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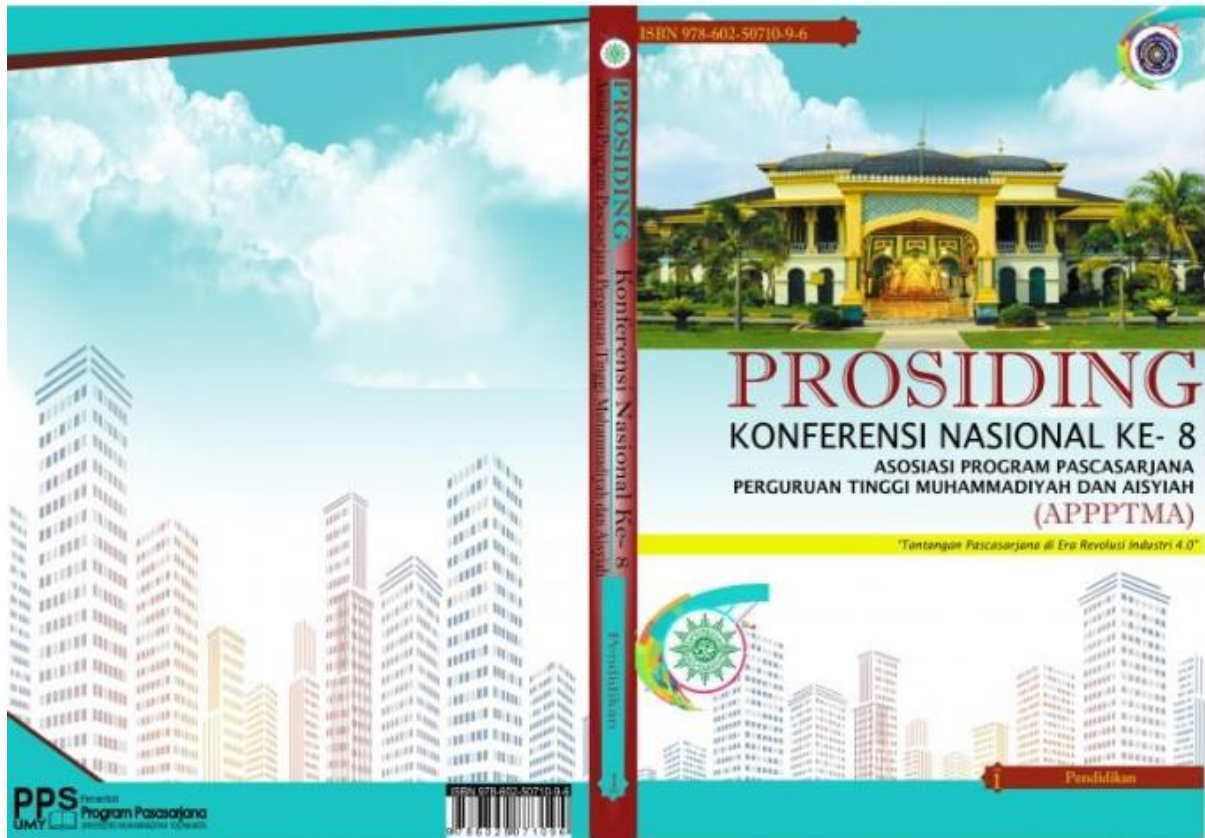


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Discovery Learning in the Process of learning English through Video Game

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Abstrak — Kemampuan berbahasa adalah kemampuan untuk memahami bahasa reseptif dan ekspresif menggunakan bahasa untuk berkomunikasi. Di Indonesia, Bahasa Inggris digunakan sebagai Bahasa Asing. Penguasaan Bahasa Inggris sangat penting mengingat penggunaannya sebagai alat komunikasi sangatlah luas dan meningkat. Proses belajar Bahasa Inggris secara umum ada 2 (dua) cara yaitu cara formal dan cara informal. Cara formal biasanya dilaksanakan di sekolah, di dalam kelas. Sedangkan cara informal biasanya dilakukan dengan gadget, internet HP, video game, atau belajar Bahasa Inggris pada situasi yang sebenarnya. Penelitian ini berfokus pada penggunaan Discovery Learning untuk proses belajar Bahasa Inggris pada remaja melalui Video Game. Discovery learning merupakan salah satu cara belajar Bahasa Inggris yang efektif untuk meningkatkan kemampuan Bahasa Inggris dengan cara yang relatif tidak membosankan dan memberikan peluang yang besar pada remaja untuk sukses dalam penguasaan Bahasa Inggris. Dalam penelitian ini masalah yang diteliti adalah bagaimana Discovery Learning terjadi pada proses belajar Bahasa Inggris melalui video game pada remaja. Jenis penelitian yang digunakan adalah penelitian deskriptif kualitatif dengan model studi kasus. Analisis data yang digunakan adalah analisis data kualitatif. Hasil penelitian menunjukkan bahwa memang terjadi discovery learning pada proses Belajar Bahasa Inggris melalui video game tanpa disadari oleh pemainnya. Mereka secara aktif melakukan discovery learning yang membuat mereka aktif mempelajari berbagai sumber dalam Bahasa Inggris terkait dengan game yang mereka mainkan. Apabila tidak digunakan secara berlebihan, game bisa dijadikan sarana belajar Bahasa Inggris karena bisa memberikan stimulasi-stimulasi yang efektif untuk meningkatkan kemampuan Bahasa Inggris pemainnya sekaligus memberikan hiburan ditengah banyaknya tekanan akademik yang mereka tanggung..

