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Research paper

Technological Attribution to Spoken English Language Learning Through Massively Multiplayer Online Role-Play Gaming (MMORPG)

Nadia Balqis Adris[1], Hamidah Yamat[1*]

[1]Faculty of Education, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

Abstract

This paper presents and discusses a part of a study on the use of Massively Multiplayer Online Role-Play Gaming (MMORPG). The aim is to illuminate how the MMORP gaming technology helps learners in developing their spoken English competency. This ethnographic case study involved purposively selected participants - Zamurai and Cynthia. They were virtually observed through participant observation for 12 months as they developed from novices to expert players. Their chat and interview logs were triangulated for validity. Findings revealed an increase of more than 70% of online interaction while online conversations indicate increasing confidence, assertiveness, and deeper, more elaborative thoughts. The participants also felt that the: anonymous nature of online communication provided less threatening environment for social and language experimentation, time gaps in online chats turn-taking presented windows of language processing for comprehension, collaborative nature of the gameplay design provided exposure to spoken language models and feedback, and the semantically-mediated context-based authentic conversation provided a rich environment for language and cultural appropriation. These indicate the technological attributions of MMORPG in developing the skills needed for spoken language competency. It implies the need for a technological based approach in language teaching and learning and the potential of e-global language learning.

Keywords: *Ethnographic, Gaming, MMORPG, Spoken language, Technological attribution*.

1. Introduction

Technological attributions on every aspect of human life have resulted in the co-dependence, co-influence, and co-production between technology and society over the years [1]. The invention of e-commerce has transformed the nature and models of businesses, the education scenes have changed with the arrival of e-learning, and e-governance has helped nations in providing efficient and transparent services to their citizens, to name a few. These improvements in the way of living and working have been the key factors of globalization of the modern world. As the world economy evolves towards knowledge-based economy, mastering the lingua franca – the English language and ICT is seen to be more important than ever [2, 3], which inevitably poses a challenge to the 21st century education.

In relation, the 21st century students are made up of millennials (Generation Y and Z); born and raised in a digital and media-saturated world are the "digital natives" [4]. The 21st century generation behaves, thinks, and learns differently than the generation before them. Hence, they have different educational needs and the 21st century learning and instruction in schools and colleges must follow suit, because they are not the students that the present education system was designed to teach [5]. Learning environment too is changing. E-learning via digital simulation is no longer alien to today's generation. For instance, flight simulators [6] and medical simulators [7] help in providing learning experiences of various conditions and problems, where students would be able to actively make mistakes in a "risk-free" setting, to experiment, explore, and practice the learning contents. Such simulation technology would be valuable for language learning as well. In a few studies, artificial intelligence (AI) language assistants were explored and tested whether they could help in language learning [8, 9, 10, 11]. Even though some studies show promising findings, current AI technology still lacks "humanness" such as confidence, fear or anxiety and other emotions which are important aspects of human communications.

In English as a second language (ESL) learning, anxiety – as a feature of "humanness" – is one of the biggest threats to learning [12, 13, 14, 15]. Therefore, a virtual platform that could provide a friendly and risk-free environment for authentic social interaction (i.e. a "social simulator") as a different means to overcome anxiety and to develop speaking skills would be valuable for language learning, such as the Massively Multiplayer Online Role-Playing Games (MMORPG). A quick review of past literature shows that there is still a lack of studies on how Malaysian students could overcome English language anxiety and perhaps develop speaking skills through participation in a MMORPG.

This paper presents and discusses a part of a study on the use of MMORPG. The objective of this paper is to illuminate how the technology of MMORPG helps learners in developing their spoken English competency. In relation to this objective, three research questions were explored: i) the participants' duration of social interaction, ii) the participants' spoken English language development, and iii) the participants' perceptions of how the technology of MMORPG aids their spoken English development. The data from all sources (which will be discussed in methodology section) were synthesized to answer the research questions. This section is then followed by a brief review of relevant literature to highlight what gaming is – particularly MMORPG – and how the

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technology enhances language learning. Subsequently, the methodology is presented, followed by the findings, discussion, and implications prior to the conclusion of the article.

