
PROMOTING ECOLOGICAL AWARENESS IN METAL GEAR SOLID V: SOCIAL SEMIOTIC APPROACH

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Abstract

Video game is a new media of telling stories to young people and adults and it is no longer seen as gameplay only but gameplay with story. Metal Gear Solid V: *The Phantom Pain took Cold War* as the main story background tells the story differently. The game system of this video game offers freedom to players to interact with anything during the gameplay, but this freedom has consequences. Applying social semiotic approach, this paper aims to identify how appraisal theory and narrative representation can be used to promote ecological awareness. After observing, collecting and viewing, transcribing and analyzing multimodal data, the researchers find that killing non-playable characters in form of human and animals and even enemy will reduce the score which is important in developing the playable characters' weapons and equipment. Adopting the theory from Martin & White in appraisal theory and Kress and van Leeuwen, Caple in narrative representation, this paper also finds that appraisal theory is used to guide the players to play in ethical way such as using non-lethal weaponry, capturing wild animals to protect them from war, and collecting medical plants as needed only, besides, the enemy soldiers can be hired and give beneficial results to the players when they are used to play. In narrative representation, the freedom of choices is designed to make ethical play more plausible.

Keywords: *appraisal analysis; ecological awareness; game system network; narrative representation; video games environment*

1. Introduction

Video game nowadays has become a popular media which gains much attention not only for the youngsters but also for the adults. It becomes the most abundant media which is available in various platforms such as video game console, personal computer, laptop, and mobile phone. Video game players predicted in 2018 reached 34 million people in Indonesia alone. They commonly use video games to release stress and frustration (Weinstein, 2010) but on the other hand, playing video games makes some of them have several problems. They are investigated to have some problems after playing video games such as addiction problems which are motivated from their own personality (Wood, 2008) and the effect which brings them to psychosocial problem (van Rooij et al., 2010). Furthermore, addiction also has correlation to aggressive and emotional feelings (Lemmes et al., 2009).

However, another research shows that playing video games can be useful and beneficial. It is found that video game players who plays particular video game, i.e. First Person Shooter (or commonly called FPS) have high visual awareness rather than non-video game players (Colzato et al., 2013), and playing video game can be used to maintain mental health especially returning the mood (Fleming et al., 2017) and can help the video game players to learn foreign language from the dialogue of the characters in video games (Richards, 2015).

Moreover, playing video games especially shooter video game can raise up the problem solving level, creativity and the effectiveness of choosing the more important information in daily life (Granic et al., 2014). The other positive impact of video games is that video games can be used to make players aware on daily life problems and promotes solutions on a how using disposal waste, living in harmony with another species, rescuing and supporting the animals and society (Patterson & Barratt, 2019); although some video games still offer violence toward digital nature and people.

The aspects of environmental awareness and video games also have been investigated to seek whether these two aspects are connected. Investigation from Sandbrook et al., (2015) shows that an issue which addresses animal life form in video games and ecological awareness is merely for commercial purposes and it has nothing to do with the real problems in the real world. Other research also finds that video game such as FarCry 3 and Red Dead Redemption purposefully harm the animal for fun such as hunting, skinning, and transforming into pouch and wallet (Coghlan & Sparrow, 2021). Moreover, research from Coghlan & Sparrow, (2021) also finds that these violence video games are morally problematic because they tend to encourage and to promote players to harm animals directly or indirectly because of the game system they create. The investigation from Abraham & Jayemanne (2017) show that video games so far uses environment as background, resource, obstacle, and text which have different to be interacting with. In their investigation environment can be represented positively or negatively, with purpose of maintaining, exploiting or protecting them. This depends on how the game system is created.

For that reason, this research aims to investigate how video game offers choices to players when they make contact with the environments and surroundings. Taking Metal Gear Solid V: The Phantom Pain as the sample of analysis, the research purposes are to answer two questions 1) how environments in the video game are evaluated, and 2) what choices are given to the players to appreciate the digital animals, people and environment.

1. Literature Review

The work of Toh (2019) in investigating the gamer experience on choosing the weapons inspires this research. However, in this research, appraisal theory proposed by Martin and White (2005) is not used to analyze the players' perspective because this research does not involve the interview to gamers but it investigates the game system. The similar research inspiring this research is the work from Perez-Latore et al (2016) which investigates the game system but this research differs in the theory applied. This research applies the work of Martin & Rose (2008) to analyze the discourse in the perspective of game developer's conjure to video game players in playing the video game ethically to the digital beings. This study also applies the theory from Kress & van Leeuwen (2021) as Perez-Latore et al (2016) in their research. However, instead of investigating the game mechanics,

this study uses the theory from Kress & van Leeuwen (2021) to investigate the paradigmatic aspects offered in game system.

