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An Analysis of a Digital Game as Resource of Autonomous English Language Learning

Miss Panich Wongkhwansane



An Independent Study Submitted in Partial Fulfillment of the
Requirements
for the Degree of Master of Arts in English as an International Language
Inter-Department of English as an International Language
Graduate School
Chulalongkorn University
Academic Year 2019
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ผลการวิเคราะห์เกมดิจิทัลที่ใช้เป็นแหล่งการเรียนรู้ภาษาอังกฤษด้วยตนเองอย่างอิสระ



น.ส.พาณิซย์ วงศ์ขวัญแสนห้

สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
สาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ สหสาขาวิชาภาษาอังกฤษเป็นภาษานานาชาติ

บัณฑิตวิทยาลัย จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2562

ลิขสิทธิ์ของจุฬาลงกรณ์มหาวิทยาลัย

Independent Study Title	An Analysis of a Digital Game as Resource of Autonomous English Language Learning
By	Miss Panich Wongkhwansane
Field of Study	English as an International Language
Thesis Advisor	Assistant Professor Ruedeerath Chusanachoti, Ph.D.

Accepted by the Graduate School, Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of Arts

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จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

พณิษฐ์ วงศ์ขวัญเสน่ห์ : ผลการวิเคราะห์เกมดิจิทัลที่ใช้เป็นแหล่งการเรียนรู้ภาษาอังกฤษด้วยตนเองอย่างอิสระ. (An Analysis of a Digital Game as Resource of Autonomous English Language Learning) อ.ที่ปรึกษาหลัก : ศศ. ดร.ฤติรัตน์ พุฒนะโชติ

วิจัยฉบับนี้มีวัตถุประสงค์ในการวิเคราะห์คุณสมบัติต่าง ๆ ของเกมดิจิทัลแบบออนไลน์ และศึกษามุมมองและความคิดของนักเรียนที่มีต่อการใช้เกมนี้เป็นแหล่งเรียนรู้ภาษาอังกฤษด้วยตนเองอย่างอิสระ เพื่อสำรวจว่านักเรียนมีความคิดเห็นว่าการใช้เกมดิจิทัลแบบออนไลน์นี้เป็นเกมที่สามารถเปิดโอกาสในการเรียนรู้และฝึกฝนภาษาอังกฤษให้แก่นักเรียนได้หรือไม่ คุณสมบัติเด่นในเกมจำนวนห้าคุณสมบัติได้ถูกวิเคราะห์อย่างละเอียด โดยใช้ลักษณะสามอย่างของเกมที่สามารถเสริมสร้างการเรียนรู้ภาษาเป็นกรอบแนวคิดในการวิเคราะห์ นอกจากนี้ กลุ่มนักเรียนจำนวนสามคนได้รับการสัมภาษณ์แบบกึ่งโครงสร้างทั้งแบบกลุ่มและเดี่ยว เพื่อทำการสำรวจและศึกษาความคิดเห็นของนักเรียนที่มีต่อเกม ผลของข้อมูลที่ได้จากการสัมภาษณ์และถูกนำมาวิเคราะห์เชิงคุณภาพ แสดงให้เห็นว่า นักเรียนมองว่าเกมมีประโยชน์ต่อพวกเขาในด้านการเรียนรู้ภาษาอังกฤษ ไม่ว่าจะเป็นการอ่าน การฟัง การเรียนรู้คำศัพท์ และไวยากรณ์ นอกจากนี้ นักเรียนยังสามารถตระหนักและรับรู้ได้ว่าคุณสมบัติต่าง ๆ ในเกมทำให้พวกเขามีความต้องการที่จะเรียนรู้ภาษาอังกฤษด้วยตนเองอย่างอิสระ



สาขาวิชา ภาษาอังกฤษเป็นภาษานานาชาติ
ปีการศึกษา 2562

ลายมือชื่อนิสิต
ลายมือชื่อ อ.ที่ปรึกษาหลัก

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 KEYWORD AUTONOMOUS LEARNING, INCIDENTAL LEARNING,
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Panich Wongkhwansane : An Analysis of a Digital Game as Resource of
 Autonomous English Language Learning. Advisor: Asst. Prof. Ruedeerath
 Chusanachoti, Ph.D.

The research aims to analyze an online digital game features and investigate students' perceptions toward the game; whether or not they think the game is a context where the opportunities of English language learning and practicing could be provided. Five main game features were analyzed based on the games' characteristics promoting language learning. In addition, in order to investigate the students' perceptions, three participants were interviewed as a group. The data were collected through the semi-structured and individual follow-up interview, and analyzed using qualitative approach. The findings indicated that, provided in the game, there are five major features which could play an important role on autonomous English language learning. In addition, the students found that the game is useful and beneficial for them in learning and practicing English language in terms of reading, listening, grammar, and vocabulary. Furthermore, it has been found that the students were able to be aware and realize that English language could be learned autonomously through the features of the game.



Field of Study:	English as an International Language	Student's Signature
Academic Year:	2019
		Advisor's Signature
	

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Introduction

1.1 Background of Study

Recently, many digital games have gained increasing interests not only from teenagers or kids, but also from educators across the countries. Addition to being the most popular free time activity of people with different ages worldwide, digital gaming has played an important role in educational aspects, being considered as one of the effective tools used to enhance learning ability. Many studies have indicated the potential and some positive impacts of digital gaming on language learning skill. Firstly, for instance, in informal language learning contexts, language learners can learn their target language incidentally (Kerka, 2000). Secondly, digital games are fairly able to increase motivation of the learners, as well as easily draw their attentions when studying the target languages (Driskell & Garris, 2002). There have been several terms proposed by many experts and researchers in order to define and elaborate the meanings and types of games. Additionally, some researchers have come up with different characteristics of digital games which can be used to promote learning effectiveness of learners.