2. Literature

Massively Multiplayer Online Role-Play Gaming or MMORPG is a game genre whereby the most apparent characteristic is the peculiar sense of "worldliness" built by computer-generated 3-Dimensional detailed audio graphical portrayal of an immersive physical reality, where players are represented by avatar figures and communication between players is aided via a dedicated chatting system [16]. The gameplay in an MMORPG requires the participation of several players working together in a collective effort towards a common goal, which assembles a player community out of necessity and is strengthened through mutual experience. Despite the absence of physical participations, in this virtual world, this gaming space is basically social.

According to [17], players of a MMORPG would experience the phenomenon of escapism (dissociation from real life) versus realism (subject to the reality of real life). Despite being in a world of fantasy where the players could become wizards and knights with magical powers, the social interaction and communication between players is real. For example, the act of buying and selling in the game is real as they are dealing with other humans in the player-driven market. There are four main types of activities done in MMORPG, which are raiding, questing, trading, and dueling [18]. Raiding and questing are the most common activities of all players for their character to advance in individual level. Trading of game items occurs between players, while dueling involves a battle between players or groups of players to test their ability and skills. Through these activities, players would interact to negotiate price of items during trading, to invite each other to a duel, or to propose to get together and discuss fighting strategy. Through these interactions, players would be exposed to various language forms and functions in communication. They build friendships with other players of other reputations and status. [16] further argues that these virtual worlds are perceptually "cultural" with a complex hierarchical structure of the players and emergent sociocultural norms.

As such, numerous research within the field of second language acquisition (SLA) studied how the virtual worlds act as venues for meaningful interactions with other target language speakers (native speakers or other L2 learners) [19, 20, 21, 22]. [23] investigated the linguistic and social interaction of four intermediate EFL learners in a MMORPG *Wonderland* ® for a month and observed that the participants developed sociocultural competence when they learnt to make appropriate use of politeness involving greetings, informal language, small talk, humor, and leave-takings in the target language to successfully engage in collaborative social interaction and establish interpersonal relationships. [22] in a study on a group of American learners of Turkish as a foreign language and another group of Turkish learners of EFL found that both participant groups shared their cultural frames including customs and lifestyles with each other in the Multi-User Virtual Environment (MUVE) Second Life ®. [17] via discourse analysis of his study participants' in-game chats, revealed the important aspects of the MMORPG Lineage ® gameplay activities which are deemed meaningful to the community of players and how the social and communicative activities practices tied them and are tied to them, which inevitably create a culture in terms of shared ways of behaving, communicating, interacting, and valuing.

3. Methodology

As the aim of this study was to explore the attributions of technology; a systematic gathering of full accounts of the participants' experiences would provide the insights. Hence, this study employed an ethnographic case study design and data was collected through participant observations of the participants' virtual interactions.

The study was conducted in the commercial MMORPG Ragnarok Online in the English-speaking private server TalonRO. During the course of this study, the server community had an average of 1300 to 2000 daily active players; majority of them were 19-27 years old. A huge number of the players were – in descending order – Americans, Indonesians, Philippinos, Russians, and Portuguese. A small amount of them were Finnish, Malaysians, Spanish, Italians, Germans, Chinese, Polish, and Thais. The diversity in the players' nationalities indicates that the community formed provided an international ground for socialization. It was from this community that two low proficiency ESL learners, Zamurai, 23-year-old, and Cynthia, 19-year-old (pseudonyms) were identified and had consented to be observed for twelve months while they participated in the MMORPG as they grew from novice players to expert full-performing players.

113,000 words of anecdotal records (chat logs) and running records (field notes) were collected from 219 total hours of 114 gaming sessions. In addition, two online semi-structured interviews were conducted at the beginning of the study (to collect data on their personal backgrounds) and after the 114 gaming sessions (to collect their summary of the whole experience). The data was triangulated as the approach to validity assurance. The chat logs, field notes, and interview logs were analyzed using Grounded Theory [24].

