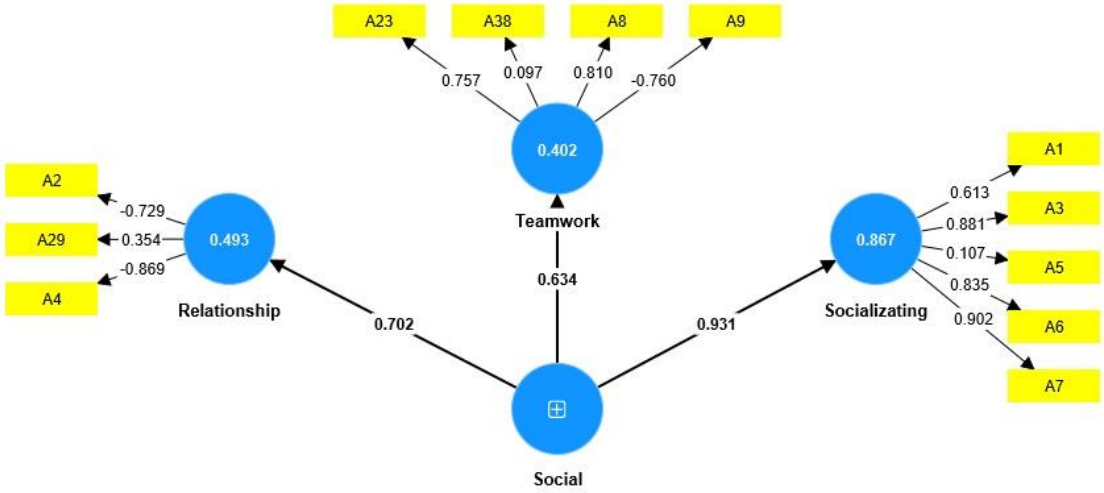
The study's measurement analysis revealed strong reliability across constructs, as indicated by Achievement's composite reliability exceeding 0.70. Convergent validity was robust, supported by Average Variance Extracted (AVE) values above 0.50. Discriminant validity was confirmed through the Fornell-Larcker criterion, showing that the square roots of AVE exceeded inter-construct correlations. The measurement model's quality, assessed by the Cross Validity Composite (CV Com) index, demonstrated positive values, affirming good predictive ability. Additionally, Second Order CFA results substantiated the higher-level construct (Achievement) with favorable factor loadings (>0.65) and significant t-values.

4.2.2 Social Factor Measurement Model

Similar analyses were conducted for the Social factor (see Figure 2). Items like A1, A3, A6, A7, A2, A4, A8, A9, and A23 exhibited strong factor loadings and significant t-values, confirming their precision.

Figure 2.

Testing the Social Measurement Model



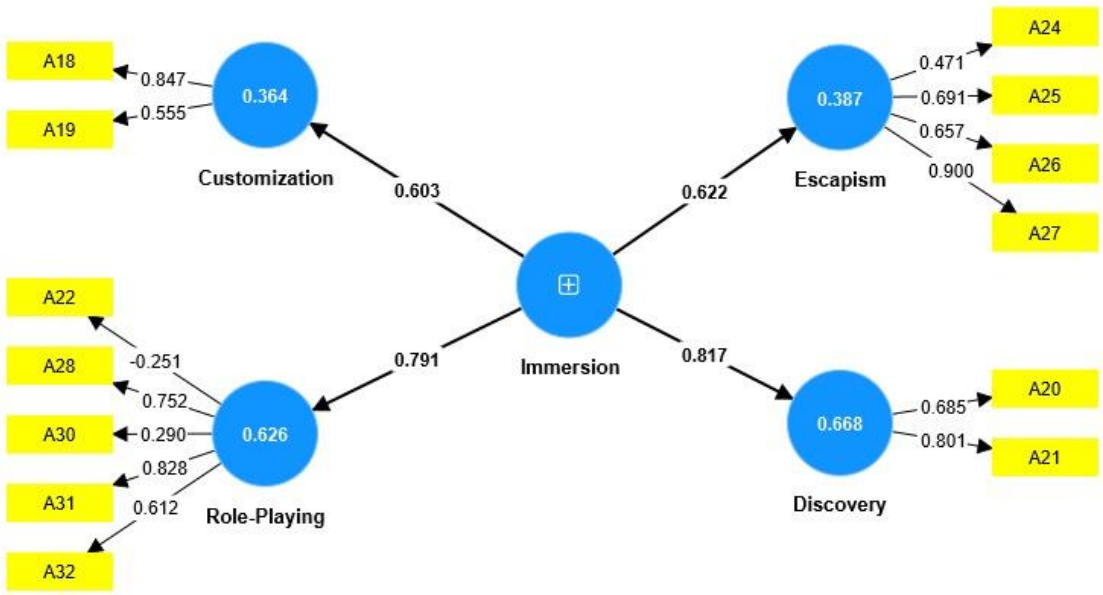
The analysis of measurement properties revealed robust findings across several dimensions. Composite reliability for all sub-factors (Socializing, Relationship, Teamwork) exceeded 0.70, indicating strong reliability. Convergent validity was supported by Average Variance Extracted (AVE) values above 0.50 for all factors, confirming convergent validity. Discriminant validity was established through the Fornell-Larcker criterion, where the square roots of AVE surpassed inter-construct correlations. The measurement model exhibited good predictive quality, as evidenced by positive values in the CV Com index. Additionally, Second Order CFA results substantiated the higher-level construct (Social) with robust factor loadings and significant t-values.