In addition to the definitions of games, the term Learning has been defined differently by many educators. However, no consensus and general agreement about the definition of the term “Learning” has been found. In this research, learning is considered as a broad term reflecting some changes of learners’ behaviors. According to Lachman (1997), learning is loosely defined as an effect of experience behavior. A change in behavior which is caused by experience is essentially considered as a basic functional definition of learning. Likewise, the functional approach of defining the term Learning, which focuses on the evaluation of behavioral outcomes and their consequences, has been supported as it is verifiable and generalizable (Houwer, 2013). Therefore, based on the definition of learning proposed by Lanchman (1997), language learning in this research is defined as a behavioral change in language skills.

1.2 Research Objectives and Research Questions

Regarding the points of digital games’ potential to increase and enhance learners’ language learning, and its popularity among people with different ages, especially teenagers worldwide. This research aims to (1) analyze features of an online digital game (named Arena of Valor, commonly known as ROV) in order to figure out whether the game features, such as Heroes, Items, and Quick chat, can provide opportunities of English language learning and practicing to the students or not. The second aim is to (2) investigate the students’ perceptions toward an online digital game features as a resource of English language learning. The students were interviewed to express their opinions of how they can learn English language through the features, and how much the features of the game can be useful and beneficial for them in term of English language learning. In addition, the students’ gaming behaviors were also examined to find out how they react and participate in those game features, and whether or not they directly or indirectly learn English language through the game. Based on the objectives of the research, the researcher comes up with two research questions:

1. What are some digital game's features which provide English language learning opportunities to the students?
2. What are the students' perceptions toward the game as a resource of English language learning?

Literature Review

2.1 Definitions and Types of Games

Games, Video Games, and Digital Games

There are several definitions and meanings of games and other related terms such as digital game, computer game, online game, and video game. These definitions have been provided differently by many researchers and experts. According to Oxford English Dictionary, the term Game means 1) An activity that one engages in for amusement or fun, and 2) An activity played for entertainment according to the rules. Whereas, the term Video Game means a game played by electronically manipulating images displayed on a television screen, and the term Computer Game refers to game played on a computer or with computers, involving graphics and operating in real time. Lastly, Digital Game refers to any of various games that can be played using an electronic control to move points of light or graphical symbols on the screen of a visual display unit, according to MOT Collins English Dictionary.

Serious and Vernacular Games

Games are categorized into various groups depending on their characteristics and purposes of playing. According to Sørensen (2007), serious games or educational games sometimes refer to games which are designed specifically for learning and educational purposes. Being distinguished from the games designed for only entertainment purpose, these educational games are normally used to help in improving players' learning ability. On the other hand, vernacular games or commercial games can be used to refer to the games which are designed primarily for entertainment purposes, having an entertaining aspect as its first priority.

Multiplayer Online Battle Arena Games

Being considered as a vernacular game or commercial game, Multiplayer Online Battle Arena (MOBA) game is a new gaming genre of which the main objective is to destroy the opponents' base, heavily guarded structures at opposing corners of the map (Urban Dictionary). MOBA games allow players to control a hero character or avatar, and to interact with teammates and with computer-controlled creatures or non-player characters (NPC) (Guo & Barnes, 2007). MOBA games provide several modes, mainly focusing on Player vs. Player (PvP) team-based combat. Normally, two players are separated into two teams having five players each in a particular match, resulting in 5v5 player battles (Millar, 2017). Recently, League of Legends by Riot Games, DotA2

by Valve Corporation and Guardians of Middle-Earth by Monolith are the examples of MOBA games which are still popular and have been played in many countries.

2.2 Characteristics of Language Learning Games

Many experts have stated and defined several games' characteristics which could help improve language learning in many aspects such as motivation and interests. For example, according to Erkkilä (2017), there are three characteristics of games which can promote language learning effectiveness including Meaning centeredness, The role of social interaction, and Narrativity.

Meaning centeredness: Instructions provided in games are very important, and reflect the meaning-centeredness. Instructions can make sure that students focus more on meaning rather than form. According to Blake (2011), the vocabulary can be significantly acquired by reading and understanding the explicit instructions provided in games.

The role of social interaction: Features of game that allow players to have social interactions tend to help promote language learning. Students can be provided opportunities to practice using language with other people, claiming that they have gained valuable fluency practice. Some games have social aspect called affinity group, which means forming the communities where the students play, discuss, share, and associate with each other (Gee, 2003). When forming the communities, the students may have to write and read a particular language frequently and this increases their possibility to acquire language and literacy skills. In addition, social interactions in the games have an effect on students' willingness to communicate. Having enough motivation and willingness to learn the language, the students are likely to improve their productive L2 skills successfully.

Narrativity: Narrativity, which means how games are used to tell stories, (Erkkilä, 2017), and stories in games are also the features that students can learn the language from. Normally, the story and possible cut-scenes provide information such as conditions, descriptions, and objectives which sometimes require the students to read in order to play the games effectively. Therefore, the narrative aspect of games can be considered as a valuable resource for L2 learning as it is often multi-channeled (visual and aural). According to Gee (2012), games are also able to "situate meaning". With game features, words can be associated with images, actions happening in the game, goals, and dialogue. Thus, words used in games are easier to learn and understand as they are linked to something concrete such as contexts in the games.