This research applies social semiotic approach to investigate the game system network due to the nature of video game that is built with multimodal text. In analyzing the semiotic resources, this research considers the syntagmatic and paradigmatic relation between semiotic sources. Syntagmatic relation is when two or more semiotic sources relate one and another in a chain system which makes a structure and paradigmatic relation, the choices within one semiotic source (Chandler, 2017). In social semiotics, another semiotic source in communication is multimodality. Social semiotics works are coined in Halliday's work with the title 'language as social semiotics' (Halliday, 1978).

One of the aspects in social semiotics is called register. Register is the context of situation where people are communicating to each other by considering the context of activity. The context of activity will affect the activity sequence and this area is called field (Martin & Rose, 2008). The other context is social one and this is called tenor. In this context people will communicate to each other by considering the relationship between the speaker and hearer (Martin & Rose, 2008). The last is mode which relates to what medium is used to communicate between the speaker and hearer whether it is in form of language, facial expression, gesture and another semiotic sources (Martin & Rose, 2008). Mode as the context of medium of communication then cannot only be realized into single semiotic source but it can be multiple so from this realization, it is called multimodality. Moreover, the multimodality of the text is the agreement among community members which decide whether to use particular semiotic source as mode or not (Andersen et al., 2015).

Multimodality takes in many forms such as visual, verbal and physical (Kress, 2010). In this research, the area of investigation is in form of visual and verbal semiotic sources. In verbal semiotic source, this research takes verbal communication in written form with framework of Martin & White (2005) about appraisal analysis, especially in attitudinal lexis analysis. In visual source, this research investigates the game system by observing and formulating the pattern of movement and choices using the narrative representation framework proposed by Kress & van Leeuwen (2021) especially in action process. In analyzing circumstance, this study investigates means or what it is used by to do the action (Cape, 2013) because it relates to the way of action commenced.

3. Research Method

This research uses descriptive qualitative method in investigating the data because this research analyzes the data in qualitative manner. The steps of collecting and analyzing data of this research adapt the steps of collecting and analyzing data proposed by Bezemer & Jewitt (2010). This method originally has four steps, first collecting & logging the data, second viewing the data, the third sampling the data and the fourth transcribing and analyzing the data (Bezemer & Jewitt, 2010). This research adapts this method dividing the process into six steps. Firstly, collecting the data is the step to collect the data from video game. In doing this, the data of this research are collected from the recording of playing video games using Bandicam Software. The second step is logging the data which means that the contexts of the data which are related to environmental awareness are taken into consideration. The third step is viewing the data which means that the richer information is observed, the better investigation could be done. In this step, the action, the way of doing

action, and the verbal semiotic source are noted. The fourth step is that taking the data sample. In this step, the data samples are chosen to be used for representing the environmental awareness in the video game. The fifth step is transcribing verbal and visual data. In transcribing verbal semiotic source, this research uses word processing software to collect written verbal data, and this step is similar in treating visual semiotic sources which are transcribed into screenshot and series of shot using proposed theory by Baldry & Thibault (2010).

After collecting and taking data and transcribing the data, this research moves to the sixth step, analyzing the data. In analyzing the data, this research uses Kress & van Leeuwen, (2021) and Caple (2013) theory in developing system network of playing Metal Gear Solid V: The Phantom Pain video game. In analyzing this video game, this research used content analysis because this research aims to find the pattern of the playing video game phenomena which is related to promoting ecological awareness during cold war in Afghanistan and Africa. Therefore, this research is data-driven in nature or it is derived from familiarizing the data and defining the elements which has meaning-making potential in particular context (Selvi, 2020). This research filtered the data into the most relevant data needed for analysis and in coding steps of verbal semiotic sources this research used Martin and White's theory on attitude (Martin & White, 2005). After that, this data were classified the types of digital beings such as animals, plants, and people into classification of environment in video games based on Abraham & Jayemanne (2017). Moreover, in visual semiotic sources, this research using the visual analysis from Caple (2013) and Kress & van Leeuwen (2021).