4. Findings and Discussion

4.1 Participants' duration of social interaction in an online session

During the course of 12 months, the total hours of online session duration, the total hours of online social interaction duration, as well as the total words produced in the participants' chat logs were recorded. The data is presented in Table 1 below.

Table 1: Participants' online social interaction duration in MMORPG

Months	Case	Chat logs (words)	Online session duration (hours)	Online social interaction duration (hours)	Percentage of social interaction duration in an online session (%)
1st - 2nd	Cynthia Zamurai	1811 722	7.0 8.7	2.2 0.4	31.40% 4.59%
3rd - 4th	Cynthia Zamurai	18349 5152	24.3 23.3	14.2 7.3	58.44% 31.33%
5th - 6th	Cynthia Zamurai	10628 4238	10.0 18.8	9.2 16.7	92.00% 88.83%
7th - 8th	Cynthia Zamurai	15818 7622	9.1 16.9	9.1 15.3	100.00% 90.53%
9th - 10th	Cynthia Zamurai	14844 4772	33.4 13.8	33.4 13.3	100.00% 96.38%
11th - 12th	Cynthia Zamurai	23093 6058	30.2 30.6	30.2 30.6	100.00% 100.00%

Table 1 shows the participants' total hours of online social interaction duration in comparison to their online session duration in the MMORPG for the whole 12 months of participation. The analysis shows that there is an increase of more than 70% (from 31.4% to 100% for Cynthia and from 4.59% to 100% for Zamurai) in the percentage of social interaction in the online session; this means that they spent an increasing time interacting and socializing with other players gradually over the course of 12 months, which contributed to a bigger amount of chat logs of conversations produced. This indicates the social property of the

MMORPG gameplay, as the participants increasingly socializing and becoming a part of the English-speaking gaming community.

4.2 Participants' spoken English language development

Observations of the participants' pattern of behavior indicate that Cynthia and Zamurai had pursued three phases of participations, namely: entrance, involvement, and engagement. It was observed that they learnt to successfully participate in the activities of the player community by gaining access and overcoming marginalization (1st – 2nd month). The participants had undergone several processes of socialization that helped them to build gaming knowledge, networks of friends, and spoken English ability (3rd – 10th month). Nearing the end of the study (11th – 12th month), the participants' spoken English ability transcended the basic level of survivability in socializing with the player community that they both earned substantial spots in the gamer society. This subsection presents the participants' conversations with the MMORPG community during their early participation and nearing the end of their participation, to show the change in the way they converse using the target language. The analysis of their conversations shows confidence, deeper and more elaborative thoughts, which indicates a development in their spoken English competency.

The conversations 1 and 2 below show the initial way Zamurai and Cynthia spoke during their early participation, when they were still newcomers to the community.

Conversation 1: Cynthia (Day 13 of participation)

1	*Switchy:*	*hi are you doing the hunting board quest? wanna join my party?*
	Switchy:	*speak girl…speak*
2	*Cynthia:*	*yes*
3	*Switchy:*	*are u doing the hunting board quest?*
4	*Cynthia:*	*what that? I'm killing the bear*
5	*Switchy:*	*so u're levelling huh?*
6	*Cynthia:*	*yes*
7	*Switchy:*	*ohhh…okay :D if you do the board quest with me…you'll get levels faster*
8	*Cynthia:*	*oh…how?*
9	*Switchy:*	*let's go to prontera, I'll show you*

Conversation 2: Zamurai (Day 26 of participation)