4.2.3 Immersion Factor Measurement Model

Analysis (see Figure 3) showed that most items (except A22, and A30) had strong factor loadings and significant t-values, confirming their accuracy in measuring the latent construct.

Figure 3.

Testing the Immersion Measurement Model



The analysis across multiple dimensions of measurement yielded robust results. Composite reliability for all sub-factors (Discovery, Role-Playing, Customization, Escapism) surpassed 0.70, indicating high reliability. Convergent validity was affirmed by Average Variance Extracted (AVE) values exceeding 0.50 for all factors, confirming convergent validity. Discriminant validity was substantiated through the Fornell-Larcker criterion, where the square roots of AVE exceeded inter-construct correlations. The measurement model demonstrated good predictive ability with positive values in the CV Com index. Second Order CFA results supported the higher-level construct (Immersion) with strong factor loadings and significant t-values. Overall, these findings validate the theoretical framework and underscore the strong reliability, convergent validity, discriminant validity, and overall model quality of the Achievement, Social, and Immersion factors measured in this research.

4.3 Language Teacher Perspectives on the Role of MMORPGs in Language Development and Motivation

The section delves deeply into their perceptions regarding the integration of MMORPGs into language learning contexts. The study, driven by the second research question, "How do language teachers perceive the efficacy of MMORPGs in promoting language development

and motivation?", seeks to provide a nuanced understanding of how these educators perceive MMORPGs as tools for language education.

Five experienced language teachers, each with a minimum of 2-3 years of teaching experience and at least six months of MMORPG gameplay experience, were interviewed. These teachers represent a diverse range of educational backgrounds and geographical locations, offering varied perspectives on the topic. Structured around open-ended questions, the interviews aimed to elicit detailed insights into several key areas: the perceived effectiveness of MMORPGs in enhancing language skills and motivation, the advantages and drawbacks of using MMORPGs in language learning, and the specific game features deemed most beneficial for language development.

The qualitative data gathered through these interviews underwent thematic analysis, identifying recurring themes and patterns across participants' responses. Several prominent themes emerged from this analysis. Teachers observed that MMORPGs have significant potential for immersion and engagement, noting that these games can immerse players in language-rich environments and enhance engagement through gameplay dynamics. Enthusiastic proponents highlighted how the excitement of gameplay might motivate learners to use the target language more actively.

Concerns were also raised about the quality and nature of language exposure in MMORPGs. Some participants, particularly skeptical observers and cautious educators, questioned whether the informal and slang-ridden nature of language in these games provides optimal conditions for learning standard language forms. Discussions also touched upon the potential downside of MMORPGs, such as their addictive nature and the risk of learners prioritizing gameplay over language learning goals, with skeptical observers voicing concerns about balancing gaming enjoyment with educational outcomes.

Another theme was the context for authentic, social interaction, with many participants highlighting MMORPGs' potential to facilitate real-time communication in the target language. Collaborative gameplay necessitates communication among players, offering valuable language practice opportunities. Despite these benefits, educators emphasized the need for structured language instruction alongside game-based learning, viewing MMORPGs as supplementary tools that should complement, rather than replace, traditional teaching methods.

Participants also raised concerns about the potential misuse or misunderstanding of language, noting that the unstructured nature of MMORPG language exposure might lead to the acquisition of non-standard language patterns. Both skeptical observers and cautious educators stressed the importance of guidance to ensure that language learning goals are met effectively. Overall, while the study revealed a spectrum of perspectives on using MMORPGs in language education, there was a general consensus on their ability to engage learners and foster authentic language use, coupled with concerns about their impact on language quality and educational focus. These findings underscore the importance of thoughtful integration and pedagogical support when using MMORPGs in language teaching, emphasizing their role as supplementary tools within a broader educational framework.