2.3 A Digital Game as an Out of Class Activity and Autonomous Learning

Autonomy was once stated by Benson. (2007) as "the ability to take charge of one's own learning." However, there have been various terms and several ways which we can use to refer to learning autonomy such as Learner independence, Independent learning, and Self-direction. Many studies have found the positive effects of learning autonomy on students' learning performance. According to recent research, learners

with learning autonomy are more likely to achieve high levels of English language proficiency. Moreover, it has been shown that young adults learners of English, who have learning autonomy, performed better than their peers in class on linguistic tests which its contents were taught in classroom (Cole & Vanderplank, 2016) revealing that some out-of-class and informal language learning activities, which is a part of learning autonomy, essentially affects learners' effectiveness of performance. Nevertheless, learner autonomy is not limited in classrooms only. For instance, first, Ushioda (2007) adopted a sociocultural perspective with the concept of autonomous learning, suggesting that motivation and social environment play an important role in developing and supporting learners' autonomy. Second, digital gaming can also be applied to the concept of autonomy, revealing two important aspects: 1.) independent decisions on gaming choices can be made by gamers, and 2.) when game-external websites and other communal resources are applied, learners fully gain overall gaming experiences (Thorne, Fischer, & Lu, 2012). In short, learner autonomy can get enhanced when a digital gaming is a community-based activity. Furthermore, according to Driskell and Garris (2002), the applications of games as instructional tools have increasingly been interested for three main reasons: 1.) going well with the educational philosophy from a learner-centered model, and learning through games allows students to control, manage, and play an active role in their own learning, 2.) games are able to enhance players' learning and understanding of complicated subjects, and 3.) learning through games, learners' motivation for learning can be triggered due to the potential to engage the students.

Moreover, when students play games when they are not in classroom, L2 learning is somehow informally developed. According to Hulstijn (2008), while the use of formal learning strategies is defined as feature of intentional learning, the students can also improve their language learning through the everyday practices in informal contexts. Some participants in the research of Hulstijn (2008) also added that motive for L2 learning can be triggered by the students' pleasure in gaming. According to Hapsari (2018), social interaction during the game encourages incidental language learning as the game, DotA, requires the students to communicate and interact with peers all the time in both chat room and voice chat, providing opportunities for collaborative and team-based learning for the players. In addition, it is also found that when the students enjoy interacting and planning strategy to beat the other team, incidental language learning happens. To conclude, incidental language learning can be supported by DotA as the game requires the students to use English language and social interaction skill to win the game.

Number of studies has investigated the relation between technology-driven modern media and English language as a lingua franca. For instance, according to Sánchez and Tuomainen (2014), in Finnish Television programs and magazines advertisements, English language is used as an input which is available and can be seen frequently. For a digital game aspect, Piirainen-Marsh (2009) indicated that digital games are the contexts where Finnish children can get the opportunity to the English language exposure as using English can symbolize internationality and trendiness and also shows the expertise in gaming. Moreover, Benson and Chik (2011), came up with the claim that L2 gaming can be considered as "computer-based activities that are carried out on the student's initiative, outside school, and mainly for the purpose of

pursuing some interest through a foreign language, rather than for the direct purpose of learning the language,” reflecting the relationship between L2 gaming and L2 learning. Thus, digital gaming is also a community- or team-based activity which allows players to participate in online communities using English Language as a medium of communication.

Methodology

3.1 Participants

Corresponded to the objectives of the research, participants included two groups: 1) a MOBA game and 2) undergraduate students.

Multiplayer Online Battle Arena (MOBA) Game

In this research, Arena of Valor game with English version was selected as an example of MOBA games due to its great popularity. Recently, one of the most famous online MOBA games across many countries especially in Asia is Arena of Valor, commonly known as ROV. It is a 3D, third-person, multiplayer online battle arena (MOBA) style game. The game has multiple modes and characters, which refer to as heroes. There are several servers of ROV based on the geographical locations and areas of nations, such as Thai sever, Vietnamese sever, and Taiwanese sever. In each sever, a few languages versions of the game are provided as options for players to choose. Thus, with this game activated in English language version, an opportunity of English language learning and practicing could probably be provided in some features of the game.

Undergraduates Students

The participants are three undergraduate students whose major is in English teaching and learning. Two of them are male and one is female, namely Jack, Kyu, and Pam respectively. They were selected purposively using ROV game participant rate. In order to make sure that the participants know all the game features well enough. There are two criteria for selecting the participants. First, the participants must play ROV using English language version only. Second, they must have been playing the game for at least two months, spending at least five to seven hours a week on playing the game.

These three participants have been playing ROV game for at least two years. Playing the game together as a group, they play it every day, spending at least two or three hours on it. Interestingly, despite many language versions to use, they prefer to use English version of ROV, which means that both written and spoken English as the input provided in the game is mostly received in English.

3.2 Research Instruments

Semi-structured Interview (Focus-group)

The interview consists of 20 questions and lasts 60 minutes approximately. The questions are mainly concerning the participants' gaming behaviors (fluency of playing the game, reactions to the features of game, and personal interests in some game features such as heroes and items) and their opinions toward ROV game as a good resource of English language (English language skills required for playing this game, English language skills they think they can learn and practice through the features of game, and how they participate in the game).

Individual Follow-up Interview

Some in-depth questions were asked individually through several platforms such as telephone, face-to-face communication, and online messages. The questions aim to ask for some specific reasons and more detailed information from the participants.

3.3 Data Collection

The data was collected through the semi-structured and semi-formal interview in the focus-group interview process. During the interview process, the participants were allowed to share their opinions, perceptions, and examples freely. Being audio-recorded, the interview was conducted in Thai language in order to prevent language barriers. After conducting the focus-group interview, some additional data were collected through the individual follow-up interview. Separately, the participants were asked with four to five deep questions aiming to receive more information with various and different examples.

3.4 Data Analysis

The study was conducted in two phases. The first phase was an analysis of ROV game features. In order to investigate the features and find the features that can be a resource of autonomous English language learning and practicing. The features were analyzed based on the characteristics of games promoting language learning concept, proposed by Erkkilä (2017). The characteristics include 1) Narrativity 2) Meaning-centeredness and 3) The role of social interaction. All of the features which reflect at least one of the three characteristics were selected and formed as a group. However, not all of the features reflecting the characteristics were picked to be elaborated in the research. Even though some of them offer at least one characteristics, they do not provide enough amount of English language as L2 input and opportunities for players to experience English language. Therefore, only the features which can both reflect one of the characteristics and also provide enough amount of English language input were selected as major features.