1	*Zamurai:*	*when i change to sniper i need new equipment?*
2	*Cathy:*	*when you gain zeny (the currency), you can get better equips yes*
3	*Zamurai:*	*i see*
4	*Cathy:*	*okay, here, try to use double strafe on those red things*
	Cathy:	*they give decent zeny*
5	*Zamurai:*	*decent zeny?*
6	*Cathy:*	*yes, their loot is decent zeny when sold to npc*
7	*Zamurai:*	*loot?*
8	*Cathy:*	*the items they drop are called loot*
9	*Zamurai:*	*ohh*
10	*Cathy:*	*k, once you hit 187 flee, it should be harder for them to hit you, you will have a 95% flee chance against them*
11	*Zamurai:*	*ohhh okk*
12	*Cathy:*	*you might die a few times, but the reward is worth it, i think each kill nets you about 1500z, and its decent exp, the monster feeds can be used to heal yourself, not worth selling to npc*
13	*Zamurai:*	*ohhh nice*
14	*Cathy:*	*a good place to level and hunt zeny can be bathory for you*
15	*Zamurai:*	*at where?*
16	*Cathy:*	*oh damn, I gotta go, I'm late to meet a friend…wanna join my guild? i have inviting power*
17	*Zamurai:*	*sure*
18	*Cathy:*	*they organize runs frequently, maybe you can join them and learn…I know it's boring to play alone*

Conversation 1 shows Cynthia's average level of spoken English during the 13th day of participation. The conversation was between Cynthia and a stranger, Switchy, whom she met with while she was levelling alone. Switchy saw her alone and invited her to play with him as the collaboration makes things faster and more efficient. As she was still not familiar with the game, it can be observed that she was clueless about his questions and replied with few sentences, which are rather ungrammatical. Conversation 2 shows Zamurai's average level of spoken English during the 26th day of participation. The conversation was between Zamurai and Cathy, a stranger whom he met while he was levelling alone. They collaborated and struck up a conversation, where Zamurai asked for tips and tricks of playing from Cathy. Similar to Cynthia, Zamurai had the same pattern of spoken English, which consisted of short replies, and usually the content of his utterances was just the subject matter, with minimal or no elaborations.

The conversations below show the way Zamurai and Cynthia spoke nearing the end of their participation when they had become established members of the MMORPG community.

Conversation 3: Cynthia (Day 289 of participation)

1	*Cynthia:*	*hahaha 50 shades of grey portrays love in the most disgusting way ever*
2	*Razz:*	*it's an art ahaha*
3	*Cynthia:*	*and the filthy christian grey is disgusting, idk why girls like him*
	Cynthia:	*opps, sorry, perhaps not girls hahahah*
4	*Razz:*	*then what? gays? ahaha*
5	*Cynthia:*	*perhaps wives hahahahaa*
	Cynthia:	*i saw that in the news most of the women that love the movie are over 40*
6	*Razz:*	*i think it has part 2*
7	*Cynthia:*	*it's a trilogy, my friend owns the novel, i tried reading it, and OMG*
8	*Razz:*	*lol what happened*
9	*Cynthia:*	*I think a grade 5 student can write better than that*
10	*Razz:*	*whutttttttttttt*
11	*Cynthia:*	*seriously no art of writing at all*
12	*Razz:*	*not a good movie also ahaha*
13	*Cynthia:*	*hahah yeah that's why i'm confused why is it so popular*

Conversation 4: Zamurai (Day 273 of participation)

1	*Zamurai:*	*whats up gella*
2	*Gella:*	*doing some mining*
3	*Zamurai:*	*owh…making a def+4 meteor plate?*
4	*Gella:*	*just tryin to get some money to be honest…and I'm having to compete with this stupid wizard who gets all the stones*
	Gella:	*So far I got only 1 red gem 1 yellow and some crappy greens*
5	*Wormy:*	*i never have luck refining them*
6	*Zamurai:*	*really? let me do it then hahah I just got +7 kaho last week from refining*
7	*Wormy:*	*lol i can't even get +5*

8 Gella: i broke my way to +4 lel
9 Zamurai: to be honest, its not really worth it, if you do calculation, buying is cheaper
10 Gella: its only worth if you're bloody rich and can afford to break them lolz
11 Zamurai: because according to chance, in order to get a +7 refinement you need at least 11 of the thing,
and even you did get +7 with 5 try, you can't sell it for 11 of the thing's price
12 Gella: lol i've broken over 20 legion armors, still no +7
13 Zamurai: see I told you