Kata Kunci — *Discovery Learning, Video Games, Gadget*

Abstract — Language ability is the ability to comprehend receptive and expressive language for communication. In Indonesia, English is learned as foreign language. The mastery of English is very important since its uses for communication is increasing. The process of learning English is generally done in two main ways namely formal way such as teaching learning process of English in at school and informal ways such as using gadget, internet, handphone, video game, or the real situation. This research aims at investigating how to use discovery learning in the process of learning English for teenagers through Video Game. Discovery learning is one of the effective ways to improve the English Mastery in not bored situation and it gives a good chance for teenagers to be success in mastering English. In this research, the

problem investigated is how Discovery Learning happens in the process of learning English through Video Game on teenagers. The kind of research used here is Qualitative Descriptive with Case Study model. The data analysis used is qualitative data analysis. The result of the research shows that the Discovery Learning process happen to the students unconsciously. The students actively do Discovery Learning. They actively learn some sources in English related to the game they play. So, if it is not used excessively, Game can be one of important means to learn English since it can give effective stimulations to improve the players' mastery of English as well as giving entertainment to the teenagers among the academic pressure they have

Kata Kunci — *Discovery Learning, Video Games, Gadget*

I. INTRODUCTION

Language ability is an ability to comprehend receptive and expressive language that is used for communication. Nowadays, mastering English is very important since English is widely used as international language. Moreover, interaction and communication in English is increasing since the worls condition seems borderless because the improvement of internet and other digital communication.

Related to the reality above, mastering English for teenagers becomes one of important thng to consider. EF English Proficiency Index (EF-EPI) in 2017 shows that Indonesia score is 52,15. It shows that Indonesia has low category in mastering English. This category is decreasing compared with the improvement of the user number of digital communication, online communication, or online game. Actually, by improving the user of online communication the English mastery will increase too.

In Indonesia education system, learning English development is arranged in Curriculum 2013 and it is especially arranged in Permendikbud th 2016 no. 022 about Standar Proses Pendidikan (Kemendikbud, 2016:3). The regulation stated that teaching learning process in English covers cognitive, psychomotor, and affective domain. The psychological process underlying each of the three domains are different. Cognitived domain for example, memorizing, understanding, implementing, analyzing, evaluating, and creating. Psychomotor domain is gotten from activity such as: observing, trying, reasoning, presenting, and creating. Affective domain is gotten from activity such as: recieving, implementing, appreciating, internalizing, and practicing.

The concept of each domain is very ideal, but it can not be automatically implemented merely at school. As we know, the students get the English material about 2-3 hours per week. While the fact says that in learning a language, the language must be the part of their life

everyday. The lesson gotten by the students are not only English. They have to have some other lessons besides some extra curricular activities. The learning burdens, step by step potentially rise BLAST (bored lonnelly affraid-angry stress tired) for the students or teenagers.

The teenagers with the learning burden, mostly need recreation means to recover or refresh their condition. The nearest and easiest means are their gadgets. Recently, almost all of the teenagers have their own gadgets. Some of them use their parent gadgets, but the most important poin is that everybody has access to the gadgets. Gadget has some features that can be accessed by the user. The features can be used for communication, having social media, looking for information, and even for playing game. We have to remember that gadget is not only handphone or smartphone, but it also covers other equipments such as tablet, computer, video game etc. The gadget has two potential effects namely negatif effects such as making the user addicted and making bad learning habits, but on the other hand, it can maximize the user competence such as improving their knowledge and their ability in English competence.

One of the gadget features that can improve the user English competence is video game. Video game is often accused as the enemy and distracters of learning process. It is really correct when it is used in uncontrolled and excessive ways. Video game can decrease the users academic performa when it is used in uncontrolled and excessive ways (Choo, H, Gentile, D. A. Sim, T., Li, ., Khoo, 2010). But, by using it in appropriate ways, video game can be used as effective means of learning English (Ashraf, Motlagh, & Salami, 2014; Shahriarpour & Kafi, 2014).

