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Applying Massively Multiplayer Online Games (MMOGs) in EFL Teaching

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Abstract
This article explores the use of massively multiplayer online games (MMOGs) as a type of serious games that have English as a Foreign Language (EFL) learning potentials. It highlights evidence from a case study which investigated the effects of role-playing in MMOGs on communication behaviours among EFL game players. Additionally, findings from the study elucidate the learning principles of good games that incorporate the dynamics of gaming which induce the language learner to be active generators of information, knowledge and language. Essentially the preliminary findings reported affirm the viability of online games as a potential tool for teaching and learning in the 4.0 era, which endeavours to engage the digital natives of the 21st century. The study thus claims that MMOGs in particular the massively multiplayer online role-playing games or MMORPGs can facilitate in providing contextualized and authentic language interaction opportunities in English between online multilingual speakers.
Keywords: Digital based learning games, EFL communication skills, EFL teaching 4.0, Language learning games, Massively multiplayer online games

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Introduction

Online gaming has grown in popularity due to the advancement of the internet and computer technologies. The nature of online games now varies from casual single-player to multiplayer games or massively multi-player online role-playing games in which millions of players are involved online at once. Players can compete and play the ongoing game as well as communicate with each other through text chat sessions during online gaming. Players can also speak to one another using special audio hardware for voice chats. These particular games are also referred to as serious games. Serious games are introduced with the concept of interactive technology application that extends far beyond the traditional video games. Corti (2006) also states that serious games are all about leveraging the power of computer games to captivate and engage end-users for specific purposes such as to develop new knowledge and skills.

Explorations in the educational potential of computer games have led to wider and deeper interests in the field of digital-based learning games (DBLGs). The impact of computer-based gaming or online games on language learning have especially been significant. Studies on the use of virtual environments and online games in language learning have found benefits ranging from increased motivation and engagement to enhanced vocabulary gains, as well as expanded opportunities for communicative competence (Ariffin, 2012; Berns et al., 2013; Zhang & Kaufman, 2015; Hong et al., 2016; Zhang et al., 2017).

Furthermore, in recent years massively multiplayer online games (MMOGs) have gained attention among researchers in language acquisition. Researchers claim that the rich potential of the immersive graphically 3D game space environments with role-playing features have benefited the second language (L2) learning in providing authentic language development and offering opportunities for contextualized interaction for learner interaction in multiple languages (Kongmee et al., 2011; Gee, 2012; Lee & Gerber, 2013; Lee & Pass, 2014; Azman et al., 2015; Peterson, 2016). A variety of serious games such as *World of Warcraft* and *Ragnarok Online* have been viewed as having language learning potentials (Rama et. al. 2012; Sylven & Sundqvist, 2012). However, to adapt these serious games as DBLG in language learning contexts requires particular pedagogical adaptations by the teachers or learning designers. There is a current dearth in the field of DBLG of an evidence-based pedagogical framework for EFL language learning. Hence this article attempts to address this dearth and add to the literature in the said field.

The study that is reported in this article explores the use of MMOGs, particularly with role playing features or massively multiplayer online role playing games (MMORPGs) as a type of serious games that have EFL language learning potentials for Malaysian classrooms. It specifically investigated the effects of the serious game *World of Warcraft* (*WOW*) on communication behaviors among game players who are EFL speakers. This article will highlight findings from the study which proffers an evidence-based guide for pedagogical applications of MMOGs in language teaching contexts as informed by the learning principles of good games (Gee, 2003, 2005, 2008). It reveals the true potential of serious games such as *WOW* wherein its built-in scaffolding tools can induce language learners to be active generators of information, knowledge and language. Essentially the study affirms the viability of online games, in particular MMORPGs, as a potential DBLGs tool for EFL teaching and learning in the 4.0 era, which endeavors to engage the digital natives of the 21st century.