In the second phase, in order to ensure the reliability of translations of the interview, the interview, which was audio-recorded and conducted in Thai language, was

transcribed and then translated into English language version. After that, back translation technique was employed. The English translated interview was translated back into Thai language version by the translation expert. Two versions of translations were later found to be semantically accurate and convey the same meanings of content. Secondly, the data were analyzed through the inductive and qualitative approach in which the focus is on “process, understanding, and meaning” (Merriam, 2009).

Findings

4.1 An Analysis of Digital Game Features as a Resource of Autonomous English Language Learning

Based on the three main characteristics of game features (Meaning centeredness, Role of social interaction, and Narrativity) which can promote learning, proposed by Erkkilä (2017), several game features provided in ROV have been found and expected to help enhance language learning skills. However, after looking closely on those features, there are only five major features that could play significant roles in language learning namely 1) Heroes’ stories 2) Heroes’ expressions 3) Item descriptions 4) Game expressions and 5) Synchronous quick chat. Each feature’s elaboration is as follows.

Feature 1: Heroes’ stories

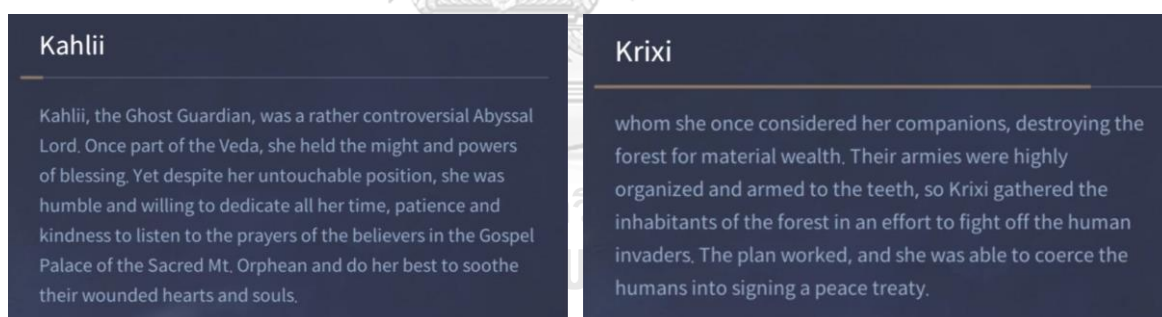


Figure 1: Heroes’ stories captured from ROV

Heroes’ stories feature is a non-interactive feature providing narrativity which is one of the characteristics of games promoting language learning. Huge amount of English as L2 input is provided by this feature. Each hero has its own passage of story which describes the origin, where the hero is from, main characteristics, and brief history of that particular hero. For instance, “*Omen the insatiable was a killing machine. He was born from the deepest, darkest depths of Demon Abyss, a place as cold and soulless as him. Even demons born of the same abyss refused to stand by him, fearing that his chill would wipe them away.*” is a part of the story of the hero named Omen. Provided in the game, there have been 92 heroes so far. Thus, 92 long passages written in English are available for players to read and learn more about their favorite heroes. Once again, the information and story of each hero is written in English, giving the players an opportunity of English exposure and practice, especially in terms of

reading and vocabulary skills. Even though this feature does not affect any gaming performance, it is probably able to increase the players' attention and interest toward the game due to the interesting stories of the players' favorite heroes.

Feature 2: Heroes' expressions

Heroes' expressions feature is also a non-interactive feature. It involves Narrativity characteristic as it provides English listening input to the players. With this feature, the players can practice their listening skill, trying to find out what each hero says during the game. The expressions uttered by the heroes are normally related to their stories, reflecting the characteristics of them and how they are like. The examples of heroes' expressions are "*Never turn your back on a demon*" and "*Vengeance will be mine*" said by the hero named Natayla, "*All that glitters is indeed gold,*" "*I can bench press forty gold bars*" from the hero named Gildur, and "*You wanna get cut?*" "*Do you feel the draft?*" "*Death by a thousand cuts*" from Zill. These kinds of expressions are produced the whole time during each match.

The players will be hearing the several expressions from heroes which are employed within a team and in the other team. In addition, the players can keep listening to these expressions as much as they wish when they go to *Heroes Mode*, a mode where all the heroes are shown and described about their information, and pick a hero that they want to listen to its expressions. Each hero has around ten different expressions which are about five-to-eight-word long. Therefore, having more than 90 heroes, approximately 900 different expressions from heroes are provided. Lastly, even though the players' gaming performance is not affected by this feature, it probably makes the players feel more motivated to play the game as they may would like to know the expressions of their heroes.

Feature 3: Items descriptions

Items descriptions feature is a non-interactive feature which affects the players' gaming performance as the items must be selected properly by the players and they must fit with heroes' abilities in order to make those heroes stronger and compete enemies. Almost two hundred items are available for the players to choose. Each of them has a description which explains how it works and how it helps the heroes. For instance, to effectively and correctly use the item named *Blade of Eternity*, a major item which requires big amount of gold to buy, the players may need to read its description which is "*+120 Physical defense. Unique passive- Nirvana: Resurrects 2 seconds after death and gains 2,000 + (hero level x 100) HP. Cooldown: 150 seconds. (This skill can only be triggered up to 2 times in the same match.) Unique Passive- Fighting spirit: Increase damage dealt by 10%*". However, not every item has this long description, some minor items which the players do not have to spend many coins on them have only short descriptions such as "*+10 physical attack +8% life steal*" and "*Cooldown reduction +10%*". Thus, this feature provides an opportunity of reading English to the learners. By reading the descriptions and details of items that they want to apply with their heroes, the players may be able to learn some new words, slang, and vocabulary. This finally enhances the players' autonomy, learning new words and practicing reading by themselves. Plus, the players probably find meanings of unknown words on their own in order to use those items effectively and have better gaming performance.



