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Citation: Kongmee, Isara, Strachan, Rebecca, Pickard, Alison and Montgomery, Catherine (2011) Moving between virtual and real worlds: second language learning through massively multiplayer online role playing games (MMORPGs). In: 3rd Computer Science and Electronic Engineering Conference (CEEC), 13-14 July 2011, Colchester, UK.

URL: <http://dx.doi.org/10.1109/CEEC.2011.5995817>  
<<http://dx.doi.org/10.1109/CEEC.2011.5995817>>

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# Moving between Virtual and Real Worlds: Second Language Learning through Massively Multiplayer Online Role Playing Games (MMORPGs)

Isara Kongmee

School of Computing, Engineering and Information Sciences,  
Northumbria University,  
Newcastle upon Tyne, United Kingdom  
isara.kongmee@northumbria.ac.uk

Alison Pickard

School of Computing, Engineering and Information Sciences,  
Northumbria University,  
Newcastle upon Tyne, United Kingdom  
alison.pickard@northumbria.ac.uk

Rebecca Strachan

School of Computing, Engineering and Information Sciences,  
Northumbria University,  
Newcastle upon Tyne, United Kingdom  
rebecca.strachan@northumbria.ac.uk

Catherine Montgomery

School of Health, Community & Education Studies,  
Northumbria University,  
Newcastle upon Tyne, United Kingdom  
c.montgomery@northumbria.ac.uk

**Abstract**— Massively Multiplayer Online Role Playing Games (MMORPGs) bring players together in a large virtual community. This type of online gaming can serve many purposes such as entertainment, social interaction, information exchange and education and is now an integral part of many people's lives particularly the younger generation. This research study investigates the use of openly available MMORPGs to supplement second language teaching for higher education students. MMORPGs provide informal virtual worlds in which students can communicate in their second language with people from across the globe. The research approach combines ethnography and action research in the virtual and real worlds. In the real world the researcher observes the interaction with the MMORPGs by the students both through their informal discussion in the classroom and through screen video captures of their game play in the MMORPG. In addition the researcher takes on the role of a character within the MMORPG allowing for observation inside the virtual world from the viewpoint of another game character. Through action research, the researcher observes, plans and then interacts with the students' MMORPG characters within the game. This enables the researcher to provide anonymous but tailored support to the students including advice on the game play, a confidence boost where needed, a friendly face where needed and some support around language issues. In the real world, action research is also used to provide tutorial exercises and discussions based on the students' experiences with the MMORPG, facilitating further enhancement opportunities for their language development. This paper concludes that MMORPGs provide a safe, relaxed and engaging environment in which students can practice and improve their language skills.

**Keywords**—online gaming, online learning, MMORPGs, ethnography, action research, virtual ethnography, learning technology

## I. INTRODUCTION

Massively Multiplayer Online Role Playing Games (MMORPGs) bring players together to create a large virtual community. The games serve many purposes in entertainment, social interaction, psychology, information exchange and even, as an educational learning tool. In recent years, MMORPGs are increasingly played among teenagers and are becoming a part of their daily routine.

Eustace et al. [1] claim that the people playing MMORPGs can translate social and emotional skills from the games to their everyday life while Paraskeva et al. [2] suggest that knowledge and skills can be transferred from the virtual to the real world when these are encountered in a particular in-game task. MMORPGs provide the opportunity to practice a task multiple times in order to create knowledge and skill acquisition. Researchers need to understand the nature of game players and their routine in the virtual digital environment: "*When people learn to play video games, they are learning a new literacy*" [3].

This study advocates the use of readily available MMORPGs as a second language supplementary language tool to provide a physical safe space. Learners can practise their language competencies without any constraint and criticism, and this boosts their confidence compared to traditional classroom learning and teaching. Many MMORPGs create a situated environment which Bryant [4] reveals is a critical requirement for learning a foreign language. To become fluent in the target language, firstly, learners have to engage in language tasks or activities [5]. Secondly, learners need to become more positive about their language skills and less self conscious about making

mistakes among their peers (Guiora and Scovel in [6]). The virtual environment of MMORPGs offers a safe space to support language learners. The virtual world provides low identity, minimises risk-taking, reduces instructor control and offers repetitive/challenging features. Learners can see their second language being used in an informal situation, and develop confidence in their own use of the language whilst they are playing and having fun.