Related Literature

Recent advances in game technology have introduced MMOGs that can support hundreds or thousands of players at the same time globally. Bawa (2017, p. 154-155) opins that MMOGs have the potential to develop into a useful learning tool that can sustain learner interests while promoting skills such as "communication, evaluation of information, research, problem-solving, critical thinking and literacy, attributable to their immersive environments, and built-in scaffolds for technological and content knowledge". Many studies have revealed, even though designed for entertainment purposes, or because of it, these types of online games may offer significant motivational incentives in learning. A study by Zhang & Kaufman (2015) and more recently by the Entertainment Software Association or ESA (2016) found that MMOG players can indulge in play from 4 to 6 hours a week, thus underlining its ability to engage a user.

Moreover, previous findings suggest a positive relation between uses of MMOGs in the curriculum and performance outcomes, particularly enhanced motivation and greater critical thinking leading to learning beyond the scope of the classroom (Schrader, 2008; Paraskeva, Mysirlaki & Papagianni, 2010; Perrotta, Featherstone, Aston & Houghton, 2013). Interestingly, these studies commonly find that the built-in features of role-playing in MMOGs motivate and engage players in the games extensively. In these serious games the players control virtual characters or avatars of different role occupations such as mage, cleric, swordsman, archer and many more, who have specific sets of skills and abilities that define the character's role. Over the course, the virtual characters become stronger and progress within the game while the players advances through thousands of quests and levels, gain experiences and skills as well as valuable knowledge towards the end game.

Recent MMORPGs are large-scale permanent virtual worlds providing access to high-quality 3D graphic interfaces, characterized by a high degree of realism and immersion, which enhance the sense of immersion experienced by players, supporting communication, social interaction, role-play and the process of community formation between users (Peterson, 2010). Online virtual 3D worlds offer the opportunity for users to interact in real time situations where players' avatars move, meet and speak with one another directly through speech or by typing into a chat box. Peterson (2010) claims that the rich potential of the immersive graphically 3D game space environments has benefited L2 learning in providing authentic language development and offering an opportunity for contextualized interaction in a learner's target language. According to Peterson, some of these MMORPGs are *WOW* and *Ever Quest II*. *WOW* facilitates groups of players to work together to explore and complete multi-player missions in the game and also to be social (Dollsaid, 2015).

Related research on the use of virtual environments and online games in language learning has found benefits ranging from increased motivation and engagement to enhanced vocabulary gains, as well as expanded opportunities for communicative competence (Milton et. al. 2012; Berns et. al. 2013). Similar studies also reveal learners benefit from interactions with native speakers and diverse interlocutors in an engaging communicative context (Johnson & Levine 2008; Rama et. al. 2012). Therefore there is great potential in integrating digital-based games with language learning purposes as established by these previous researches.

Even so, contrary to these studies, Rankin, Gold & Gooch (2006) reveal that the MMORPG platform does not provide the type of learning support for beginner ESL students and that benefits are limited to intermediate and advanced level students only. Similarly, Rama et al. (2012) reiterate that only proficient players mainly benefit from the collaborative interaction proffered by MMORPGs as it generally requires both, certain game-expertise and confidence with the target language. Additionally, Milton et al. (2012) conclude that there is little opportunity for lexical growth without teacher's control in MMORPG-based learning activities.

Other related concerns include the lack of understanding and appreciation for the potential of these games as a learning tool by the practitioners or teachers (Ariffin, 2012). Moreover, inadequate training and limited opportunities for professional development on games literacy for teachers did not facilitate them to add digital-based learning in their lessons (Musa et al., 2012; Machado & Chung, 2015). For teachers to apply DBLGs effectively in the curriculum it is crucial for them to first understand how students can learn from these technologies and game designs. In the absence of such knowledge, teachers run the risk of employing game-based lessons that are not a good fit for effective teaching and learning.