5. Discussion

The potential of MMORPGs to facilitate language learning is significantly tied to SDT's three components: competence, autonomy, and relatedness. The findings suggest that players who experience a sense of achievement (competence), enjoy the freedom to explore and make decisions in the game (autonomy), and feel a connection with other players (relatedness) are more likely to engage deeply in the game. This engagement can, in turn, provide rich opportunities for language use and development. In line with the first research question, the participants revealed a rich tapestry of motivations and behaviors centered around competence and achievement, as indicated by the responses to the statements "I like to dominate other characters/players" (A34) and "I can’t stand those people who only care about leveling" (A13). Players derive significant satisfaction from reaching goals, acquiring superior gear, and optimizing their characters' abilities. This aligns with educational theories such as Vygotsky's (1978) Zone of Proximal Development, highlighting the human drive to progress and achieve.

The findings also paint a multifaceted picture of competition. In line with Dörnyei (2001) who focused on the role of varied motivational strategies, the variation found in the current study mirrors the range of learner profiles in educational settings, suggesting that both competitive and non-competitive learning opportunities are essential in MMORPGs to cater to all players so that every player finds their niche. Moreover, some players adopt an analytical approach to understanding game mechanics, paralleling how language learners

might dissect grammatical structures and syntax. Consistent with the concept of task in task-based language teaching (TBLT) (Ellis, 2017), the aforementioned finding suggests that MMORPGs can serve as a model for gamified educational experiences, where the analysis of complex systems in games translates to an effective strategy for language acquisition. Beyond the overt gameplay, a subset of players deeply engages with the game's underlying systems. This analytical mindset can be leveraged in language learning, where dissecting linguistic structures and understanding semantic nuances become analogous to mastering game mechanics.

The concept of competence, an essential pillar of SDT, is highlighted within MMORPGs through the gaming mechanisms that typically involve goal-setting, problem-solving, and the need to master specific skills. Players often strive to enhance their characters' abilities, obtain rare items, or complete challenging quests, all of which cater to their need for competence (Ryan et al., 2006). The rise of MMORPGs and the intricate dance of competence and achievement within them indicate a shift towards more dynamic, interactive, and learner-centric approaches in education, corroborating with the findings of Lăpădat (2023). Understanding and embracing these shifts enable educators to develop teaching methods that resonate with contemporary learners, ensuring their relevance and effectiveness in today's and tomorrow's educational landscape.

In addition to competence, the role of autonomy in MMORPGs should be emphasized. The findings also indicate that many players value the freedom to explore the game world (A20) and engage in role-playing (A28). They also showed interest in understanding themselves better through gameplay (A22). On one hand, these elements correspond to the autonomy component of SDT and could stimulate intrinsic motivation, thereby enriching the language learning process. On the other hand, they are in alignment with self-paced, more flexible, and individualized learning (Reinders & Wattana, 2015). However, the element of escapism (A24, A26, A27, and A25) presents a double-edged sword. While it allows learners to immerse themselves in a fantasy world where they can use the target language, excessive escapism could potentially interfere with real-world responsibilities, including traditional classroom learning. The autonomy provided in MMORPGs is much more than just character movements or in-game decisions. It is about crafting narratives, creating identities, and living out countless lives. As players engage with the game world, as evidenced by their affinity for exploration (A20) and role-playing (A28), they are not just navigating virtual

landscapes; they are navigating linguistic terrains. Each conversation, each quest, and each interaction become an opportunity for spontaneous language practice, a playground where trial and error in language use is not just permitted but encouraged.

The aspect of social interaction, in turn, presents intriguing possibilities for language learning. Players reported having meaningful conversations with others (A1), and some even discussed personal issues (A6). These interactions suggest that MMORPGs provide a social environment where language can be used authentically and meaningfully, all reminiscent of the concept of relatedness in SDT. However, the results also show that not all players enjoy this social aspect, as indicated by the responses to "I find myself soloing a lot" (A4). This inclination highlights the need to consider individual preferences when integrating MMORPGs into language learning, ensuring both social and solo activities are available. MMORPGs serve as platforms where players from different backgrounds, cultures, and languages converge, making them melting pots of linguistic diversity. When players report having meaningful conversations (A1), it is not just idle chat; it is an authentic linguistic exchange happening in real-time. In agreement with Karlik (2023), such interactions offer players the unique opportunity to use language in its most organic form, devoid of the structured confines of a classroom. For learners, this translates to real-world language practice, where they not only learn new words but also the cultural nuances, idioms, and colloquialisms that textbooks often miss.

Our findings align with the extensive body of research demonstrating the positive impact of MMORPGs on language development (Bondareva & Potemkina, 2021; Janebi Enayat & Haghighatpasand, 2019; Peterson, 2012; Sylvén & Sundqvist, 2012; Winaldo & Oktaviani, 2022; Zheng et al., 2015). MMORPGs provide an immersive, context-rich environment that facilitates the development of vocabulary, grammar and syntax, pragmatic competence, and receptive and productive language skills. Furthermore, the social nature of MMORPGs fosters relatedness, one of the key components of SDT. Players often form teams or guilds, work together to achieve common objectives, and engage in casual conversations, all of which cultivate a sense of belonging and connectedness (Zheng et al., 2015).