## II. BACKGROUND

Second language learning and teaching in many countries including Thailand has been limited in the learning environments in which learners can practice their language skills. Studying a second language such as English has had limited success in terms of results in recent decades. This is mainly because learners lack experience in communicating with native and other second language speakers. Many tasks and activities rely primarily on textbooks and teachers. As a result of this, learners rarely use their second language in real communication with others. MMORPGs which are part of modern routines among teenagers can assist and play an important role by offering the opportunities to interact with other players across the globe in a particular language such as English.

Although many universities provide Computer-Assisted Learning (CAL) Language courses, these still provide a very controlled environment with set tasks. This means students often cannot distinguish between the classroom and the CAL course, with both providing a fairly controlled and inflexible learning environment. Introducing MMORPGs as a language supporting tool could challenge and engage learners in a new environment in which they can practice their language skills. In addition the teacher can build new language tasks around existing games.

### A. The characteristics of MMORPGs

MMORPGs are fantasy content-based worlds where the player's character (avatar) enters a virtual environment and engages through different actions such as fighting, trading, chatting, and collecting (items) in order to get self/community advancement. Players develop their characters to make progress either as an individual (solo) or within a group (party/ guild/ clan) to meet certain goals. The in-game social network is a vital part of a MMORPG allowing players to interact with others typically using a text-based chat window during the game. The chatting system in MMORPGs can be of interest to academic research areas such as sociology as players are learning how to interact with other members and also with the game environment itself. In the area of language development, players use their communication skills in order to progress their individual avatar, other team members, and make economic gains within the game [7].

There are three main areas in which a character can advance in a MMORPG, each providing a different set of learning opportunities for the player:

- *Physical Leveling*: a player receives individual points from completing a task or defeating monsters. These points can directly benefit the avatar's physical strength and intelligence.
- *Economics* is measured by in-game money. This can be collected by trading with a Non-Player Character (NPC) or active Player Character (PC) or when completing a task where a player can receive a set amount of money.
- *Social Rank/ Titles*: this goal is primarily realized through group activity and attendance as a player has to constantly contribute to their guild or clan. This area requires high participation in the social network of the game.

In summary, and as Bryant [4] explains "*MMORPGs, they are online role playing games where people move, act and communicate with other players in an internet-based virtual three-dimensional environment*".

MMORPGs were chosen for this study because they are currently the most popular genre of online gaming. They are also one of the best types of games for providing a number of interactive tools and situations that use language in a number of different ways. Finally the study wanted to use an existing game environment that was readily available and played by people of all ages and backgrounds to allow learners to interact with 'ordinary' first language speakers from across the globe. This approach was deliberate and preferred to developing a specific language game that would only be of interest to those learning a language. This latter approach has been used elsewhere with limited success. A MMORPG provides access to a community of people speaking the language and is representative to a certain extent of the community that would be encountered if the learner could travel to a country where the language was spoken as the first language.

MMORPGs provide a number of functions which can be used to support language learning. These are:-

#### 1) *Players have to read.*

In a classroom, learners can use a number of ways to avoid reading. Reading is an integral part of a MMORPG but participants can deal with any difficulties in reading the second language by asking other players, referring to the web or using an expert such as the teacher. Reading is typically required in three phases of a player's interaction with a MMORPG: pre-game, the process of gathering target MMORPGs' information from blogs, websites, or magazines; in-game, the game normally allows players to interact among active players and NPCs via chat portal; post-game, the community forum and Fan site including social networking sites where the main purpose is to share game strategy and chat about the game when they are offline.