The research done by Ashraf et.al (2014) concluded that online game can be effective ways to absorb vocabularies. The research was done in Iran in which the country is categorized low-intermediate English foreign language learner country. The research result is supported by the research of Shahriarpur & Kafi (Shahriarpour & Kafi, 2014) which concludes that the use of media in the form of digital game improve the students' interaction and motivation in learning, besides improving thr vocabulary absorption.

Effective process of improving language competence may happens through direct interaction by using the language. The process of absorbing new vocabs will be easily memorized when it is iimersive and sub-concious. The direct interaction process enables someone to comprehend special vocabulary based on the context, not based on the translation from other language. By intensive interaction, step by step the vocabularies they have will build a full sentence that can be used for communication process.

Basically, video game is a computer game that is played in a television or a tool similar to television (Collins, 2017). Video game has a series of rules of the way to play that involve physical and mental of the users. The function of video game is a means for recreaseion and education. When it is connected to internet, it is called online game, otherways it is called offline game. Online game, recently having a fast improvement in Indonesia. It is in line with the improvement of the internet users. Based on a survey

done by Asosiasi Penyelenggara Jasa Internet Indonesia (Asosiasi Penyelenggara Jasa Internet Indonesia, 2016), the number of internet user in Indonesia reaches 137 million. Among them 13,5% stated that they use internet for killing time, while 8,8% stated that they use internet for entertainment. There is no specific number of the user of online game, but the market of game in Indonesia reach Rp. 9,3 trillion (BEKRAFT & BPS, n.d.) while the average income from the users (ARPPU) recieved by the developers is only 7% of the total users (SuperData Research &Unity Technologies, 2017).

One of the interaction and communication using foreign language especially English is through video game, whether it is online or offline. Video game online has advantages namely the user can build interaction and communication among them. Ashraf et.al (Ashraf et al., 2014) states that online game is regarded effective in improving new vocabulary absorbtion because the communication and interaction can be easily done and unconsciously they can absorb the information. The activity of playing game can build the users habit with English whether it is spoken or written. It happens because without good comprehension the language, they will not be able to play the video game well. By the condition, the are indirectly motivated to learn English without coercion and make the English become part of daily life. The requirement they need to play the game has a big role for the effectiveness of their English acquisition.

Krashen (Krashen, 1982) stated that the process of learning English in class is regarded less effective in increasing students' English skill, especially for those who can find themselves the input source in their own environment. Video game will be the good input source for the teenagers outside the context of formal English class.

The influence of video game on foreign language ability, especially English, is interesting to be investigated. Based on the description above, this research tries to unfold how video game can improve the teenagers' English ability. It is hoped that the result of this research will be a recommendation for education world to improve the students' English ability.

Based on the description above, the research problem is formulated as follows: "How Discovery Learning happen on the teenagers English learning process through Video Game?". Following up the problem, the purpose of this research is formulated as follows: to describe how Discovery Learning happens on the teenagers English learning process through Video Game.

This research has academic and practical advantages. The academic advantages is that this research can add information about how Video Game can improve individual English ability. The practical advantages is that it can be used by the parent, teacher, and Video Game produsent. Parents can understand how they should see the Video Game and give proportional controlling for their children to play the online Video Game. For the teachers, the result of this research can be an additional references on how they create an effective teaching method. For Video Game developer, the result of this research can be

an additional suggestion to create games whose more additional value.

Learning process is generally divided into 2 (two) major types namely Transmission Model and Discovery Model (Bruner, 2009). Transmission model is a way of learning in which the learners do specific tasks which almost the same as the knowledge gotten before. Sometimes it is called transfer practice or the extension of habits. For example when someone learns to ride a bicycle, what he learns is similar to skill that he will use in the next time. The Discovery Model is the way of learning in which the learner learn something which can make the future performance will be more efficient namely by transferring attitude and principle. Basically, the way to learn is done by learning general idea, not specific one, and the future, it is used as the basis to identify the problem related to general idea learned before.

Discovery Learning is actually a learning theory of constructivism based on inquiry. The Discovery Learning happens in a situation of solving problem in which the learners learn the knowledge they have to find facts, relations, and new truth to learn. The learners interact with the environment by exploiting and manipulating object, discussing questions and controversies, or by doing experiments. As the result, the learners tend to be more easily remembering the concept and the knowledge compared with transmission model. There are some main purpose on Discovery Learning namely improving deep learning process, improving metacognition (creativity and ability to solve the problem) and improving the students' memory.