Conversation 3 shows Cynthia's level of spoken English during the 289th day of participation. It was observed that in the conversation, she was discussing the movie *Fifty Shades of Grey* with her friend Razz, which was a huge topic during the time of this conversation. It can be seen how Cynthia was able to project her opinion assertively (Turn 1 and 3) and came up with some form of condescending humor (Turn 3 and 5). Conversation 4 shows Zamurai's level of spoken English during the 273th day of participation. It was observed that in the conversation, he was sharing his experience of doing *refining*, which is a part of the gameplay where players could upgrade their equipment. In the conversation, it can be observed that even though his language was not perfect, he still succeeded in sharing his experience in doing mining with his friends, which provided some insights for them. It can be seen how Zamurai was able to state and elaborate his opinions about the subject matter (Turn 9 and 11) and receive a support from Gella (turn 12).

Comparing conversations 1 and 2 with conversations 3 and 4, it is noteworthy how both Cynthia and Zamurai were more elaborative and confident in their spoken English. The deeper content of the conversation and the assertiveness in their manner of speaking indicate some development in spoken English. This finding supports the findings by [19, 20, 21, 23] that MMORPG is a valuable venue for meaningful interactions with other native speakers of the target language, which brought about linguistic as well as sociocultural competency development.

4.3 Participants' perceptions of how the technology of MMORPG aids their spoken English development

Table 2: Participants' perceptions of how the technology of MMORPG aids their spoken English development

	Responses	Theme	Category
Cynthia	*They don't know the real me…no harm in me just do and say things just for fun…(IntC02)* *People would understand that not all players are native speakers…I think people understand that and nobody expects perfect English…I think…(IntC02)* *I'm just bored…just saying that to see her reactions…no harm…she would never see me again…(ObsC37)* *I just log out when I feel ashamed…literally no repercussions (IntZ02)*	Anonymity	Attribution of Online Communication Nature
Zamurai	*Why would I be anxious…whether I think what I said is correct or wrong, if people want to make fun of me, they will…so why would I care about what they would say…just an online fight…I just want to get what I want…not like I would die (ObsZ046)*		
Cynthia	*There's no pressure to reply as quickly as possible…I can take time to reread my reply (IntC02)*	Time gap in turn taking	
Zamurai	*I would google whatever I don't understand in the background before reply…that's how I try to understand…it's faster than asking a lot (IntZ02)*		
Cynthia	*Playing alone is really hard…playing with others is better because there's different roles of players and there's give and take in the party (ObsC12)* *Observing how people talk to each other in action...discuss and give orders (IntC02)*	Collaborative gameplay nature	Attribution of MMORPG Gameplay Design
Zamurai	*To explore high-end activities needs people…need to make friends to invite them to play together…because it's international, I'm forced to speak English and to try to be understandable…(IntZ02)* *Get used to seeing how people speak when play with them…just copy that (ObsZ051)*		
Cynthia	*What helps me the most is when I can show what I mean when I don't know how to say it…sometimes people will help say it (IntC02)* *Because have to use English…can't use other language…so I think improve through practice (IntC02)*	Context-based authentic conversation	
Zamurai	*See the function of English in playing the game…especially when playing in party with other people…not just play, there was problem-solving, discussing, making jokes, etc. which were useful (IntZ02)*		

As shown in the table, there were two categories defined from the participants' responses in informal talks – as part of the participant observation –and the second interview related to how the technology of MMORPG aids their communicative English development, which are attribution of online communication nature as well as attribution of MMORPG gameplay design. The themes identified within each category is discussed below.

Anonymity

From the interviews, the participants felt that the anonymity of the MMORPG gameplay design serves to lower their anxiety to experiment with the English language in social interaction and facilitated their self-expression. For example, Cynthia said that if there was anything wrong with what she said in the game, other players would not know her real life identity and Zamurai stated

that he did not care of what other players thought about his language ability because it would not be traced back to him.