#### 2) *Safety Environment in socialization*

The player's identity remains hidden in a MMORPG as interaction is through a player's character (avatar). In the classroom, language practice and performance may be inhibited because the learner is afraid of making mistakes

in front of others. Bryant [4] suggests that using MMORPGs for second language acquisition would create a ‘situated cognition study’ [8] where players can learn a second language in a similar process to children learning their first language. This practice can transfer skills into their real world (RW). In the virtual world, MMORPGs offer 1) *a safe place* both emotionally and physically for practising, where even if they make a fatal mistake, they can re-birth (respawn) and continue their current activities; 2) *self-control* players can either continue or withdraw from a current task. This function increases learning-ownership and reduces teacher-control [7].

### 3) *Low identity*,

As mentioned earlier, this benefits shy or risk-averse students allowing them to build confidence in interacting with others.

## B. *Activities in MMORPGs*

Suznjevic et al. [9] define the specific actions in World of Warcraft and identifies that there are four main types of action in a MMORPG; questing, raiding, trading, and player versus player (PvP).

### 1) *Questing*

The most common activity in MMORPGs is where the player contacts NPCs in order to get an assignment which the player is required to complete for exchange of a reward which will aid the character’s progression. Dawley [10] regards questing as team-problem solving which challenges a player task solving skills. The complexity of the task depends on the level of avatar. The task serves both individuals and groups and a group task can create social interaction and communication skill among the players. Moreover, the quest has two types: main quest, which is an essential task that affects the story development in game. Sub-quest which the player decides to accept or leave, and which is only important in relation to avatar advancement.

### 2) *Raiding*

This directly affects group activities. Although the player can choose to do this solo, group raiding has ultimately more reward in items, in-game money, points and importantly social networking. Many MMORPGs promote social connection among players by raiding activities such as party level up (as quest) and schedule events (as daily/timely event). The higher level player can establish an individual clan (guild) in order to set up a particular purpose community for long term benefit. The players in the same community are likely to have close relationships because they frequently communicate with each other in exchanging and sharing items, game guidelines, and RW information.

### 3) *Trading*

Trading occurs with both PCs and NPCs when they want to buy or exchange virtual items. In MMORPGs, players can set up their own shop in the most commercial spot for trading and bargain. On the other hand, some players use a common chat portal to make an announcement for selling or buying among actual players.

### 4) *Player versus Player (PvP)*

A battle between two players to test their abilities and skills creates a short term relationship because it requires chatting and making the request to fight. PvP is considered as an ice-breaker in MMORPG activity since the two players are often unsure how to begin a fight instead of asking questions. Interestingly observations from this study show that some participants have learned a minor cultural context from PvP. For example, they mentioned that in a Thai only MMORPG, PvP fights end up with offensive language from the winner to the loser, while in an international PvP MMORPG, the resulting comments from the winner are about ‘a good fight’ and this provides the opportunity for the participant to start chatting with other players in English.

## III. METHODS

The study investigates the experiences, performances, skills and English test results of a selected group of English as a Second Language (ESL) students in a Thai university and the contribution of a MMORPG to their second language development. The study combined action research with observation in both the virtual and real worlds. Action research was primarily used to support the learner in the physical classroom and in the virtual world. Observation was used to look at the behaviour of the learners both inside the MMORPG (virtual ethnography) and in the classroom (ethnography).

### A. *Action research methods*

Initially a short interview was conducted with students to determine their attitude and perception of playing MMORPGs compared to other genres and their previous experience of MMORPGs. Participants were then observed as they explored a new MMORPG. An on screen video recorder was used to record their movements and interaction with the MMORPG. This was combined with interviews/tutorial work in the classroom, to see how far students can progress with the second language used in the games. After they were familiar with the games, a current MMORPG was transformed into a learning tool for tutorial work related to second language acquisition. Activities were given to students to allow them to practice their second language in each of the basic skills: reading, writing, speaking-listening, grammar, and vocabulary. Reading, vocabulary, and grammar can be easily conducted during the game play, so the students were given tasks such as reading the in-game assignment (quest), walkthrough, gap-fill, and finding definitions. Writing can be drawn into two dimensions: *in-game*, using chat portal and *off-game*, adapting in-game task as writing a dummy quest and Facebook Questioning and Answering (FQA). Listening and speaking skills are not usually used in most MMORPGs and thus it was difficult to set activities for these through the MMORPG play. Instead informal group discussions were set up relating to MMORPGs playing issues. Virtual ethnography was employed to observe the students’ interaction with the MMORPG to ensure that the process

was more natural for the students themselves and the observation was not too intrusive.