In Discovery Learning, the better understanding on general idea underlying a problem, the easier for the students to implement the knowledge they get before to solve the problem. If the knowledge they get before is not sufficient to solve the problem, the individual will try to satisfy the curiosity by looking for any information or way to solve it. This is the point of discovery learning concept.

In particular, the process of Discovery Learning can be divided in 6 (six) steps namely: (1) stimulation, the teacher starts the activity by asking question, ordering to read a book, an other activity as the preparation of solving problem. This step is to prepare pre-condition that can help the students to explore the material, (2) problem statement, this is the step when the teacher allows the students to identify as many possible the problem that suited to material and make hypothesis, (3) data collection, when the students do the experiment or exploration, the teacher gives chance to the students to collect information as much as possible to check the hypothesis. (4) Data Processing. This step is the activity of processing the data gotten from interview, observation etc. (5) Verification, the students check detailly whether the hypothesis is right or wrong related to the result of data processing. (6) Generalization. This is the process of making conclusion that can be used as general principle and it can be implemented for all similar problem by paying attention on verification result. Based on the verification result, the researcher can make the principles as the basis of generalization.

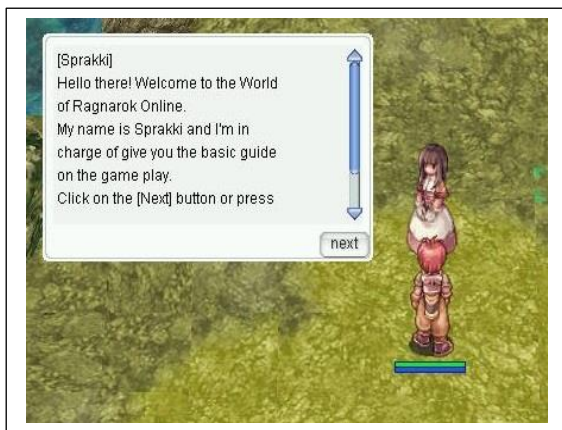
Video game is a kind of computer game that is played in television or other similar equipment (Collins, 2017). Video game is formerly regarded as a man game because of the characteristic of the big size game machine. The last ten years, video game does not only target boys or men as target market. There are many kinds of game that are designed for girls such as The Sims™, Cooking Dash™, etc. The number of woman gamers are recently increasing similar to man gamers. Besides, games are also designed for various ages since children to adult.

The improvement of technology makes the game easier to play. The game can be played with the tool that always together with human namely smartphone. There are many kinds of games can be played. Based of the internet connection needed, there two kinds of game namely online game and offline game.

Online game needs internet connection. Nowadays, can be easily accessed by community. This kinds of game enable the players to interact with other players whether they are abroad or in this country, depends on the game they choose. Online game usually more focus on the interaction among the players, so it stimulates the players to communicate with the players they meet in cyberspace. Some online games that uses international server, give indirect guidance for the players to be able to use English for communication. It is because their communication that happens among the players from many countries needs English as international language. It is different from the offline game.

Language become one of important aspects in playing video game. Language becomes the motor of the game in the aspect of instruction, story, as well as communication inside and outside the game. Since the first time of the development of the games, almost all of them is presented in English. Some video games have choice to use local language, but to accommodate the players from various countries, English is always used for those games. Instruction in the game is usually explained orally or in written to guide the players to reach the goal. In the early steps of the game, instruction is given so that the players understand the principle of the game. In the following session, the instruction is given to give advanced rules as well as to give the mission must be accomplished in the game that the players can move to the following stages.

Narration in game is important aspect in some some kind of game such as RPG (Role Play Game). Characterizations of the main character make it important to make the players dissolved on the storyline. The narration can be in the form of dialogue among the figures or in the form of monologue that describe the story in the game. Without narration the game still can be played, but the aspect of obstruction that is one of the motivation of someone to play the game cannot be fulfilled.

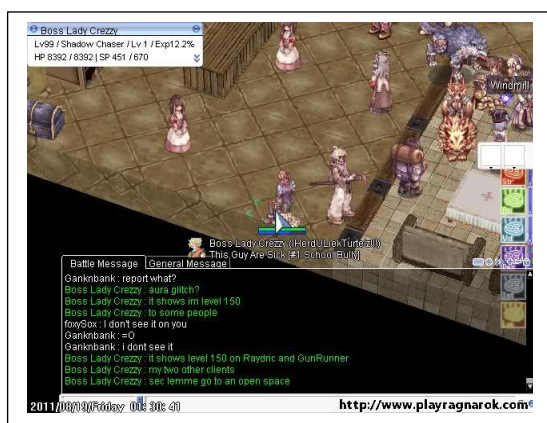


Picture 1. Giving instruction (Ragnarok Online)

Language as communication tool can be used inside or outside the game. Language in the game is used as communication tool between the players of online game. The communication can also happen between the players and the system of offline game especially the game in which the players are prosecuted to give order to AI (Artificial Intelligence, computer systems that is designed to be able to do something that is normally needs human intelligence, such as visual perception, speech recognition, making decision, and translation among languages..