As regards the second research question, the findings highlight the potential of MMORPGs as effective tools for language learning from the perspectives of both EFL learners and teachers. Quantitative data indicate a positive correlation between MMORPG

usage and improvements in language skills and motivation to learn English. This finding is consistent with the motivational principles of SDT, particularly the elements of intrinsic motivation and autonomy, as described by Ryan and Deci (2000). MMORPGs allow learners to engage with language at their own pace and according to their interests, fostering intrinsic motivation. This intrinsic motivation to improve can be a powerful driver for language development, as supported by Dörnyei and Ushioda (2021).

Qualitative data, on the other hand, provide deeper insights, with teachers emphasizing the ability of MMORPGs to promote authentic communication in the target language, a key aspect of communicative language teaching. This finding also aligns with the SDT concept of relatedness, which involves feeling connected to others. MMORPGs facilitate connections and communication among players, enhancing motivation and meaningful language learning. Teachers also highlighted the crucial role of their involvement in MMORPG-based language learning, which supports the SDT concept of competence, where learners need to feel effective and capable. Teachers can guide and scaffold learners, helping them navigate language use in MMORPGs and achieve a sense of accomplishment.

Despite these potential benefits, the integration of MMORPGs into formal education is not without challenges. A significant obstacle lies in aligning the game's content with curricular objectives (Godwin-Jones, 2014; Hickey et al., 2009; Yaşar, 2018). Classroom administration during MMORPG gameplay may be challenging, and the time commitment required to make significant progress in MMORPGs could put an excessive burden on students (Robertson & Howells, 2008; Whang & Chang, 2004). Furthermore, using MMORPGs as extracurricular activities may exacerbate the digital divide and make it difficult to evaluate their educational value (Halverson, 2005; van Dijk & Hacker, 2003). Considering these challenges and the potential benefits, it appears that the optimal application of MMORPGs in education is not yet fully realized. Other potential challenges, such as exposure to non-standard language patterns and the addictive nature of video games, were noted, emphasizing the need for a balanced approach that supports healthy motivation, as advocated by SDT. Teachers' concerns about the potentially addictive nature of video games and their possible distraction from formal language learning highlight the importance of fostering healthy motivation and balancing autonomy with structure. This balanced approach aligns with the principles of SDT and is crucial for creating an optimal learning environment that supports intrinsic motivation. It is worth noting that teachers' worries about

the potential for games to distract from learning and lead to addiction resonate with the concerns raised by Griffiths (2000) about the potentially addictive nature of video games. This fact underscores the need for a balanced and judicious approach to the integration of MMORPGs in language learning, aligning with the discussion by Cornillie et al. (2012) on the need for pedagogical framing in game-based language learning.

The qualitative findings also underscore the need for combining MMORPG-based learning with traditional language instruction. This multifaceted approach is necessary for addressing the complexities of language learning and aligns with SDT principles, which advocate for supportive conditions that foster intrinsic motivation. Teachers' insights also stress the importance of providing learners with explanations of game-specific jargon and scaffolding their interactions, which enhances their competence and autonomy.

Overall, MMORPGs have the potential to be powerful tools for language learning by fostering intrinsic motivation through autonomy, competence, and relatedness. However, their effective use requires careful integration with traditional instruction and support from teachers to address challenges and maximize benefits. The study's findings affirm the theoretical frameworks of SDT and sociocultural theory, providing a nuanced understanding of MMORPGs' role in language learning.

6. Conclusions and Implications

MMORPGs can function as a potent adjunct to traditional language teaching methods, creating immersive, engaging, and socially interactive environments that can enrich the process of language learning. However, while the potential benefits are considerable, there are several notable challenges associated with the use of MMORPGs in language learning. This condition echoes the concerns raised in the literature review and underscores the importance of a balanced and judicious approach to the integration of MMORPGs into language learning curricula. The findings have some implications for the field of EFL instruction, particularly for educators seeking to incorporate technology and gaming into their pedagogical practices. For educators, the study highlights the potential of MMORPGs as not just recreational activities but as valuable tools for language instruction. The immersive environments, engaging gameplay mechanics, and socially interactive aspects of MMORPGs can offer unique opportunities for language practice. This study also adds to the growing body of literature on MMORPGs and language learning by examining the role of

motivational processes in this context. However, more research is needed to explore the optimal ways to incorporate MMORPGs into language learning, whether in the curriculum or as an extracurricular activity.