### B. Virtual ethnography

Virtual ethnography is an appropriate approach to take for this study. According to Hoey [11], “*ethnographers generate understandings of culture through representation of what we call an emic perspective, or what might be described as the “insider’s point of view.” The emphasis in this representation is thus on allowing critical categories and meanings to emerge from the ethnographic encounter rather than imposing these from existing models*”. Rybas and Gajjala [12] discuss how the concept of virtual ethnography has arisen to cover the situation where the researcher becomes involved with virtual social communities. Heng [13] points out that this differs from traditional ethnography because the virtual ethnographer is in a virtual physical space and primarily relies on text based interaction and online data and information.

In this study, the subjects played the MMORPG on an international server available in Thailand. The researcher observed how the students interact in a second language text-based and virtual global community circumstance. The data is collected by using two screen video recording programs *Camtasia screen recorder* and *Camstudio* to investigate the participant’s behaviour and actions while playing in the MMORPGs and also while researching on the web. Social networking and face-to-face communication were recorded in order to explore listening and speaking skills and world knowledge. The researcher could also study in real-time the students’ interactions with other members including the researcher through the common, clan (guild), and personal chat channels embedded in every MMORPG.

The results from this lead to an interesting and challenging discussion about the use of MMORPGs to support second language learning and teaching.

## IV. DISCUSSION AND ANALYSIS

### A. Introducing MMORPGs – Methods, Results and Analysis

The combination of action and virtual ethnography methods in the project proved useful in allowing the researchers to evaluate second language acquisition and understand the participants’ behaviour when immersed in the global MMORPG. The action and interaction in MMORPGs were monitored throughout the screen individually with Screen Video Record Programs (SVRP); these observations were used to help design language learning assignments that incorporated the MMORPG. The researchers also took notes in the real world of the students while they were playing and engaged in group discussion. Three MMORPGs were used in the study: *Godswar Online* (GO), *Hello Kitty Online* (HKO), and *Asda Story* (AS).

GO was introduced for those students playing international MMORPG for the first time. They had to use

English throughout the game. In GO, the participants created an avatar and this took the participants a long time as they had to read through the English descriptions about the class/race’s benefits in order to pick the ‘best’ avatar. The game system supports first time players by allowing current higher level players to be their master. This helps them quickly learn how to interact with other players besides the co-participants. The game taught the basic of MMORPG culture and language on an international server. The students responded positively to the experience and enjoyed a number of aspects of the game.

HKO was used mainly for female participants. Although the game is not based on a slashing/killing monster theme, it has MMORPG elements about developing the avatar and finding materials for farming and crafting. The interaction element of killing monsters is replaced in HKO by an active and open social interaction. The participant learns how to live in the virtual world, and the game provides many opportunities for engaging in online communication and chatting directly to other friendly players without using PvP or a particular event to instigate the communication. The lack of combat opportunities meant some male players withdrew early on in the game play. However one male participant showed better progression in this game than the females in terms of character progression, item collection, response to chatting, and productivity.