Picture 2. Dialogues between Figures (Rockman X4)



Picture 3. Communication between the players of video game through fitur chat (Ragnarok Online)

The numbers of stimuli in English whether it is online or offline can be one of the tools to learn English while it

is also regarded as recreational activities. The players will be indirectly motivated to learn English by self finding new words they meets on the game, whether it is oral or in written. The players will be automatically do Discovery Learning when they play the game. Playing game is one of fun activities for them and it can be a special stimulation for them to understand the game in depth. When they do not understand what happen in the game, they will have a problem. But they will try to identify the problem, whether because of language aspects they do not understand or, they do not understand how the game works.

The players that face the problem then motivated to collect the data and explore some sources to answer the problem and to satisfy their curiosity. After they found the relevan sources, they will process what they know and verify or check to prove whether the hypthesis they create about the problem are proved correct. After that they make a conclusion that can be used for general principle that can be implemented for all similiar events or the problem they face when they play the game.

Based on the previous research, we can see that video game can improve the English ability for the persons that their mother tongue is not English (Ashraf et al., 2014; Lin, 2015; Shahriarpour & Kafi, 2014). But some research cannot explain how English can be used to improve English ability. That's why the research want to dig more about how language aspects in video game can improve the English ability for the players.

II. RESEARCH METHOD

In this research the research approach is qualitative descriptive in which the data collected is in the form of words, pictures, and other documents. This research does not use number for the data collected. The analysis is focused on to answer the question “how” and “what” in which the questions refer to an interactive process between one factor and another until the researcher find full description of the phenomena being researched(Herdiansyah, 2015)

Specifically, this research uses case study model in which the researchers uses specific case from various sources related to the case. Hancock & Algozzine (Herdiansyah, 2015) describes that there are some characteristics of qualitative research with case study namely 1) focused on individual, 2) the phenomena investigated is learned in the context of originality and it is tied on place and time, 3) full of descriptive explanation. This approach and model is used to know how Discovery Learning in the process of learning English through Video Game on teenagers.

This research is done using telephone because the distance of the researcher and respondents is far enough. The researcher is in Jember while the participants are in Bandung. The primary data used in this research is the result of Interview with the research participants. They are teenagers having TOEFL score of English categorized high namely minimum 550 of TOEFL test. or the similar level. Besides that, the researcher also studies on document owned by participants as well as video game in English.

The collecting data techniques used in this research are interview and document study. The researcher uses semi-structure interview during data collection. The characteristic of semi-structure is the occurrence of 1) open question, but there is restriction on theme and speaking plot; 2) the speed of interview can be predicted; 3) flexible, but it is still under control in question and answer; 4) interview guide, there is a benchmark on the plot, sequence, and word choice; and 5) purpose, to understand a phenomenon (Herdiansyah, 2015)

Semi-structure interview is done because the researcher wants to see learning English phenomena using informal way namely Video Game. The researcher wants to know the phenomena from the participants' perspective, and not the researcher perspective. The duty of the researcher is just to arrange the participants' explanation in a scientific finding. The interview with the participants is done via telephone and recorded using hand phone feature and of course with permission of participants. Before the process of interview, the researcher give description to the participants about the theme and the prediction of time allocated. The time allotment is 30 minutes for each participant. The participants of this research are taken using purposive sampling. The criteria of the participants of this research are: 1) the teenager whose good English ability determined by the score of TOEFL or score of English competence test at the same level of TOEFL., 2) they are active game players during the last 2 years or more.

Documentation is also used to collect the data in this research. The implementation is that the researcher investigates some written material such as TOEFL certificate or other English documents. Besides, the researcher also investigates the features supporting English skill on the Video Game played by each participant.

The validity of the research data is determined by using credibility criteria. To get the qualified data the researcher extends the time of collecting data until the level of saturated of collecting data is reached. Extending the time of data collection enable the researcher to improve the level of trust on the data collected. By the extension, the researcher can recheck whether the data gotten from the main sources or other data sources are correct or wrong. If there is something wrong, the researcher can do again the process of collecting data to get the data that is relatively correct. In this research, the researcher extends the time of collecting data by coming back to the fields to make sure that the data gotten have been correct.