Figure 2: Item descriptions captured from ROV

Feature 4: Game expressions

Similar to heroes' expressions feature, game expressions feature is a non-interactive feature which does not affect gaming performance. The learners can practice their listening skill as well as learn some grammar aspect. Through the game expressions feature, written and spoken forms of English language are provided. Those expressions appear according to the situation happening in the game. For example, when the expressions such as *"Your team has destroyed the tower"* and *"Your tower has been destroyed"* are uttered when players can destroy the other team's towers or when their towers are destroyed by the other team. The other example is that when the players or their teammates kill heroes from the other team, the expression *"An enemy has been defeated"* appears, yet when the heroes in their own teams get killed, the expression such as *"You have been defeated"* appears accordingly. Eventually, differences between active and passive voice could be noticed. Therefore, two main English areas that might be improved though this feature include listening and grammar.

Feature 5: Synchronous quick chat

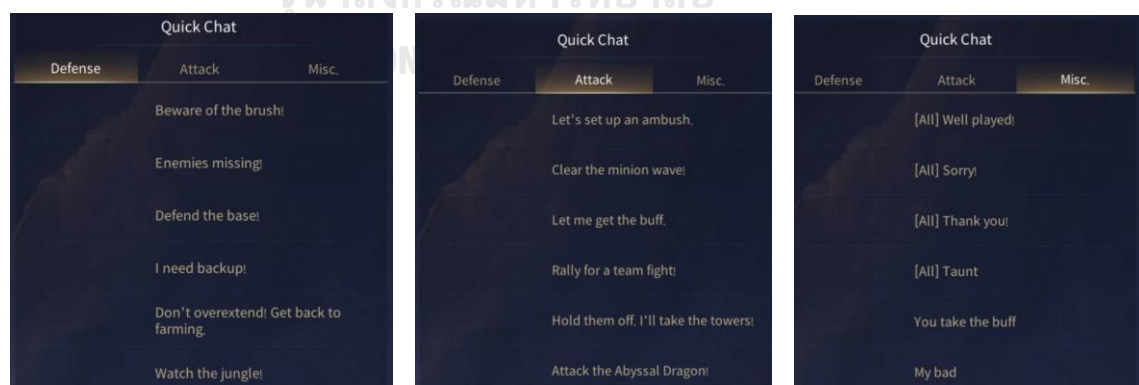


Figure 3: Synchronous quick chat captured from ROV

Essentially having impact on gaming performance, synchronous quick chat feature is an interactive feature which the players can use to communicate among the team. By using quick chat provided in the game, the players can communicate with their teammates without texting or speaking. In addition, both written and spoken forms

of English as input are provided through this feature, allowing the learners to practice listening skill and learn some new vocabulary. There are approximately different 60 expressions in quick chat, being used in different situations and purposes. The expressions in quick chat such as *“Beware of the brush!”* *“Enemy’s missing,”* *“Defend the base,”* and *“Watch the jungle”* are the expressions which may be used when the players want to defend the base and retreat from the enemies. Whereas, if the players want to attack the enemies, they may use the expressions such as *“Let’s set up an ambush,”* *“Rally for a team fight!”* *“Attack the Abyssal Dragon!”* and *“My ultimate is ready”*. Furthermore, some expressions could be used to show the players’ feelings toward the other players. For example, the players may use *“Nice one”* or *“Well played”* to express their compliments, and use *“My bad”* or *“I screwed up”* to show that they are feeling guilty and sorry. This feature plays an important role on gaming performance as the players may have to use this feature to communicate successfully among their teams. Thus, this feature involves social interaction, which is one of the game characteristics that promote learning.

In conclusion, each feature provided in ROV game could provide different resources of English language learning. The features including heroes’ stories, heroes’ expressions, and game expressions are informative and allow the players to read and listen to English language limitlessly. This reflects Narrativity which is considered as one of the characteristics of game promoting language learning. Similarly, item descriptions feature reflects Meaning-centeredness characteristic. To have better performance in the game, the players are required to read instructions and descriptions written in English, focusing much more on meanings and vocabulary rather than a form of language. Lastly, playing an important role on gaming performance, synchronous quick chat feature allows the players to use English language to communicate among their teams. Thus, the characteristic of the Role of social interaction is reflected. A summary of the features analysis is shown in Table 1.

Features	Examples	Characteristics
1. Heroes’ stories English passages informing personal information of the heroes’	<i>“Omen the insatiable was a killing machine. He was born from the deepest, darkest depths of Demon Abyss, a place as ...”</i>	Narrativity
2. Heroes’ expressions English expressions spoken by different heroes being controlled in the game	<i>“You wanna get cut?”</i> <i>“Do you feel the draft?”</i> <i>“I can bench press forty gold bars”</i>	Narrativity

Features	Examples	Characteristics
<p>3. Items descriptions</p> <p>English descriptions of items to be used and adapted with a particular hero</p>	<p><i>+120 Physical defense.</i> <i>Unique passive- Nirvana:</i> <i>Resurrects 2 seconds after death and gains 2,000 + (hero level x 100) HP.</i></p> <p><i>Cooldown: 150 seconds.</i> <i>(This skill can only be triggered up to 2 times in the same match.)</i></p>	Meaning-centeredness
<p>4. Game Expressions</p> <p>Written and Spoken English expressions which appear in each match according to different situations</p>	<p><i>"Your team has destroyed the tower"</i></p> <p><i>"The enemy has been defeated"</i></p> <p><i>"You have been defeated"</i></p>	Narrativity
<p>5. Synchronous quick chat</p> <p>Lists of short English expressions which the players can use to communicate among teams</p>	<p><i>Beware of the brush!"</i></p> <p><i>"Enemies missing"</i></p> <p><i>"Rally for a team fight!"</i></p>	The role of social interaction

Table 1: Summary of an Analysis of the game features

4.2 Analysis of the Interview Results

Results of the interview were analyzed and separated into two parts. The first part (4.2.1) discusses the students' perceptions toward the game; to what extent they think ROV game features provide them chances of learning English language. The second part (4.2.2) examines how the students participate in the game; i.e. how can they learn English through the features of game.