Thus, there is a need for teachers who plan to introduce online games as a learning tool to first have an insight and deeper understanding of the design of these games. This is imperative to enable them to recognize that even though the MMOGs were not designed for education, they can be highly useful learning tools when fused with sound curricular designs (Gee, 2012; Wu, Richards & Saw, 2014; Henderson & Romeo, 2015). It is necessary therefore for teachers to be guided on how to discern these elements in the games and have knowledge of how to infuse communicative pedagogical strategies when planning to use learn-play approach. Drawing from Gee's principles of good games (2008) this study provides an English language practitioner's guide for teachers who are interested in applying MMORPGs in their teaching. This guideline is supported by evidence from the study that is reported at two levels in this article. The first is data which reveal the game players' perspectives as language users in relation to the game's potential as a learning tool to develop communicative skills in English; and the second is evidence to support the effectiveness of MMORPG game design that is analyzed through the principles of good games learning framework.

The Aim of the Study

As inferred above, there are a number of concerns to take into consideration in order to realize the full potential of games as educational tools in the Malaysian context in particular. Firstly, the application of computer games as teaching aids has not been extensively carried out despite the implementation of ICT in Education policy since 2010 that aims to integrate the use of ICT in teaching and learning (Gryzelius, 2015). To date, despite the high investment pumped into ICT for education initiatives by the Malaysian Ministry of Education (MOE), ICT usage in Malaysian schools remains exceedingly low--less than five percent of Malaysian teachers reportedly used the ICT facilities provided daily (Gryzelius, 2015, p. 2).

Secondly, as Pandian (2006) reveals, the continuous technological changes and new patterns of literacy practices have caused many teachers to be trapped in situations where 'illiterates are teaching the literates' (p. 16) when it comes to the use of ICT in the classroom. Many teachers

are not confident in using technology and are ill-equipped to handle students' special needs. Thirdly, as Osman & Bakar (2012) point out, the available games in the market and their suitability aspects should be looked into as well, as Malaysia is a multicultural and multi-ethnic country, and students' backgrounds as well as their previous learning experiences, which are mainly teacher guided, need to be taken into consideration. Moreover, the learn-play approach (Plass et al., 2015) which requires different learning behaviors may leave the Malaysian students, who are mostly teacher dependent for English language learning especially, feeling lost and not confident of themselves (Adris & Yamat, 2012; Musa et al., 2012). Hence, a practitioner's guide on how to adapt or adopt a serious game into the local EFL curriculum will facilitate in addressing these pedagogical issues.

This notion is supported by Fortugno & Zimmerman (2005) who argue that as many games do not include sound pedagogical principles in their design, a practitioner's guide is necessary to assist teachers to create learning opportunities whilst students play the games. They emphasized that it is the teaching environment in which the game is used, that is the learning opportunities that are designed by the teacher around the games, which stimulates learning to occur. Adapting good online games for learning can be easily done according to Gee (2003, 2005, 2008). He recognizes that there are already many good principles of learning built into good computer and video games. He believes that these principles are essential for learners' engagement, learning and success. To illustrate the inherent learning principles built into good games, Gee framed these principles into three constructs: empowered learner, problem solving and understanding.

The study reported in this article applied Gee's pedagogical framework to examine the language learning elements in the design of MMORPG serious game such as *WOW*. Specifically, the study endeavors to answer the following questions regarding the potentials of MMORPGs as a DBLG tool for the development of language skills:

1. To what extent is communicative competence enhanced through the MMORPG design of the *WOW* game?
2. What language learning elements can be identified in the design of *WOW* based on Gee's principles of good games?
3. Which good games principles are useful and relevant towards designing an effective EFL game-based language learning experience?

Research Design

The selection of research participants for the case study is designed to elicit viewpoints at three levels, firstly at the level of a consistent gaming player, secondly as a future learning games developer and designers, and at the third level as an EFL language learner. Towards this end, five EFL case studies were selected, comprising students from a game design and development program from a tertiary institution. They were between the ages of 18-21 and are familiar with playing online games, especially with the *WOW* game. The selection process was based on the qualitative snowball sampling method where the participants recommend other individuals to be sampled (Creswell, 2012).