The data analysis in this research is done in some steps as it is stated by Herdiansyah (2015) namely: 1) Data Reduction. In this step, the researcher combines and homogenizes all the data gotten become a written form that can be analyzed. The reduction is done since the data collection by making summary, coding, browsing the theme, writing memo, then eliminated the irrelevant data, then verified the data., 2) Display data. In this step, the researcher processes the homogeny data in the written form whose fix theme plot in one categorization matrix and divides the theme into more concrete and simple form called sub-theme, ended by giving code from sub-theme similar to interview verbatim that is made before., 3)

Verification, in this step, there are three phases namely 1) elaborating sub-category theme in categorization table and coding equipped by interview record (verbatim), 2) describing the result of research by answering research question based on the aspect from research main phenomena, and 3) making conclusion. By giving the description of the answer of the problem.

III. RESULT OF RESEARCH

A. Research Process

This research is done using semi-structure interview. It is done for each participant and every participant use time 30 minutes. From the result of interview which is transformed into verbatim, some unique themes are found from the result of the interview. The following is the profile of the participants.

Table I. The Profife of Participants.

	Participant I	Participant II	Participant III
Initial	A	S	D
gender	Male	Male	Male
Usia	19 years	18 years	18 years
Past education	SMA	SMA	SMA
Current education	SI	SI	SI
English Score	825 (TOEIC)/ similar to score 590-677 pada TOEFL ITP	550 (TOEFL-like test)	550 (TOEFL-like test)
Game Played	Grand Theft Auto V; Stronghold Crusaders	FIFA 18; Final Fantasy XII	Hearts of Iron: Waking the Tiger; Stellaris

B. Data Description

Based on the result of interview with the participants, there are some themes which then categorized into some detail sub-themes. The themes occur are (1) The experience when the participants learn English, (2) the activity of playing game, and (3) communication with others using English.

The first theme has three sub-theme namely; (a) Formal education (in class), (b) Informal education (outside class), (c) the media used. The second theme has four sub-themes namely (a) the games played, (b) the attitude on playing game, (c) the reasons to play game, (d) Exploration of language sources related to playing game. The third theme has 2 sub-themes namely; (a) communication inside game, (b) communication outside games.

C. The Description of Each Participant

1. Participant I (A)

A is a semester I student of private university in Bandung. His English skill is categorized good with TOEIC score 825. It is similar to 590-677 for the score of TOEFL ITP. His English ability is gotten from formal institution (school) and Informal (English Course). A prefer to improve his English through informal situation. He feels to improve his English when using game or film. A feels motivated to improve his English so that he can understand the mission and the story in the game. He enjoys learning English more from game since he also gets entertainment.

When he finds difficult words, he often uses internet to translate the difficult words he finds.

He plays game since in the age of 5 years old. Previously he likes game such as racing game, but recently he prefers more on the strategic game such as stronghold Crusader, Grand Theft Auto V. These games use English. To understand the mission on the game, the player must master passive English, at least to understand the instruction. Without understanding English, the player will not able to understand the instruction, the feature and other aspects related to English.

Some problem he faces related to using English is when he has to speak directly with other persons. He worries about his grammar. But when he will be more confidence when he has to use English in written since he can check the grammar before he sends the messages.



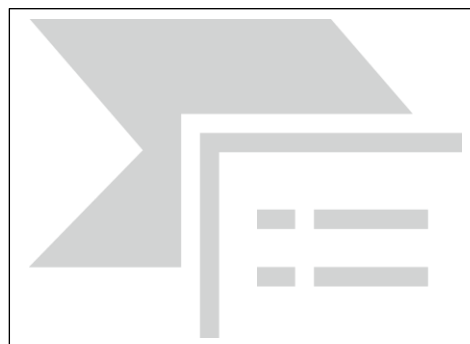
Picture 4. Display of GTA 5

2. Participant 2 (S)

S is a semester I student of University of Indonesia in Jakarta. His English skill is categorized good with score 550 of TOEFL ITP. His English ability is gotten from formal institution (school) and Informal (English Course). S thinks that learning English in a formal situation is less useful to improve academic matter although it is useful to improve the written English. S feels motivated to improve his English so that he can read literature in English and also play the game he likes. He enjoys learning English more from films because the language is communicative. When he finds difficult words, he often uses dictionary or internet to translate the difficult words he finds.

S has played games since he was in kindergarten. But the frequency decreases when he was in class XII Senior High School. S likes sport game and RPG (Role playing Game). He often plays FIFA 18 and RPG Final Fantasy XII. He also often plays online game and he does not find any difficulty to communicate with other players.