4. Results and Discussion

In 190 hints and instructions for players to successfully finish the mission during loading, there are 34 hints which are related to using environment as the resource, backdrop, and as a text. From 34 hints, this research finds that 145 lexical items that refer to attitudinal lexis appraised by game developer. This research also finds the realization of attitudinal lexis in the form of game system network consisting of syntagmatic and paradigmatic relation (Martin, 2018) provided by game developer as a choice to the players in playing video games. Environment here is not only limited to trees, grass, or stones, but it is related to significant elements which support the game story development. The reason is that video game is the hypertext media which provides choice to the players to succeed finishing the story in video game world (Ensslin, 2018)

4.1 The appraisal analysis in instructions as guidance to players

In this research, seven elements which have significant roles in developing the story are buddies, game mission, game environment, players, weaponry & items, soldiers, and natural resource materials. Guided by appraisal theory, especially attitude from Martin & White (2005), this research finds that those significant elements are appraised with particular evaluative lexical items which are further categorized into three attitudes stated by game developer as the appraiser: affect, judgment, and appreciation (Martin & White, 2005).

Figure 1 shows that game mission is mostly appraised in the hints and instruction, the game mission finds the environmental elements related to the weaponry & items, buddies, game environment, game mission and natural resources. The most dominant element evaluated is game mission. In game mission, there are Gross Military Products, rescuing animals, collecting medical plants, customized items, and infiltrations. In Gross Military Products (GMP), the game developer evaluates how this elements are important in commencing mission, and it is very essential in building and developing items as inscribed “is essential” as the positive valuation (Martin & White, 2005). This game also emphasizes that players can customize items and weapons in the way they see fit by stating that developing items can give more advanced actions to the items, weapons, and buddies during the mission. This statement shows that the game developer evaluates the customizing items as rich, lucid and detail but invoked with process (Martin & White, 2005). Buddy in this video game especially Diamond Walker, one of four buddies, is appraised positively in composition because of its function which enables the players to do great numbers of command and actions with this buddy as a battle companion. The rest of aspects of digital beings such as soldiers, digital creature buddies, even players are evaluated in judgment in figure 2.

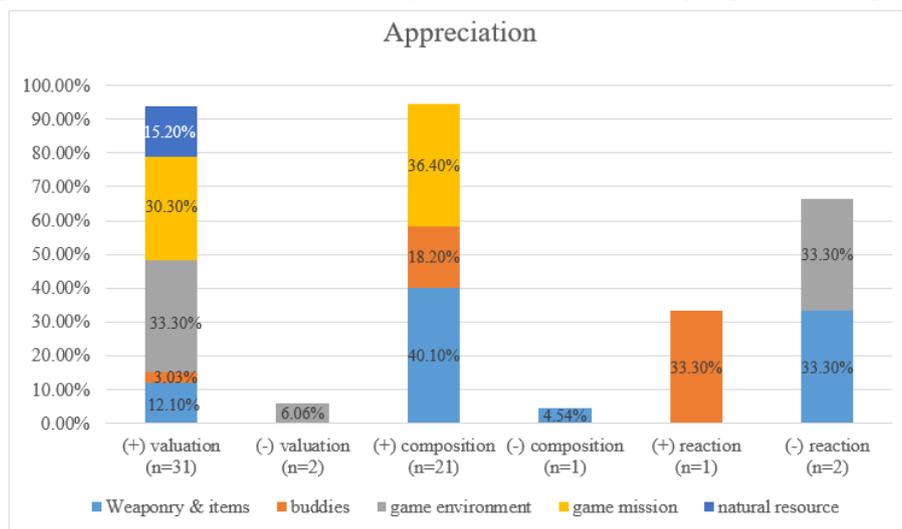


Figure 1. Appreciation on environmental elements in video game MGSVTPP

Figure 2 shows video game elements that receive evaluation from the game developers. The most dominant evaluation is in propriety which has relation in social sanction especially about ethical, moral and sensitivity to societal problems and law (Martin & White, 2005). This evaluation from the game developers is directed to the players. In hints and instruction, players are guided to do ethical actions such as neutralizing the enemy using tranquilizer guns and abducting them to be persuaded joining the forces which video game payers trying to build instead of killing them (Martin & White, 2005). The enemy soldiers abducted can be beneficial for players in developing their Mother Base because enemy soldiers who have been persuaded to join forces can be deployed for doing mission as playable character or as the soldiers sent to the battlefield. In the instruction it is also stated that the lower the character’s level is the higher the reward the players can get from each mission.