4.2.1 The Students' Perceptions toward ROV Game as a Resource of English Language Learning

In this part, the results are separated into two main points including 1) ROV as an out-of-class activity for language learning, and 2) usefulness of ROV. The elaborations of each point are as follows.

ROV as an Autonomous Learning

The students seem to perceive ROV game as a good resource of English learning as it could provide them the opportunities of reading and listening in English. According to the students' interview, reading the heroes' stories and listening to the heroes' expressions provided in the game do not affect their gaming performance at all. Yet, they obviously show their interests toward these two features, claiming that reading the stories and listening to the expressions of heroes are considered as their favorite activities to do. Even though the main purpose for playing the game is for entertainment, the students can realize that English learning skill is what they can incidentally practice through the features of the game. Additionally, the students stated that heroes' stories feature provides them a huge amount of input to read. Hundreds of passages written in English are available for them. Being personally interested in the whole story of ROV and relationship among the heroes, the students read several stories of heroes even though they do not have any impact on their gaming performance. Moreover, different from textbooks or academic papers, reading passages provided in the game is much more interesting and fun. The students can spend longer time on reading English passages talking about their favorite heroes. Also, the students added that by reading the heroes' stories, they can read faster and practice reading more often especially reading for main ideas.

"What I think I can practice is reading for main ideas. I always read the stories of the heroes and try to comprehend and understand them. I may not know every single word at once, but I at least know what the main ideas of the stories are." (Jack)

Another feature which is considered as an enjoyable activity is heroes' expressions. Listening to the expressions, the students also could get exposed to the English language as a spoken input as well. According to the students, they always love to listen to those expressions and try to find out what have been said by the heroes. This is because they would like to learn and know more about their heroes' characteristics. By listening to their expressions, the heroes' characteristics and personalities could be reflected.

"This game allows me to listen to many English expressions uttered with different accents and tones of voice. Sometimes, we can identify characteristics and status of a hero by only listening to his voice and how he speaks." (Jack)

"I love to listen to the expressions especially ones from the heroes. Even though I couldn't understand some of them as they are spoken fast, it is always fun trying to figure out what a hero says" (Kyu)

In addition to the personal interest aspect, the students are also willing to read and learn the features which have great impact on their gaming performance. Those

features are item descriptions and synchronous quick chat. As reading skill is one of the required skills for playing ROV game. This game requires them to read so much in order to play the game better and to have more fun. For example, one of the students, Pam, said that there are many important things to read in order to get better performance. All of them seem to have the same opinions that reading and understanding items description are the most important as this feature directly affects their heroes' abilities. All of them seem to have the same opinions that reading and understanding items description is the most important as this feature directly affects their heroes' abilities. Furthermore, as the synchronous quick chat is the feature which allows them to communicate with their teammates, the students agreed that they have to pay attention to this feature in order to successfully communicate with their friends. Plus, it is necessary to understand all the meaning of the expressions provided in the quick chat. Kyu, thus, said that he could practice listening skill through the synchronous quick chat feature as well, especially when communicating with teammates. Once the expressions in the quick chat list are selected, they are uttered and the sounds come out. This allows him to listen to those expressions and notice how they are pronounced.

To sum up, due to their personal interests toward the heroes and to have better gaming performance, the students often experience English language especially in terms of reading and listening skills. The students added that some features especially the synchronous quick chat and heroes' expressions provide them opportunities to listen to different varieties of English as different heroes utter their expressions with different tones of voice. Whereas, item descriptions and heroes' stories features provide them opportunities to read English language. For instance, *"I read a lot so I learn a lot from that. Items are very important so I have to read and try to understand them. I also read many stories of the heroes especially the ones that I am interested in."* was said by one of the students, Pam.

Usefulness of ROV

The students perceived that ROV is useful for them in term of language learning, expressing their opinions of how ROV game features are useful. A number of usefulness of the game was mentioned. The students firstly stated that some parts of what they learned from the game, such as vocabulary and grammar points, were presented in the lessons in their classrooms as well.

By reading English passages and listening to many expressions, several English vocabularies and some grammar points have been learned as well. For instance, Jack stated that he often found some uncommon words from the passages of heroes' stories, mentioning the word *Blabber* as an example received from the story of Mganga, one of the heroes in ROV, and *Life Steal* which was learned when reading an item description. Another student, Pam, also mentioned *Execute* as an example of the word she found from reading the stories. Whereas, Kyu said that he mostly found some difficult words when he reads the item descriptions and heroes' information and details. In addition, two grammar aspects that could be learned through the game were mentioned by the students. Firstly, two of them claimed that they learn the difference between passive and active voice. For instance, when playing the game, once the expressions such as *"You have defeated an enemy"* and *"You have been defeated"* are uttered, the students could spot the difference by guessing from the contexts after listening for several times.

Moreover, Jack additionally talked about phrasal verbs. According to him, many phrasal verbs are provided in the game, and this is a good chance to learn them as authentic contexts are also allowed, making it even easier to understand the meanings of those phrasal verbs. *“...At first I didn’t know what Set off means so I searched for its meaning and finally found out that it means to bomb or to make something work in the game context.”*

In real contexts, such as in their classrooms and exams, some words or grammar points that the students have learned from the game are sometimes found. For example, according to Jack, some English words, which are written in the passages telling the stories of the heroes whose status is god or goddess, could be found in the literature class. Moreover, some phrasal verbs which he learned from reading the item descriptions and heroes’ stories are authentically used in the class which provides lessons about news. Fortunately, being able to recall the words he found, he could understand the texts that he read in class better. *“I sometimes see the words in the game appear in my literature class. When I saw them, I immediately realized that I had seen them before when I read the stories in the game.”* added Jack. Addition to academic contexts, active and passive voice are often used not only in English classroom or exams, but also in daily conversations. The expressions such as *“You have been defeated”* and *“Your tower has been destroyed”* are always uttered in the game. Thus, the students may have some ideas of how to use present perfect tense in passive voice form. The expressions provided in the game could be used as the examples. Instead of saying *“Your tower has been destroyed”* the students may say *“Your house has been built”*. The sentences they make depend on contexts and their purposes. Briefly, the concept of passive voice in present perfect tense can be learned and adapted according to the students’ contexts.