In general, S feels that he can communicate directly with other persons although sometimes he gets difficulties. He says that in campus he feels no difficulties when the lecturer uses English for communication. But he finds difficulty when old lecturer speaks English in class since, according to him, their pronunciation is not good.



Picture 5. Gameplay FIFA 18

3. Participant 3 (D)

As other participants, D is also a student in a University semester I with the age of 18. Before entering university, D only gets English lesson from his school. He never joins English course. He feels that the English material from school has only a little advantage for doing English test. He feels that he gets more English skills from out of school, one of them is by playing game. He feels that English is one of effective English learning sources. His English is improving because he often reads various reading materials related to game he plays. Game motivates him to learn English to understand mission, situation, and the story in the game. Stimulus to use English makes his skill in English improve well.

D has been playing game since he is about 4 years. He plays about 2 or 4 hours in a day. The first game he plays is Virtua Cop. This game is arcade game with genre shooting. Recently he likes to play game with genre real time strategy. Sometimes he also plays game with genre RPG (Role Play games). He likes RPG because there is story aspect in the games. The game he usually plays are Heart of Iron 4, Waking the tiger, and Stellaris.

The reasons why D play strategy game is because he feels that the game is exiting, challenging, and squeezing the brain. The game makes him feel challenged to accomplish, understanding ins and outs of the game and knowing the real story in the game. It enforces D to look for information in internet related to the game he played in the form of written material or video. The information including the strategy to play and the history in the real world. He also sees game review that he played in YouTube that is presenting in English.

In playing his game, D often interact in English with Artificial intelligence (AI) who create the system of the game. He must be able to make adequate decisions to get the result he wants to. D does not find difficulties when he must interact with other players in English.

D. Finding

In this section, the research explains what findings from each theme that appeared in all three participants

I. Experience While Learning English

a) Formal learning (in class)

In general, the participants of this study received formal English learning at school. There are also those who attend tutoring institutions and get English learning in packages

with other tutoring materials. The material taught in these classes generally focuses on practice questions and writing in English. The three participants shared the same opinion that learning English in class can improve their ability to use English, but only a few. This ability is useful for completing question exercises and improving their academic writing skills. On the other hand, they feel less challenged and prefer the material they get indirectly through games and other sources outside the classroom

b) Informal learning (outside class)

The participants felt that they enjoyed learning English indirectly through entertainment media such as games, movies, and other reading materials. They feel they have gained more ability to use English by learning through the media. They assume that they can learn while getting entertainment. The effect is that the learning process becomes fun and they don't feel burdensome so they feel they get more benefit from this method. Indirectly, they become motivated to train their language skills to understand elements in the game such as story elements, understanding of strategies in the game, and others.

c) The help media used

Participants use dictionaries available on the internet such as Google Translate to help them translate difficult words they encounter.

2. Game Playing Activities

d) Game play behavior

The participants have known the game since they were 4-5 years old or were in kindergarten. They usually play about 4 hours a day. Some even play all day when they are on holiday or stay up all night. This indicates that they have received an English-language stimulus that many of the games they play. Judging from the type of game they play, the duration and frequency of play, and the amount of experience they play in games, it is not surprising that English is a familiar language for them

e) Games played

The game they played in the beginning was simple games that did not require an understanding of English to play it. With a little instruction, they can play it themselves and find out what's happening in it. Even so, they also received an English stimulus from these simple games. For example, the word "WIN" or "LOSE" indicates their success in playing the game. These words are accompanied by sound effects and images that reflect the situation. They as children can certainly interpret these simple words. Over time, the games they played became more complex. They got more stimulus in English from their hobby of playing the game, both those directly from the game and other sources that are still related to the game

f) Reasons for playing games

The reason they play the main game is because games are fun entertainment facilities. Depending on the genre of game being played, there are specific reasons that make them like playing games. For games with the RPG genre, they like it because there is a thick story element in it.

Meanwhile, strategy games are preferred because they think the game is fun and challenging.

g) Explore other English-language sources related to the game

The pleasant interaction of the participants with the game made them try to explore themselves the hidden secrets of the game through writing in the form of walkthroughs and videos that can be watched on the YouTube site. They did this voluntarily if they did not find other road instructions in the game that made the game stagnate. In addition, another reason they volunteered to explore other English-language sources related to games was because they were interested in the stories behind the game itself. They prefer English-language sources because they feel that Indonesian-language sources are incomplete and cannot satisfy their curiosity.