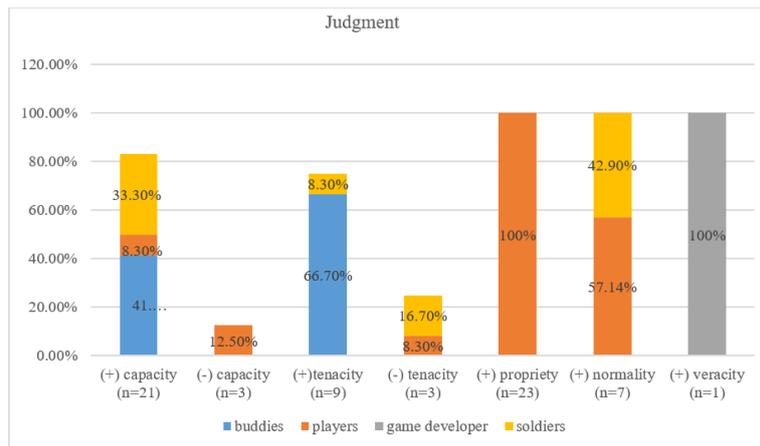


Figure 2. Judgment on environmental elements in video game MGSVTPP

This ethical guidance is for animals and medical plants such as rescuing animals using the word ‘into protection’, gathering medical plants ‘pick ingredients for items you use the most’. When players do as instructed, the players will feel secured. The aspects of feeling are also emphasized in hints and instructions issued by game developers as summarized and displayed in figure 3. In instructions, game developers touch the aspects of feelings to guide the players in doing the mission related to ecological awareness. As it is shown in figure 3, the most dominant aspect to be appraised is game mission as it is evaluated in security both positive and negative. Game mission appraised in positive security is that collecting the needed medical plants can end the worries of depleting them when players are doing the mission. Furthermore, by abducting the enemy, the players can reduce the tension and worries to the risk of the neutralized body of the enemy will be found by the enemy’s teammate. This shows that collecting medical plants and abducting the enemy will make the player at ease when doing mission and this also emphasizes the importance of doing mission in ethical way as it is discussed in judgment. Besides, the game developer also mentions the feel of joy or positive happiness (Martin & White, 2005) which can be felt by the players when they do free roam mission by mentioning ‘enjoy various side activities’ and mentioning these activities such as ‘completing SIDE OPS’, ‘capturing wild animals’, or ‘gathering medical plants’. By mentioning ‘capturing wild animals’ and ‘gathering medical plants’, this video game clearly promotes ecological awareness.

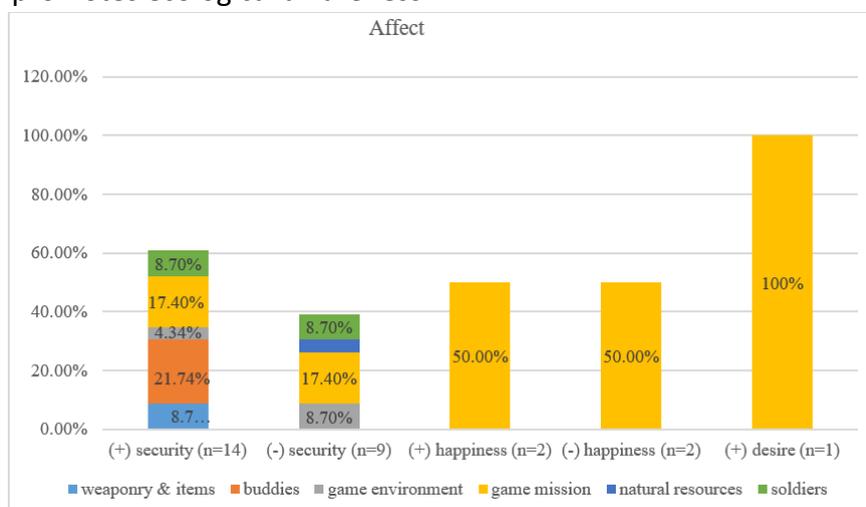


Figure 3. Affect on environmental elements in video game MGSVTPP

4.2 Narrative Representation as agency choices in game system

The realization of environmental awareness through visual semiotic sources is emphasized in this video game because every action has consequences although players are given many choices in defeating the enemy as in figure 4 and the players are also given choices in doing the mission which are portrayed in the system network of circumstance in figure 5. In figure 4, the players are given a chance to eliminate the enemy or non-playable characters by killing directly or indirectly. Two choices of killing are also followed by three choices of defeating. Defeating enemies which means the players use ways to make the enemy unable to retaliate by putting them to sleep or tranquilize them, making them faint or stunned, or neutralizing them or making them giving up by pointing the gun to threatening them. If players choose to kill the enemy, the opportunity of recruiting them as a staff to increase unit level is nullified and high risk of changing situation from calm to alert as in figure 3 in the aspect of people is inevitable. This video game has rule: the higher the Unit level, the faster the development process. It means that recruiting enemies is important.