While this study offers significant insights into the potential of MMORPGs in language learning, the small number of participants limits the extent to which the results can be generalized. Moreover, the study was conducted over a limited time period, not capturing the potential longitudinal impacts of using MMORPGs for language learning or the possible evolution in participants' experiences or perceptions over an extended period. Additionally, the study primarily relied on self-reported data from participants which may introduce bias, as participants might over- or under-estimate their language improvement or motivation. Future research could use more objective measures of language improvement or incorporate other data sources to triangulate findings and mitigate this limitation.

References

Alsaleh, Z. (2022). *Gaming to learn, learning to game: language learning through massively multiplayer online role-playing games (MMORPGs)* [Doctoral dissertation, University of Southampton].

Andujar, A., & Spratt, M. (2023). Using AI to support CLIL teacher language. *Journal of Research in Applied Linguistics*, *14*(2), 7-19. https://doi.org/10.22055/RALS.2023.45267.3177

Arnseth, H. C. (2006). Learning to play or playing to learn: A critical account of the models of communication informing educational research on computer gameplay. *Game Studies*, *6*(1), 1-11.

Bawa, P., & Brockport, S. U. N. Y. (2021). What do they think and why it matters? Views of administrators and faculty on the use of massively multiplayer online games for learning. *Computers and Education Open*, *2*, 100034. https://doi.org/10.1016/j.caeo.2021.100034

Bocanegra-Valle, A. (2023). Online methodologies and open resources for LSP teacher education and professional development. *Journal of Research in Applied Linguistics, 14*(2), 147-160 https://doi.org/10.22055/RALS.2023.43547.3037

Bondareva, L.V., Potemkina, T.V. (2021). Video games in the development of cognitive skills relevant for language learning: A systematic review. In: Sukhova, N.V., Dubrovskaya, T., Lobina, Y.A. (eds) *Multimodality, digitalization and cognitivity in communication and pedagogy*. Numanities - Arts and Humanities in Progress (pp. 73-86).

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/147clarke8088706qp063oa

Camacho Vásquez, G., & Ovalle, J. C. (2019). The influence of video games on vocabulary acquisition in a group of students from the BA in English teaching. *GIST Education and Learning Research Journal*, *19*, 172-192. https://doi.org/10.26817/16925777.707

Chen, Y. L., Hsu, C. C., Lin, C. Y., & Hsu, H. H. (2022). Robot-assisted language learning: Integrating artificial intelligence and virtual reality into English tour guide practice. *Education Sciences*, *12*(7), 437. https://doi.org/10.3390/educsci12070437

Cornillie, F., Thorne, S. L., & Desmet, P. (2012). ReCALL special issue: Digital games for language learning: challenges and opportunities: Editorial Digital games for language learning: from hype to insight? *ReCALL*, *24*(3), 243-256. doi:10.1017/S0958344012000134

De Grove, F., Bourgonjon, J., & Van Looy, J. (2012). Digital games in the classroom? A contextual approach to teachers' adoption intention of digital games in formal education. *Computers in Human behavior*, *28*(6), 2023-2033. http://dx.doi.org/10.1016/j.chb.2012.05.021

Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior Plenum Press. *New York*.

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Dehghani, H., & Mashhadi, A. (2024). Exploring Iranian English as a foreign language teachers' acceptance of ChatGPT in English language teaching: Extending the technology acceptance model. *Education and Information Technologies*, 1-22. https://doi.org/10.1007/s10639-024-12660-9

Díez-Arcón, P., & Martín-Monje, E. (2023). Language teacher development in computer-mediated collaborative work and digital peer assessment: An innovative proposal. *Journal of Research in Applied Linguistics*, *14*(2), 40-54. https://doi.org/10.22055/RALS.2023.44054.3080

Dincer, A., Yeşilyurt, S., & Noels, K. (2019). Self-determined engagement in language learning: The relations among autonomy-support, psychological needs, and engagement. *Cumhuriyet Uluslararası Eğitim Dergisi*, *8*(4), 1130-1147. http://dx.doi.org/10.30703/cije.586482

Dörnyei, Z. (2001). New themes and approaches in second language motivation research. *Annual Review of Applied Linguistics*, *21*, 43-59. https://doi.org/10.1017/S0267190501000034

Dörnyei, Z., & Ushioda, E. (2021). *Teaching and researching motivation*. Routledge.