WOW was chosen for the study as it is the leading subscribed MMORPG with over 10 million subscribers worldwide. Real-time communication and interactions between player characters (PCs) and non-playing characters (NPCs) is solely internet based. Much of the game's advanced contents direct towards the creation of a guild, a group of players working collaboratively together who complement, socialize and connect with each other to explore and complete multi-player missions in the game (Dollsaid, 2015, p. 35). These players collaborate together to overcome challenges in the game.

The study employed a qualitative case study design to provide an in-depth exploration and understanding of language learning through online games. Detailed views from the five participants in the form of words or images and themes were collated and analysed. Three types of data sources were collated from questionnaire, in-game chat logs and email interviews. The questionnaire was constructed based on Gee's 16 learning principles of good games (2008). It aims to identify the interfaces or design of the online game *WOW* that incorporates language learning features. Table 1 is a condensed list of the principles of good games categorized into respective constructs that incorporate the learning domain (Gee, 2008, p. 3-11).

Table 1. *Gee's Learning Principles of Good Games*

1. Empowered Learner	2. Problem Solving	3. Understanding
▪ **Co-design Production**: Gamers help co-design games through their decisions and actions. ▪ **Customization**: Users can play — and succeed — at their competency level. ▪ **Identity**: Players build a sense of identity either through direct input or an on-screen character they inherit. ▪ **Interaction**: Communication occurs between the player and the game. ▪ **Agency**: Players have control over the gaming environment. ▪ **Risk Taking**: Empowering players to take risks. ▪ **Manipulation of Smart Tools & Distribution of knowledge**: Players employ scaffolding in-game tools that help gain	▪ **Well-ordered Problems**: Problems are ordered from easy to difficult, allowing players to grow, evolve and develop skills. ▪ **Pleasantly Frustrating**: The game should frustrate enough to challenge but be easy enough to overcome the problem(s) faced. ▪ **Cycle of Expertise**: Games offer a problem that challenges assumed expertise. ▪ **Information on Demand & Just in Time**: Information is provided as needed and not before. ▪ **Explore, Think Laterally, Rethink Goals**: Games force players to expand situational knowledge and consider courses of action other than linear ones.	▪ **System Thinking**: Games make players think in a bigger picture, helping them see how the pieces fit or can be fitted together. ▪ **Situated Meanings**: Students learn new vocabulary words by experiencing them within game situations. ▪ **Performance before Competence**: Competency occurs through action in the game—act and learn. ▪ **Cross-Functional Teams**: In multiplayer environments, players have different skills, forcing them to rely on each other.

confidence to share their knowledge with others.		

For the questionnaire, the participants were required to indicate their degree of agreement, based on a Likert-scale, towards statements that describe each principle in relation to their online gaming experience and language learning skills. Examples of statements depicting a principle for each construct, extracted in parts from the questionnaire (Dollsaid, 2015, p. 131-134), are provided in Table 2.

Table 2. *Examples of Questionnaire items*

1. Empowered Learner
Co-design Production: "I embark on different routes and role-play from other players through a diverse journey in my game play where each of the players has their own terrains or objectives to be accomplished. This results in different end game for most players". Strongly agree □ Agree □ Uncertain □ Disagree □ Strongly disagree □
2. Problem Solving
Well-ordered problems: "As I play the game, I get better and better to face more difficult challenges later on in my game play. The game offers graded problem solving that is set up for players to advance to the next level". Strongly agree □ Agree □ Uncertain □ Disagree □ Strongly disagree □
3. Understanding
System thinking*:* "The game gives me a good feel of the overall game system and I develop good intuition on what works and what does not in playing the game. I learn about how to fit in the game as a whole by understanding the game genre that I'm playing. I properly understand the complex game system to plan for effective action and enhance interaction in the game". Strongly agree □ Agree □ Uncertain □ Disagree □ Strongly disagree □

A total of 10 in-game chat logs based on 10 gaming sessions, played consistently by each of the five players, for the duration of three weeks, were recorded and analyzed. The five players were free to play *WOW* at their discretion for an average of 4 hours per week with other PCs across the globe, and not necessarily with each other. Each was identified by their virtual character name. The chat logs recorded the use of the English language among these PCs and NPCs in their in-game virtual social interactions, regardless of the length, informal words used and topics discussed. The chat logs exhibited patterns of participants' language ability and language use throughout the online gaming activities.