3. Communication with other people using English

h) In-game communication

Communication in the game can be done with other players and artificial intelligence systems that are made in such a way as to make the game more fun to play. Communication with other players can be done through chatting or verbal communication. Players who play online games on local servers tend to use Indonesian language to communicate because the communication is done by players whose main language is Indonesian. However, for online game players who play on global servers, inevitably they have to communicate in English because English is an international language that is normally used, even though the main language of the player is not English. The players can also communicate with the artificial intelligence system in the game which functions to determine choices, give orders, and others. Communication with this artificial intelligence system can be a training ground for players to practice their English skills

i) Communication outside the game

In general, the participants no longer felt the difficulty to use English in everyday conversation. This is because the participants have practiced a lot to communicate in English, both in formal and informal settings. The participants who initially claimed to stammer in communicating using English are no longer awkward to use it. Practice speaking in class, both in English and in classes where the language of instruction is English, making them used to communicating using English. In addition, interaction with other players and the artificial intelligence system in the game adds a portion of their training to using English beyond learning in a formal setting.

IV. DISCUSSION

Video games can indeed be used as a means to learn English, whether intentionally or not. This can be seen from the learning outcomes of the participants who are game players. They get stimulation to learn English from the game they play.

Without realizing it, they have discovered their own learning without the help of the teacher formally while doing the things they like. As explained in the previous chapter, discovery learning consists of six stages, namely

stimulation, problem statements, data collection, data processing, verification, and generalization.

Game players who interact with the game they play automatically get English stimulations. The stimulation can be in the form of stories in the game, missions that need to be completed, as well as various strategies to win the game. Stimulation at this stage serves to provide attractive English learning interaction conditions that encourage players to actively explore materials.

Exploration in the game that they do confronts them with problems or challenges that are relevant to the stimuli they received earlier. They also become motivated to solve the problems or challenges faced before in order to advance to the next stage of the game. The players certainly formulate their own hypotheses the way they will solve the problems encountered.

Data collection was conducted to ascertain whether the settlement they hypothesized proved to be effective in resolving the problem at hand. When the problem faced is a problem related to understanding the story element because of the language factor, the players will actively search for the answer by looking at the dictionary or accessing google translate on the internet. If the problem they face is how the game is played, such as which way to take and what kind of strategy to use, the players tend to look for additional data from the walkthrough available on the internet or from videos that can be accessed on the YouTube site. The additional data is mostly available in English. The participants stated that resources in Indonesian with good quality were rarely found.

The additional data they obtain is then processed. The data is processed depending on the needs of the player. If the player only needs translation of difficult words encountered, he only needs to do simple data processing. But if he needs more data than that as to determine the best strategy in playing, then he will need a more in-depth information processing process. Of course this will add to the stimulation of English they receive.

The additional data they obtained from various sources were then processed according to the problems they faced. By processing these data, they can ascertain the correctness of the hypothesis they have compiled in the second stage, namely the stage of the problem statement or problem identification.

When the player has been able to prove whether the hypothesis he made on the solution to the problem faced when playing the game is true or false, then he can draw a conclusion that can be used as a general principle and applies to all the same events or problems. Thus, the player can use the same method or develop this method when he encounters other problems or challenges when playing video games.

This process does not occur only once. Endless in-game missions provide continuous stimulation to the players so he will continue to practice English while he interacts with the game. Although the exercise is not realized or is considered only a side effect of playing the game, the results cannot be ignored. As long as it is not used excessively and does not cause problems in everyday

life, video games can be a fun tool for learning English in the midst of the many academic pressures encountered.

As explained by the participants, they feel they have gained more English language skills from their activities playing games compared to the lessons they receive in class. Class lessons are not useless at all. They assume that the lessons in class are useful to practice questions in the face of English tests that they must follow and to improve academic writing skills. Learning in class that is only done for a few hours a week is less effective if it is relied on as the only means to practice the ability to use English. There needs to be other training facilities to intensify this ability intensively. Based on the results of this study, playing games can be an alternative entertainment that can improve English language skills because of the aspect of language in the game that automatically stimulates the players to conduct discovery learning voluntarily even though they do not realize it themselves.

V. CONCLUSION

Based on the results of the analysis above, it is proven that discovery learning occurs in the process of learning English through video games. This process can occur without being realized by the players. They are automatically carried away by the game's innate flow of stimulation and discovery learning which makes them actively learn various sources in English related to the game they play. If not used excessively, the game can be used as a means of learning English because it can provide effective stimulations to improve the English skills of the players while providing them with entertainment amid the many existing academic pressures.

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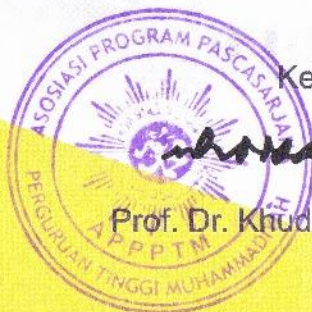
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