4.2.2 How the Students Participate in the Game

In additions to the students’ opinions toward ROV as a source of language learning, they were also interviewed to reveal how they participated in the game. The first main part discusses how the students react and learn the unknown words and expressions they found in the game. Whereas, the second part indicates learning language culture and discourse analysis through the synchronous quick chat feature.

Students’ Reactions to the Unknown Words and Expressions

Due to their personal interests toward the heroes and the game itself, the students always love to listen to the expressions produced by all of the heroes and during the match. They however claimed that not every single word can be understood as some of them are abstract and uttered very fast. The students then were asked about the way they find the meanings of those unknown words and expressions from both written and spoken input. Interestingly, all of them came up with different ways of how they learn those unknown words or expressions.

Firstly, Jack mentioned literal meanings from dictionary when translating the words. When reading item descriptions, some unknown words are always found. The meanings of those words are usually searched from dictionary. However, for the

expressions of heroes, the students commonly shared the same way of learning and translating. They mostly learn those expressions by watching online video clips from the internet which mainly provides contents about translations of heroes' expressions and stories from English language to Thai language. Pam also said that *"I watch online clips posted by Youtubers and game casters. They translate those expressions and some particular words into Thai. So, I learn a lot of new vocabulary."* In addition, the students stated that there were some expressions which they could not understand at first. However, after having listened to those difficult expressions for several times, they gradually understand the meanings of the expressions by guessing from the contexts. For example, the expression at the beginning of a match *"All minions will be deployed in five seconds"* was mentioned by Pam. She did not have any idea about the term *Minions* at first, but she finally knew its meaning and what it represents by looking at the context e.g., the situation happening and the game characters appearing when this expression is uttered. Moreover, one of the grammar points, passive and active, can be easily distinguished because of the contexts provided in the game. For example, when the students get killed by the heroes in the other team, the expression using passive voice is spoken and written e.g., *"You have been defeated."* On the other hand, the expression using active voice is spoken and written instead when the students kills the enemies e.g., *"You have defeated an enemy."* Eventually, the students are able to differentiate these two tenses. They could probably guess when to use active and when to use passive. Therefore, it can be concluded that some vocabulary could be learned by the context clues.

Learning Language Culture and Discourse Analysis through Digital Game Feature

By using the synchronous quick chat feature, the students are able to communicate fast and effectively with their teammates. For instance, they can use quick chat feature to inform their friend whether to *"retreat"* or *"attack"*. They also even can use one of the expressions in quick chat list to warn their teammates, such as *"Beware of the bush"* and *"Enemy is missing"*. In addition, apart from informing and warning the teammates, one interesting point has been found. One of the students added that they use the expressions in quick chat list to be sarcastic to their teammates. The examples mentioned by Kyu are *"Excellent," "We can turn this around"* and *"Thank you"*. Semantically, these three examples of expressions seem to be positive expressions which can be used to convey positive meanings such as giving some moral support among the team. However, pragmatically, they sometimes can be used when to be sarcastic to the teammates. For instance, once the teammate unreasonably gets killed by the enemy or does something negatively affecting the team, the student would use the expression *"Excellent!"* with that teammate. Thus, in order to use the quick chat feature effectively, the students must not only understand the meanings of the expressions literally and pragmatically, but also understand the language culture. Moreover, the students have to consider the contexts and conditions happening at the moment in order to find out whether an expression used by other players conveys negative or positive meaning. To conclude, synchronous quick chat feature does not only help the students to learn vocabulary, slangs, and practice listening, but also help the students incidentally learn language culture and how to analyze the discourse and gaming contexts.

Discussions

5.1 ROV as Resource of Autonomous Learning

As findings indicate, some game features provide English learning opportunities for the learners, allowing them to autonomously get exposed to English language by reading and listening. Heroes' stories and Heroes' expressions, for example, provide huge amount of English as both written and spoken input. These features do not only provide English learning opportunities, but they also are perceived as a fun and enjoyable out-of-class activity which is able to enhance the students' motivation of learning English as well as the students are personally interested in reading and listening to their heroes' stories and expressions. By reading the English passages and listening to expressions available in the game, the students always find some English words which they do not understand and have not seen before, yet desire to learn those words. They thus learn the words autonomously finding the meanings of the words from dictionary, asking their own teachers and friends, and even watching the online videos which translate the expressions into Thai language. For instance, Jack said "...I also read many stories of the heroes especially the ones that I am interested in." and "I like to watch online video clips posted on Facebook and Youtube. They teach what the expressions mean in Thai." These findings are, firstly, in line with the research of Piirainen-Marsh (2009) which stated that the digital games are the contexts where the opportunity to learn English language is provided. Heroes' stories and heroes' expressions features are the obvious examples supporting this statement. Secondly, they are also in an agreement with the research of Driskell and Garris (2002) claiming that one of the advantages of the digital games is its ability to increase learner's motivation and get their attention, and that the digital games are normally viewed by the learners as an enjoyable activity allowing them to learn English autonomously and have fun when playing too.