Godwin-Jones, R. (2014). Games in language learning: opportunities and challenges. *Language Learning & Technology 18*(2), 9-19 Retrieved from http://llt.msu.edu/issues/june2014/emerging.pdf

Godwin-Jones, R. (2016). Augmented reality and language learning: From annotated vocabulary to place-based mobile games. *Language Learning & Technology*, *20*, 9–19. Retrieved from http://llt.msu.edu/issues/october2016/emerging.pdf

Grgurović, M., Chapelle, C. A., & Shelley, M. C. (2013). A meta-analysis of effectiveness studies on computer technology-supported language learning. *ReCALL*, *25*(2), 165-198. doi:10.1017/S0958344013000013

Griffiths, M. (2000). Does Internet and computer" addiction" exist? Some case study evidence. *CyberPsychology and Behavior*, *3*(2), 211-218. https://doi.org/10.1089/109493100316067

Grüsser, S. M., Thalemann, R., & Griffiths, M. D. (2007). Excessive computer game playing: evidence for addiction and aggression? *Cyberpsychology & behavior*, *10*(2), 290-292. https://doi.org/10.1089/cpb.2006.9956

Halverson, R. (2005). What can K-12 school leaders learn from video games and gaming? *Innovate: journal of online education*, *1*(6), 1-9.

Hayati, A., Jalilifar, A., & Mashhadi, A. (2013). Using short message service (SMS) to teach English idioms to EFL students. *British journal of educational technology*, *44*(1), 66-81. DOI: 10.1111/j.1467-8535.2011.01260.x

Hickey, D. T., Ingram-Goble, A. A., & Jameson, E. M. (2009). Designing assessments and assessing designs in virtual educational environments. *Journal of Science Education and Technology*, *18*, 187-208. DOI 10.1007/s10956-008-9143-1

Jabbari, N., & Eslami, Z. R. (2019). Second language learning in the context of massively multiplayer online games: A scoping review. *ReCALL*, *31*(1), 92-113. https://doi.org/10.1017/s0958344018000058

Janebi Enayat, M., & Haghighatpasand, M. (2019). Exploiting adventure video games for second language vocabulary recall: A mixed-methods study. *Innovation in Language Learning and Teaching*, *13*(1), 61-75. http://dx.doi.org/10.1080/17501229.2017.1359276

Karlik, M. (2023). Exploring The impact of culture on language learning: How understanding cultural context and values can deepen language acquisition. *International Journal of Language, Linguistics, Literature and Culture*, *02*(05), 05–11. https://doi.org/10.59009/ijlllc.2023.0035

Kayan, A., & Aydin, I. S. (2020). The effect of computer-assisted educational games on teaching grammar. *World Journal of Education*, *10*(1), 117-133. doi:10.5430/wje.v10n1p117

Khazaie, S., Mashhadi, A., & Farhadi, A. (2018). An investigation into the impact of grafting m-game onto the blended module of L2 pedagogy. *Teaching and Learning Research*, *14*(2), 39-53. https://doi.org/10.22070/tlr.2020.2511

Khazaie, S., Mashhadi, A., & Torabi, R. (2020). Exploring the viability of robot-assisted differentiated instruction in translation of english for medical purposes and quality of treatment. *Language and Translation Studies (LTS)*, *53*(2), 57-94. https://doi.org/10.22067/lts.v52i4.84415

Kukulska-Hulme, A. (2013). *Re-skilling language learners for a mobile world*. Monterey, CA: The International Research Foundation for English Language Education. Retrieved from http://www.tirfonline.org/english-in-the-workforce/mobile-assisted-language-learning/

Lantolf, J. P., & Thorne, S. L. (2006). *Sociocultural theory and genesis of second language development*. Oxford: Oxford University Press, 2006.

Lăpădat, L. C. (2023). Interlacing Resources, Methodologies, and Challenges: A Triadic Analysis of EFL Pedagogy. *Analele Universităţii din Craiova, Seria Ştiinţe Filologice, Limbi Străine Aplicate*, *1*, 252-265.

Loewen, S., & Sato, M. (Eds.). (2017). *The Routledge Handbook of Instructed Second Language Acquisition*. Routledge.

Mashhadi, A., & Khazaie, S. (2018). Familiar or unfamiliar context?: Application of m-games in the blended module of L2 learning. In *Online course management: concepts, methodologies, tools, and applications* (pp. 482-510). IGI Global. DOI: 10.4018/978-1-4666-8519-2.ch010

Mashhadi, A., Hussein, M. A., & Fahad, A. K. (2023b). Mobile learning for teacher professional development: An empirical assessment of an extended technology acceptance model. *Porta Linguarum Revista Interuniversitaria de Didáctica de las Lenguas Extranjeras*, 349-369. https://doi.org/10.30827/portalin.vi2023c.29658

Mashhadi, A., Kassim Kadhum, A., & Gooniband Shooshtari, Z. (2023a). Exploring technological pedagogical content knowledge among Iraqi high school English teachers: A comparative study during the COVID-19 pandemic. *Iranian Journal of Applied Language Studies*, *15*(1), 141-154. https://doi.org/10.22111/10.22111/IJALS.2023.45855.2356

Miftahuddin, D., & Malihah, N. (2022). Massive Multiplayer Online Role-Playing Games to Enrich Vocabulary to Foreign Language Learners: The Implementation. *Journal of English Teaching and Learning Issues*, *5*(2), 81-94. DOI: 10.21043/jetli.v5i2.17090