The participants responded to five open-ended interview questions designed to elicit comments, suggestions and explanations about their interactions and decisions made in-game. The interview also provide insights into the participants' perceived language needs as well as their judgment of the language learning elements inherent in *WOW*'s game design. These interview questions were posed through emails to participants who were geographically dispersed. This method was consistent with Creswell's (2012) recommendation for collating information from individuals using computers and the internet.

The multiple forms of data were analyzed and evaluated using the content analysis technique. The common and overlapping themes of the data were identified through coding of

points or content to develop a more general sense of recurrent themes as well as segmenting the related codes into descriptions and themes.

Findings and Discussion

In general the overall findings from the study show the potential of the MMORPG *WOW* game as a DBLG platform for the Malaysian EFL classroom. The study proves that the game design of *WOW* creates a conducive language learning environment by situating the context of dialogue exchanges and interactive feedbacks in real-time with appropriate contexts. The following sections elucidate the findings in relation to the research questions posed in the study.

Evidence of Communicative Competence in MMORPGs

With regard to the extent that communicative competence is enhanced among the 5 gamers when playing *WOW*, the analysis of the chat logs found evidence that real-time interactions were conducted in the English language and communicative competence was facilitated through cooperative learning, discovery learning and construction of meaning exchanges between PCs and PCs-NPCs. Most notably is the construct of the guild which supported players to teach and learn from each other by soliciting for vocabulary support and strategic communicative skills. More interestingly, the analysis also reveals that the NPCs which are the computer-controlled characters in the game assisted the players by scaffolding the game navigation interactions and requests for explorations at each level of the game. The following Tables 3 through 5 illustrate relevant excerpts of these findings.

Table 3. *Excerpt depicting Communicative Competence through Cooperative learning*

[Party Leader]|Minidotz: I hafta leave in about an hour. Do more quests if u want. Explore and all that. When i get home i can keep going with ay
Minidotz: Geeeezzzz bad typing
Minidotz: You
Galiford: ok. Thank u very much. Why are u so kind to help me?
Minidotz: Well i know this game is tuff when u first start. It was my friend who helped me get started....or i think i might have quit.
Galiford: How many characters u have?
Minidotz: 8. The main one i play is a priest. I love priests
Galiford: What level is your priest?
Minidotz: 90
Galiford: Is that max? Do priests have dragon?
Minidotz: No i bought this mount. Costs about 20k gold
Galiford: Wow that's nice. That is really expensive pet.
Minidotz: Horse not pet. Believe me it's easier to make gold as u level but u need to have professions
Galiford: How to make gold fastest way?
Minidotz: Ummm we call it farming. Basically u go out and collect stuff and sell it in AH

The extract illustrates a conversation between two PCs, one of the Malaysian study participants, *Galiford*, with a party leader, *Minidotz*, from Canada. It obviously exemplifies the collaborative interchange between a newcomer to the level and a master player, respectively. The direct response by *Minidotz*, in explaining why he is helping *Galiford***,** who had just joined the game, clearly indicated the team spirit of gaming culture. Additionally, strategic social competence

skill was demonstrated when *Minidotz* announced that he would need to leave awhile but reassured *Galiford* that he would return to the game later to help him, suggesting a continuing rapport and support. This scenario also revealed the underpinning principle of empowering learners, identified by Gee (2008), that motivate players to build their confidence and continuously engage in the game.