Students were given opportunities to play GO and HKO over a number of weeks. During the middle of this period, a number of the traditional language learning and teaching activities were adapted to relate to the MMORPG work:

#### 1) Reading quests

These can be used to check if the participants understand the quest given by NPCs. The text message in the quest box (see Fig. 1) provides the reading tool and encourages the participant to complete for rewards even though they might have second language difficulty. During observation, the researcher as the virtual ethnographer brought in a practical action approach to help them as a language advisor, as some students felt reluctant to ask their virtual or RW comrades for help. During the study, the following observations on

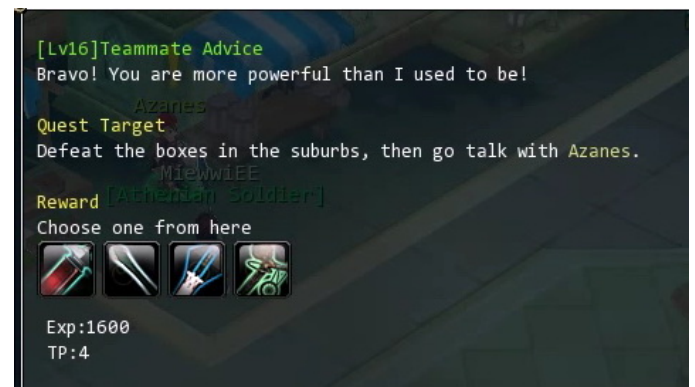


Figure 1. Example quest box from *Godswar*

reading were made:

- a) The participants became faster at reading quests and item descriptions. It is assumed that they got used to the repeated language patterns in the quest/item's notes and could scan for key words. For example in *questing*, the participants only want to know the descriptions of the quest's reward, location, and target quantity. For *the item's description* the player needs information of the type (if he/she can equip), bonus (relating to physical points), and item ranking (in order to trade). Students gained reading skills in scanning text in order to extract key information.
- b) Students can tolerate reading more complex texts in quest box. The comparison between given quests in Godswar and Holy Beast played by the student showed that he/she could complete a task written in a longer and more complex manner (see Fig. 2) after treatment for 4 weeks.
- c) Students felt more comfortable reading as the weeks progressed. Observations from the SVRP show that students were browsing the game website for important information when it was time to develop their avatars. As they moved up the levels within the game, greater care needed to be taken when upgrading their avatar and this required students to do more research such as asking other PCs via chat window or browsing a particular game web page.

## 2) Vocabulary collection

Stanley (2008) suggests that a vocabulary task is suitable for ESL learners as the beginner of the game. The text-based language activities in the game allow students to explore and repeat new vocabulary. The

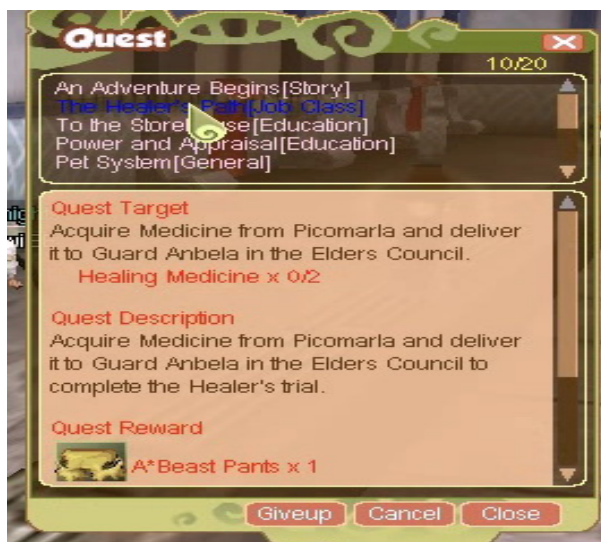


Figure 2. Example quest box from *Holy Beast*

participants write down some key words to solve the quest, including frequently occurring vocabulary. The results show that the participants were attracted by authentic words by NPCs such as 'Carnivore' and became familiar with abbreviations used in common chat by active players such as 'pm me'.

Table.1 shows that students spent less time reading text to create their avatars in later games. This was because they were familiar with the buzz vocabularies and key words provided in the description boxes from their experience during previous games.

## 3) Conversational text distinctions

MMORPGs have active chat for different purposes. Asking the participants to observe, make note and discuss text-based dialogue benefits the student and provides the basis for RW conversation and speaking practice. Students find that people use language differently and start to distinguish between the spoken and written language from PCs and NPCs. Although many abbreviations are used in MMORPGs, some RW dialogues exist especially in serious talk situations such as trading, group gathering and planning. From the SVRP, it is evident that some participants chat with native speakers more actively and fluently than in the real world. Students also found out that making mistakes in text conversations is not a big issue as long as they can produce a dialogue from fixed vocabulary or sentences, and elaborate through extra sentences in order to reduce/combat ESL common mistakes.