In addition, Cynthia also felt confident in using English despite initially having limited abilities due to their real identities being hidden. She stated that in the anonymous player community, it was commonly understood that not everyone are native speakers and that there is less expectation of perfect English in communication. That realization gave her an encouragement to experiment in using English because it provides a "risk-free" environment without feeling intimidated or judged.

The opportunity to socialize anonymously without the fear of losing face in case they make mistakes provides more comfortable language experimentation than a face-to-face socialization. This finding is also supported by [20, 22, 23, 25] where this anonymous property of MMORPG is beneficial for language learning where language anxiety frequently represents major barriers to language learning.

Time Gap in Turn-taking

From the interviews, the participants felt that the time gap in turn-taking during conversation with other players presented windows of language processing which enhanced their comprehension of the direction of the conversation. For example, Cynthia felt that the chatting system caused no pressure to reply as quickly as possible like a normal face-to-face conversation, where she can take time to reread the message to fully understand it before replying. Zamurai also stated that whenever he did not understand a message in the conversation, he would search the meaning online to fully understand the message before replying.

Even though the chatting system is synchronous, there were few seconds worth of time gaps between each turn-taking. This time gap presented opportunities for the participants to increase their comprehension of the whole conversation so as to ensure a seamless communication, which boosted their confidence. This feature helped them to progress their spoken English at their own pace, which was more efficient.

Collaborative Gameplay Nature

The need for interaction among players indirectly causes the participants to learn to produce proper intelligible language for successful communication and collaboration in a "collective exploration of goals" in a social context. For example, Zamurai felt that the gameplay forced the usage of English because of its collaborative nature. Due to these situations, the immediate purpose of learning English is realized; as the participants use the target language to explore the gameplay, and to communicate with other players.

In other words, the need to communicate appropriately within the sociocultural context came from the need to be effective in the conduct of collaborative activities. The desire to understand each other while exerting individual efforts towards a common goal forces the players to assimilate and accommodate the proper social conventions and interactional routines that were characteristic to the particular culture. This supports [23]'s study that the World of Warcraft MMORPG context promotes "goal-directed, collaborative action between experts and novices."

Context-based Authentic Conversation

Findings from the interviews also revealed that the semantically-mediated context-based authentic conversation provided a rich environment for language and cultural appropriation. For example, Cynthia said that because there were physical movements in the game, she can show what she meant to say through the physical movements whenever she did not know how to explain it. In addition, Zamurai felt that the context-based authentic conversation experienced during his participation has provided him with a scaffolded, interactive, and cooperative environment. This finding is supported by [20] who found that learners also developed collaborative behavior that witnessed the practices of scaffolding, not only on gaming ability and skills, but also on language ability and skills from collaborative gaming activities and having authentic communications in the L2 with other community members.

5. Conclusion and Implications

Based on the findings of this study, the participants – Cynthia and Zamurai – felt that the anonymous nature of online communication and the time gaps in turn-taking provided the safe space and less threatening environment for social and language experimentation as well as the context-based authentic conversation and collaborative nature of the gameplay design provided a rich environment for language and cultural appropriation. In conclusion, they felt that the technology of MMORPG was valuable in facilitating their development of spoken English.

The findings present some implications for independent language learning. From the participants' experience, MMORPG served as a virtual platform that provide a risk-free environment for authentic social interaction (i.e. a "social simulator") as a different means to overcome anxiety and to develop speaking skills. For independent language learners, developing spoken English through socializations within MMORPG is more efficient and flexible, where they can progress at their own pace. This is because in an environment like this, there are a lot of opportunities for social interaction in the target language, where they could learn to make decisions to strategize and apply the target language according to social and situational contingencies, which is not very different from real "human" social communication.

This study was done only on adult participants; therefore, the result may not be the same for other age groups. It is recommended that a similar study to be done on other age groups, particularly on primary and secondary school students.

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