Momenanzadeh, M., Mashhadi, A., Gooniband Shooshtari, Z., & Arús-Hita, J. (2023). English as a foreign language preservice teachers' technological pedagogical content knowledge: A quantitative comparative study. *Journal of Research in Applied Linguistics*, *14*(2), 161-172. https://doi.org/10.22055/RALS.2023.44207.3100

Monjezi, M., & Mashhadi, A. (2021). Corrective feedback/talkback in IELTS writing task 2: different feedback/talkback media in focus. *Teaching English Language*, *15*(2), 335-363. https://doi.org/10.22132/TEL.2021.141560

Nardi, B. (2010). *My life as a night elf priest: An anthropological account of World of Warcraft* (p. 245). University of Michigan Press.

Ng, L. L., Azizie, R. S., & Chew, S. Y. (2022). Factors influencing ESL players' use of vocabulary learning strategies in massively multiplayer online role-playing games (MMORPG). *The Asia-Pacific Education Researcher*, *31*(4), 369-381. https://doi.org/10.1007/s40299-021-00578-6

Peterson, M. (2010). Massively multiplayer online role-playing games as arenas for second language learning. *Computer assisted language learning*, *23*(5), 429-439. https://doi.org/10.1080/09588221.2010.520673

Peterson, M. (2012). EFL learner collaborative interaction in Second Life. *ReCALL*, *24*(1), 20-39. doi: I0.10 17/S0958344011000279

Rama, P. S., Black, R. W., Van Es, E., & Warschauer, M. (2012). Affordances for second language learning in World of Warcraft. *ReCALL*, *24*(3), 322-338. https://doi.org/10.1017/S0958344012000171

Rankin, Y. A., Gold, R., & Gooch, B. (2006). 3D role-playing games as language learning tools. *Eurographics (Education Papers)*, *25*(3), 33-38.

Reinders, H., & Wattana, S. (2015). Affect and willingness to communicate in digital game-based learning. *ReCALL*, *27*(1), 38-57. DOI: 10.1017/S0958344014000226

Robertson, J., & Howells, C. (2008). Computer game design: Opportunities for successful learning. *Computers & Education*, *50*(2), 559-578. doi:10.1016/j.compedu.2007.09.020

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American psychologist*, *55*(1), 68-78. https://doi.org/10.1037/0003-066X.55.1.68

Strachan, R., Kongmee, I., & Pickard, A. (2016). Using massively multiplayer role-playing games (MMORPGs) to support second language learning: A case study of the student journey. In *Utilizing virtual and personal learning environments for optimal learning* (pp. 87-109). IGI Global. DOI: 10.4018/978-1-4666-8847-6.ch005

Susaeta, H., Jimenez, F., Nussbaum, M., Gajardo, I., Andreu, J. J., & Villalta, M. (2010). From MMORPG to a classroom multiplayer presential role playing game. *Journal of Educational Technology & Society*, *13*(3), 257-269. Retrieved August 2, 2024 from https://www.learntechlib.org/p/74910/.

Sylvén, L. K., & Sundqvist, P. (2012). Gaming as extramural English L2 learning and L2 proficiency among young learners. *ReCALL*, *24*(3), 302-321. doi:10.1017/S095834401200016X

Thorne, S. L. (2008). Transcultural communication in open Internet environments and massively multiplayer online games. *Mediating discourse online*, *305-327*.

Traxler, J., Barcena, E., Andujar, A., Jalilifar, A., & Mashhadi, A. (2023). Introduction: Teaching languages in times of social and technological change and divide. *Journal of Research in Applied Linguistics*, *14*(2), 3-6. https://doi.org/10.22055/rals.2023.18722

Vahdat, S., Mashhadi, A., & Ghasemi Adivi, I. (2023). Effects of virtual instruction on the speaking accuracy of Iranian high school English learners with varied personality traits during the COVID-19 pandemic. *Journal of English Language Teaching and Learning*, *15*(31), 94-112. Doi: 10.22034/elt.2023. 56011.2529

Van Dijk, J., & Hacker, K. (2003). The digital divide as a complex and dynamic phenomenon. *The information society*, *19*(4), 315-326. DOI: 10.1080/01972240390227895

Vosburg, D. (2017). The effects of group dynamics on language learning and use in an MMOG. *Calico Journal*, *34*(1), 58-74. DOI: 10.1558/cj.29524

Voulgari, I., Komis, V., & Sampson, D. G. (2014). Learning outcomes and processes in massively multiplayer online games: exploring the perceptions of players. *Educational Technology Research and Development*, *62*(2), 245-270. Retrieved August 2, 2024 from https://www.learntechlib.org/p/153795/.

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.