## 4) Role-play of role-play

Questing is an essential activity in MMORPG. The students participate in questing and see it entirely within the game play. Working in twos, the students were asked to write their own quest in relation to the game content for their partner. This approach requires the participants to use multiple language skills such as reading, writing, and constructing language for peer review and action. The researchers can also check if their partner can understand and complete the given quest by SVRP review. The result revealed that this activity was viewed as fun and engaging and students cooperated positively.

## B. Advanced Player MMORPGs – Methods, Results and Analysis

While GO and HKO were used to introduce MMORPGs and evaluate the participant's language skills, Asda Story

TABLE 1 COMPARISON OF TIME CONSUMED (minutes) FOR CHOOSING AND READING AVATAR DESCRIPTIONS IN ENGLISH

Student Avatar Character	Godswar (1 <sup>st</sup> game)	Hello Kitty (2 <sup>nd</sup> game)	Asda Story (3 <sup>rd</sup> game)
MiewEE	5.41	3.55	2.04
DragonGroove	6.28	2.21	2.18
FujikoSan	2.24	1.30	1.48

(AS) was introduced for advanced players. Virtual ethnography and observation were conducted with this game. The game has typical MMORPG actions such as killing monsters (questing), group events (raiding), market browsing (trading), and combat between two players (PvP). Unlike previous MMORPGs, AS has no complexity in creating an avatar. All beginners start with the same assets and have no special benefits until they have reached certain levels when they can begin to choose their class of avatar and associated specialisms. The higher level avatar has priority to access more in-game events and authority to recruit new players into a guild member for further benefit. This encourages lower players to join both short and long term communities in order to become more accepted and stronger. The game also provides seasonal events such as Valentine, Halloween, and Thanksgiving giving the participants a certain degree of cultural knowledge.

Once the players reach an acceptable level, virtual ethnography in AS was combined with action treatment. Since there is a lack of audio/voice communication in MMORPGs, participants were asked to communicate with their peers off-screen in informal group discussion. To retain their in-game identity during observation, all participants talked around in-game topics and withheld information about their personal avatar status as much as possible. These discussions help explore their experiences, share information and strategy, and practice conversational skills all at the same time. Moreover, the researchers could observe how much they were able to transfer the dialogue from the virtual game chat to RW conversation.

Over the period of eight weeks of playing AS, the participants gained confidence in using their language skills to complete quests given by NPCs resulting in higher level avatars. They participated in in-game group activities and had high level of interactions with other players through text-based chatting. Making language mistakes during their communications still occurred but they continued to improve in terms of their dialogue flow and quality of sentence constructions. Collaborating through a MMORPG helps learners unpack language skills naturally. In addition, the participant can transfer learned and practised skills from one MMORPG into another MMORPG with fewer language difficulties and the confidence to communicate with 'new' active players in different communities. Furthermore instructors can take a role in the game to teach and provide assistance to the learners through a friendly face avatar.

AS is still under observation as participants reach the higher levels. Some players have reached the important rank of guild member and are now leading other members in war events. These participants are engaged in serious language study as they try to develop their combat skills by reading web pages (in English) and ask experience players questions via the chat portal.

## V. CONCLUSION

The combination of action and virtual ethnography has proved useful in observing and understanding the players' behaviour and their interaction with the digital world of MMORPGs. Results indicate that MMORPGs are a useful vehicle for supporting language learning providing an informal, safe and community based learning environment that mirrors a number of elements of the real world. Players gain confidence in using their second language through a variety of communications and these skills are transferable between the virtual and real world. Students also find this method of learning enjoyable and fun and this motivates them to engage with their language learning. Future work will concentrate on deeper analysis of the observations and results to further understand the language acquisition, and cultural and social developments that are taking place.

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