The communicative features that can be discerned from this interchange are corrective feedback on word use-"*bad typing*" in reference to "*ya*" when he meant to say "*you*"; whereas the "*horse*" is pointed out to be a "*mount*" and not a "*pet*" as both connotes different roles; where the former is purchased for utilitarian use, while the latter is tamed for guardianship. Another example illustrated in Table 4 below demonstrates how communicative competence is enhanced through a discovery learning episode in the game. It illustrates how safe learning (Vygotsky, 1978, p. 86) is created for language practice with support from other players.

Table 4. *Excerpt depicting communicative competence through discovery learning*

Minidotz: Where are u. I don't see u on the dragon
Galiford: I'm here
Minidotz: K. Tell me when
Galiford: When what?
Minidotz: U ready to fly out
Galiford: Ok I'm ready
Minidotz: I think we can get u exp just by flying to all these areas and at level 10 we try to see if u can get more gold
Galiford: Yeah i get much more than killing monsters. Ok I'm ready. Done
NPC Discovered Fields of Honor: 90 experience gained
NPC You have learned a new spell: Flash Heal.
Minidotz: Nice
Galiford: Yeah. I got **heal**. What does that mean? Is it a skill?
Minidotz: Its an addon. U install it and then u get addons to help u play a lil better
Galiford: Like a cheat?
Minidotz: Sorta but blizzard allows it
Galiford: Owh nice

In the log above the research participant *Galiford* is further ensconced in the safe learning space of the game by the guild leader *Minidotz*. The excerpt above shows how *Minidotz* negotiated the level to enable *Galiford* to discover about "*heal*" and learn how to use it. Gee's principle of understanding in good games is displayed here where the language user learned a new word by experiencing them within game situations. Additionally, it is also evident that the learning environment inherent in the design of good games induced on demand and just in time information, where the player received information, from the PC as well as the NPC, as needed to progress.

Table 5 demonstrates how real-time interaction in the target language between PCs is facilitated through co-construction of meaning and exchanges in the knowledge of vocabulary, expressions and phrases (Vygotsky, 1978). The excerpt shows that individual learner can

undertake functions that they could not carry out independently through interactions with more capable peers and their gaming surroundings.

Table 5. *Excerpt depicting communicative competence through the construction of meaning*

Galiford: How long have u been playing this game? 8 years Galiford: U play this every day? Minidotz: Mostly...i don't watch much tv. This for me is relaxing Galiford: What do you do when your level is max? Minidotz: That's when u do raiding and arena and BG's. To get the best gear so u can kill players better Galiford: What is raid and arena? Minidotz: U get in a group with 2 or 3 ppl and u fight against other players. U get points for the best pvp gear Galiford: Owh and BG? What's the difference? Minidotz: Arena is for skilled players. U can still do them but u might loose all the time. BG's give u points for entry level pvp gear Galiford: So bg is fighting other player too right? Minidotz: Ya. 10 - 20 players depends on the BG Galiford: Owh so bg is more like a war? Minidotz: Or claim and defend stuff Galiford: Owh ok i get it Minidotz: The first BG u will do is Warsong Gulch. Its getting enemy players flag and bring it back to your base Galiford: owh ok like capture the flag. I get it. Just like Call of Duty Minidotz: Ya.aaa...dont be nervous...just follow the crowd and read wut they say and u soon learn whats goin on

The negotiation of meaning exchanged above revolved around clarification and comprehension checks. New knowledge is discernably gained by the novice player as the terms and situated meanings for "*raid*", "*arena*", and "*BG*", are clarified and explained by *Minidotz* who is the expert in this interchange. The communication reached an understanding when *Galiford* compared '*capture the flag'* with another game called *Call of Duty*, of which both PCs have a schema of. The excerpt illustrates that *Galiford* felt safe to make continuous on demand queries of the words introduced as the chat proceeded. This attest to the non-threatening environment created in the virtual space as both players are cognizant of the need for an understanding to be achieved to ensure future successful play. Unfortunately this type of on-demand question-feedback exchanges between teacher and student is not viable in a classroom situation.