Whang, L. S. M., & Chang, G. (2004). Lifestyles of virtual world residents: Living in the online game" Lineage". *CyberPsychology & behavior*, *7*(5), 592-600. DOI: 10.1089/cpb.2004.7.592

Winaldo, M. D., & Oktaviani, L. (2022). Influence of video games on the acquisition of the English language. *Journal of English Language Teaching and Learning*, *3*(2), 21-26. DOI: https://doi.org/10.33365/jeltl.v3i2.1953

Yaşar, S. (2018). The role of massively multiplayer online role-playing games in extramural second language learning: A literature review. *Journal of Educational Technology and Online Learning*, *1*(3), 1-10. DOI: 10.31681\jetol.436100

Yee, N. (2006). Motivations for play in online games. *CyberPsychology & behavior*, *9*(6), 772-775. https://doi.org/10.1089/cpb.2006.9.772

Zaghlool, Z. D., & Khasawneh, M. A. S. (2023). Incorporating the impacts and limitations of AI-driven feedback, evaluation, and real-time conversation tools in foreign language learning. *Migration Letters*, *20*(7), 1071-1083.

Zheng, D., Bischoff, M., & Gilliland, B. (2015). Vocabulary learning in massively multiplayer online games: Context and action before words. *Educational Technology Research and Development*, *63*, 771-790. DOI 10.1007/s11423-015-9387-4

Zheng, D., Newgarden, K., & Young, M. F. (2012). Multimodal analysis of language learning in World of Warcraft play: Languaging as values-realizing. *ReCALL*, *24*(3), 339-360. DOI: https://doi.org/10.1017/S0958344012000183

Zhonggen, Y. (2019). A meta-analysis of use of serious games in education over a decade. *International Journal of Computer Games Technology*, *2019*, 1-8 https://doi.org/10.1155/2019/4797032

Appendix
The Scale of Motivations for Play in Online Games (Yee, 2006)

Instruction: Please read the following statements and choose the response that best corresponds to your opinions and attitudes using the following response categories:
1 = Strongly Agree, 2 = Agree, 3 = Neutral, 4 = Disagree, 5= Strongly Disagree.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I find myself having meaningful conversations with others.	1	2	3	4	5
2. I usually don't chat much with group members.	1	2	3	4	5
3. I have made some good friends in the game.	1	2	3	4	5
4. I find myself soloing a lot.	1	2	3	4	5
5. I like to say funny things in group/guild chat.	1	2	3	4	5
6. I talk to my friends in the game about personal issues.	1	2	3	4	5
7. Friends in the game have offered me support when I had a RL problem or crisis.	1	2	3	4	5
8. I am an effective group leader.	1	2	3	4	5
9. I would rather follow than lead.	1	2	3	4	5
10. I like to feel powerful in the game.	1	2	3	4	5
11. Doing massive amounts of damage is very satisfying.	1	2	3	4	5
12. I constantly try to set and reach goals.	1	2	3	4	5
13. I can't stand those people who only care about leveling.	1	2	3	4	5
14. It's very important to me to get the best gear available.	1	2	3	4	5
15. I try to optimize my XP gain as much as possible.	1	2	3	4	5
16. I'm fascinated by the game mechanics, and love charts and tables.	1	2	3	4	5
17. I research everything about a class before starting the character.	1	2	3	4	5
18. Class-balancing or realm-balancing issues do not interest me.	1	2	3	4	5
19. This game is too complicated.	1	2	3	4	5
20. I like wandering and exploring the world.	1	2	3	4	5
21. I would make maps if they weren't available.	1	2	3	4	5
22. I have learned things about myself from playing the game.	1	2	3	4	5
23. I understand real-life group dynamics much more after playing the game.	1	2	3	4	5
24. I like the escapism aspect of the game.	1	2	3	4	5
25. I like to be immersed in a fantasy world.	1	2	3	4	5
26. Playing the game lets me vent and relieve stress from the day.	1	2	3	4	5
27. Playing the game lets me forget some of the real- life problems I have.	1	2	3	4	5
28. I like to try out new roles and personalities with my characters.	1	2	3	4	5
29. The way I am in the game is the way I am in real life.	1	2	3	4	5
30. People who role-play extensively bother me.	1	2	3	4	5
31. I like the feeling of being part of a story.	1	2	3	4	5
32. I make up stories and histories for my characters.	1	2	3	4	5
33. I like to manipulate other people so they do what I want them to.	1	2	3	4	5
34. I like to dominate other characters/players.	1	2	3	4	5
35. I like to taunt or annoy other players.	1	2	3	4	5
36. I scam other people out of their money or equipment.	1	2	3	4	5
37. I beg for money or items in the game.	1	2	3	4	5
38. It's important to me to achieve things with as little help from other people as possible.	1	2	3	4	5
39. I am uninterested in player-killing.	1	2	3	4	5