Secondly, with the ROV game features, the students can have opportunities to learn and practice English language incidentally too. In terms of grammar, the students are able to spot the differences between passive and active voice due to the English expressions written differently according to the different contexts in the game. Moreover, some unknown words used in the game can be learned through the contexts as well. By observing the contexts, the students can guess the meanings of those words without finding the meanings from dictionary. "*Many words can be guessed by looking at the contexts. Once a particular word is uttered, a particular event happens too. So sometimes it is quite easy to guess the words.*"(Pam). This finding obviously can be supported the claim indicating that words can be associated with images, actions happening in the game, making the words are easier to learn and understand (Gee, 2012). Moreover, the synchronous chick chat feature could somehow be a context where the students can incidentally learn English language as it allows the students to communicate using English as a medium of communication. This is in line with the results of Hulstijn (2008) claiming that social interaction during the game encourages incidental language learning as it provides opportunities for collaborative and team-based learning for the players.

5.2 The Linkage of Gaming World and Academic World

Many English vocabularies have been learned when reading the features such as item descriptions and heroes' stories. Some grammar aspects including the differences between active and passive voice and phrasal verbs can be found in the game features as well. According to the results of analysis, these English vocabularies and grammar points are not only found in gaming context, but also found in academic contexts such as classrooms and examinations. This reflects the usefulness of playing this online digital game. Many words they found and learned from the game features sometimes appear in their classrooms, such as literature and news classes, examinations, and even in their daily conversations. This part of the findings is in an agreement with a research of (McFarlane, 2002) in which one of the main findings is that contents provided and presented in the games can sometimes be presented in classrooms as well. Therefore, some language knowledge and learning content can be directly provided to the learners in some extent. In addition, this finding which indicating the usefulness of the game, especially in term of vocabulary, can be supported with several previous research. According to Vasileiadou and Makrina (2017), online game as the mean of instructions and vocabulary practice can successfully increase learners' learning performance and achievement, compared to those who studied vocabulary through traditional teaching method. Salami (2014) also indicated the effectiveness of online games as a tool for helping learners learn and acquire new English vocabulary. Learning through online games, the students gained a higher number of vocabularies, compared to those who learned vocabulary through conventional learning class. Lastly, this point also indicates that the students can see the linkage between the content in the game and content provided in classrooms. They therefore probably experience that this game is beneficial for them in term of English language learning in some extent. The research of Pillay (2002) can be supported by the findings as well. It was indicated in the research that while the learners play entertaining computer games for fun, they also incidentally and simultaneously gain knowledge and information which could be used later in learning contexts. Eventually, the student would feel more motivated to play the game not only because of the entertainment, which is the main purpose of playing this game, but also due to its benefits the students realized that they could get when playing the game.

5.3 Hidden Skills Received through the Game

Most people may think that it is a waste of time to play digital games especially vernacular or commercial games which are designed primarily for entertainment purposes. Nevertheless, the students in the research have revealed that they are able to realize what they could receive from the game apart from its entertainment. The content provided in the game, such as passages of heroes' stories and expressions may not be commonly used in daily conversations since most of them are abstract words and all about imaginary things such as ghosts, gods, monsters, and fairy tales. However, some hidden things that the students could get from playing the game are opportunities to use and practice their English language, especially listening and reading skills. By reading the heroes' stories, the students' reading skill gradually gets improved. Jack mentioned that he could practice reading for main ideas by reading the passages of heroes' stories.

He normally does not know all words written in the passage, yet he is able to understand the overall picture and main ideas of them. Eventually, this would lead to the increase of students' ambiguity tolerance which can facilitate English language learning, and positively affects language learning performance such as listening comprehension (Soleimani, 2009) and reading comprehension (Keshavarz, 2009). Furthermore, Pam can also practice learning vocabulary by guessing meanings from context clues. During the games, some complex vocabularies are always presented together with contexts and this allows the students to learn those words by considering from the context clues, which are found to be able to enhance understanding of students when learning new words (Jaial, Rokni, & Niknaqsh, 2013)

Limitation of the Study and Suggestions for Further Studies

This research on the analysis of game features faces a number of challenges. Firstly, it is a small-scale research which includes a limited number of the participants. Moreover, having similar background of study, the participants were likely to share the similar ideas and opinions, and always agreed with each other, making the examples given are not so various. However, in order to gain more various information, the participants were asked with the follow-up questions individually through many platforms as well. Secondly, there is only one particular digital online game used in this research. Games features to analyze are also limited. The results of this research, thus, could not be generalized to account for other English learners using digital games as resources of English language learning. Therefore, to have the results more generalized, further studies can be developed by being conducted with a higher number of participants who have different backgrounds of study and different levels of English proficiency. This is in order to prevent the problems of receiving repetitive and not various answers from the participants.

Appendix

Lists of questions asked in the semi-structured interview

1. How many days do you play ROV in a week?
2. How many hours per day do you spend on playing ROV?
3. What made you decided to play ROV?
4. Do you read the instructions, suggestions, tips, and announcements written in the game?
5. Have you met any unknown English words and tried to find their meanings in Thai?
6. What English language skills have you needed in ROV?

Learning English through elements of game

7. What are your favorite *heroes*?
 - 7.1 Have you ever listened to the speeches of your favorite heroes? What does it say? Do you understand the meaning?
 - 7.2 Have you read the information and the story of each hero? Do you understand it? Have you learned any new words from reading the stories?
8. How do you buy and manage your *items* in each match?
 - 8.1 Do you normally read the descriptions of each item before purchasing? If yes, are there any words have you learned?
 - 8.2 How can you know the effects of each item after employing it with your hero?
9. How often do you use *quick chat* provided in the game?
 - 9.1 When and why do you use it?
 - 9.2 Do you understand all of the expressions in the quick chat list? Have you learned anything new from the quick chat feature?
10. Do you read and listen to the *expressions* occurring during each match? E.g. "Your team has destroyed the tower", "An enemy has been defeated", "Double kill"
 - 10.1 Do you understand all of them?
 - 10.2 Have you learned any grammar points from these expressions?

Students' opinions

11. What areas of English have you learned or improved when playing ROV? Draw the circles based on the degree of how much you learn English in each skill.
12. To what extent do you feel that ROV helps you study English better?

Rate the scale from 0 to 10

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