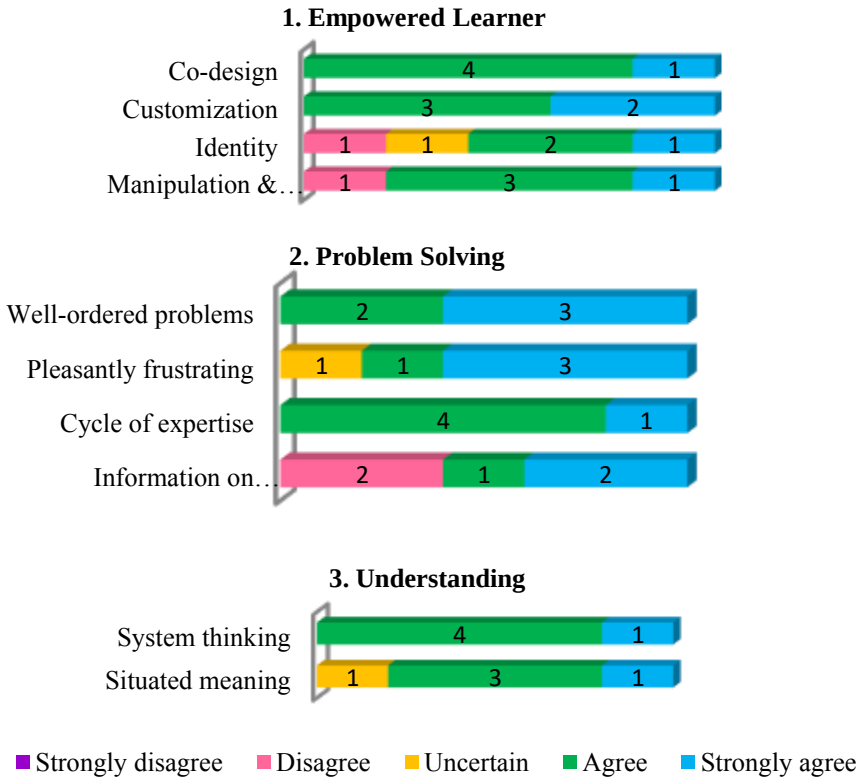
In sum, communicative competence strategies (Canale, 1983) were evidently employed by the PCs as they negotiate and scaffold the different scenarios and levels of the game in their quest to overcome the challenges collaboratively. Vygotsky's socio-cultural theory (1978) explains this phenomenon as processes of situated meaning-making that give rise to the use of relevant, appropriate and rich language engaged in active negotiations of meaning.

Language learning elements in MMORPG WOW design

This second research question endeavors to identify both the language learning elements inherent in the design of the MMORPG, as well as the related pedagogical guidelines that facilitate the application of DBLG in the EFL classrooms. The data represent the perceptions of the PCs in the study describing the extent they think the game design facilitates language learning and how they view it will enable teachers to develop game-based language lessons.

Generally, all the PCs found the *WOW* game design incorporated Gee's principles of good games in varying degrees. A high degree of agreement was shown for four of the seven principles for the empowered learner construct, four of five of the problem-solving principles, and two of four of the understanding principles. Therefore in total 10 of the 16 principles outlined by Gee for good games (refer to Table 1) was identified by the participants to be in-built in *WOW*, suggesting its high potential as a good language learning tool. Table 6 below shows these 10 principles of good games, by its three constructs—Empowered learner, Problem-solving and Understanding, inherent in WOW and found to be relevant to language learning.

Table 6. *Principles of good games inherent in WOW relevant to language learning*



The aforesaid data is supported by interview responses by the PCs where most of them agree that the MMORPG induces usage of English language in real time and on demand as the players are worldwide and English appears to be the language of choice among the gamers. Although accuracy is not the target, clarity of the situated meaning directs the negotiations in the in-game social setting, as the interactors aim to solve a problem towards a common group goal.

Kongmee et al., (2011, p. 3) refer to this as "collective exploration of goals". Furthermore, the respondents highlighted that player bonding that evolves is an important motivating factor that provide them with a safe and anxiety-free learning environment fostering collaborative learning. Hsu & Wu (2009) pointed out that this social bonding (as depicted in Table 5) between players is a vital element in engaging players and building trust among co-players.

Even so, the respondents highlighted some issues with regards to the quality of language used in the games. They are concerned that standards of language input is compromised as much of the interaction that occurs are inundated with spelling errors, abbreviations, slangs or a non-standard variety of the language, accents and fragments. Nevertheless, based on their personal experiences, they view that the collective motivation to collaborate and cooperate usually overcomes these issues.

Good games principles relevant for EFL game-based language learning

In relation to the third research question, the key language learning skills that the respondents recognize can be developed using MMORPGs are vocabulary skills, functional discourse skills, interpersonal and interactional communication skills, negotiation skills, listening skills, and to some extent reading skills. According to Zhang et al (2017, p. 2) while many studies have argued that MMORPGs can facilitate vocabulary learning, the teacher's control in the learning activity design is imperative for pedagogical effectiveness. Apart from vocabulary development, the other identified skills as listed above concur with other studies as cited in Zhang et al (2017) that have found positive relationships between MMORPGs and basic language development. These include the impact on speaking abilities (Lai & Wen, 2012), listening skills (Hu and Chang, 2007), and interactional competence (Berns et al., 2013).

Table 7 shows a sample mapping of language learning skills based on Gee's good games principles for vocabulary and interactional skills. This mapping acts as a practitioner's guide for EFL teachers who are planning to use DBLG as a teaching tool.

Table 7. *A sample of proposed practitioner's guide for a game based EFL learning & teaching*

Language Skills	Good Games Principles	Pedagogical technique
Vocabulary	**Situated Meanings** **Customization** **Information on Demand & Just in Time**	Vocabulary chunks Contextual clues Create word list for focus learning Familiarize with sounds, texts, images Identify expert-novice roles Make available multiple-source for info on demand.
Interactional and Interpersonal Communication	**Identity** **Well-ordered Problems** **Pleasantly Frustrating**	Discourse functions tasks: Turn taking, Greetings, clarification requests, confirmation checks, feedback requests, paraphrasing, self-correction, Wh-Questions, Exclamations

		Cooperative and collaborative activities **Negotiation of meaning tasks**

Conclusion

This study suggests that virtual spaces in MMORPGs such as *WOW* provides for social network opportunities that are automatically created once a player joins a guild of players. It creates an open communication channel for everyone to have a dialogue as a team or in pairs. This virtual game environment facilitates socialization and communicative language use for the EFL language learner through authentic active interactions with native speakers and other non-native speakers of the target language. The EFL students engage in augmented speaking practices through the roles adopted by their avatars. This speaking opportunity occurs in a situated context with rich support from fellow players as well as the scaffolding tools, embedded in the design of the games. Unlike life conversations in the real world, the situation of this augmented communication context allows for practice time, reflections on language production and even margin for errors. This space allows them to own and control their learning process in a safe environment without anxiety, and incognito through their avatars. Meanwhile, multiple encounters with other numerous speakers help improve their confidence and build new knowledge as they engage in achieving a collective goal as online players. Hence the findings of this study as discussed are consistent with those identified in prior researches on DBLGs in earlier sections of the article.

In relation to the application of MMORPGs in Malaysian EFL classrooms, this study and other related studies, as highlighted previously in this article, have shown evidence that it is a conceivable way forward for teaching EFL 4.0. The use of this DBLG tool can be pedagogically designed to be adapted and implemented in and out of the classroom and even as a self-learning platform. However, teacher cognition and understanding how to apply the learn-play approach is critically imperative for MMORPGs to be successfully implemented. It is hoped that this study has promoted the potential of non-education based commercial online games and circumvented the limiting notion that only games that are localized culturally (Osman & Bakar, 2012) and designed for learning are feasible for EFL 4.0 teaching purposes.

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