The choices of action by eliminating or defeating the enemy are supported with means in circumstance as in figure 5. Video game players are given an opportunity to develop weapons which have three functions: lethal, anti-material, and non-lethal. These three types of weapons can be brought into mission but they function differently in handling enemies and other non-playable characters because not all non-playable characters are enemy. Animals and buddies are not an enemy which can be eliminated. As in figure 1, buddies can help the players to handle particular situation such as detecting enemies from afar, covering the playable characters from unexpected situation while doing the mission, helping the playable character to travel faster from one place to another. This is why these buddies are called environment as text because they can be developed, deployed, used and controlled. In the development of weapons before they can be usable as in figure 5, the players need to increase the unit level of their troops and gather important resource such as medical plants, rough diamonds, unprocessed raw materials in form of containers, and capturing animals. These game system networks in figure 4 and 5 and the hints or instruction in figure 1-3 are closely related and they are interconnected.

4.3 Environment as Resource

In figure 1-3, it can be seen that environment as a resource is beneficial for the players of this video game. In environment as a resource, players can use and even exploit the environment for economic purposes (Abraham & Jayemanne, 2017). However, in this video game, environment as a resource can be seen as resource to add players' video game currency. One of the examples is capturing wild animals. The activity of capturing animals can give additional GMP (Gross Military Product) which is equal to video game currency so that the players can buy or develop something. Capturing wild animals also can give the players animal emblems to create their own logo to identify themselves as distinctive individuals when playing online.

Furthermore, another aspect of using environment as resource is medical plants which can benefit players to develop certain weapons and items. For example, the tranquilizer gun, support weapons and items can be obtained and developed by collecting medical plants. In figure 1-3, the use of medical plants such as wormwood can be used to develop phantom cigar which can make the playable character more relaxed and make the time fly faster. Another aspect which is included in environment as resource is people.

Digital people or non-playable character can make the players gain more advantageous because digital people can be hired as the staff to make the players able to increase the level of the Mother Base. These new recruited people can improve the level of weapons, tools and items. The higher the weapons, tools, and items they have, the easier the mission they accomplish.

The use of positive lexical items such as “can add to your GMP” and “to receive a reward in the form of a nature conservation NGO”, “require certain medical plants for their development and/or use” prove that these resources are classified into positive valuation in terms of appreciation in Martin & White’s theory (Martin & White, 2005). The other lexical items are the use of lexical items “taking wild animals into protection”; the items are repeated two times and have positive propriety in judgment because they emphasize the word “protection” which can be ethical in the middle of war.

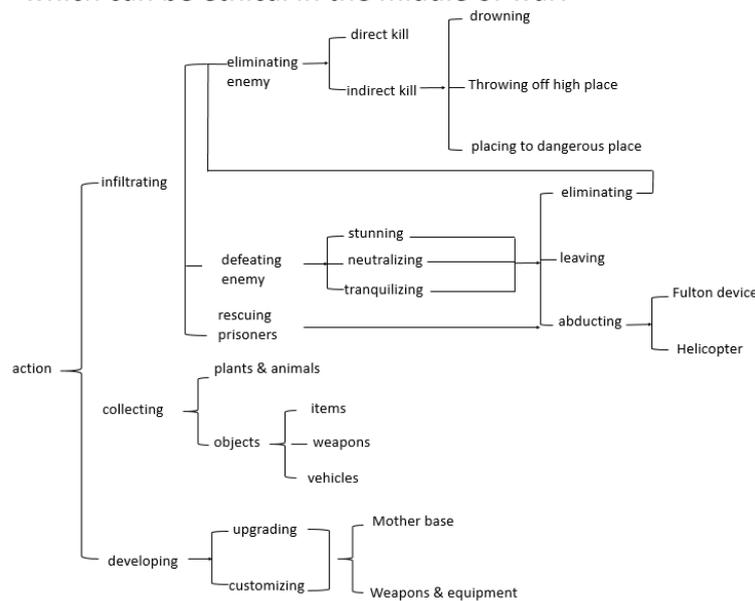


Figure 4. The Game System Network of Non-eventive action Process in Narrative Representation (adapted from Kress & van Leeuwen (2021))

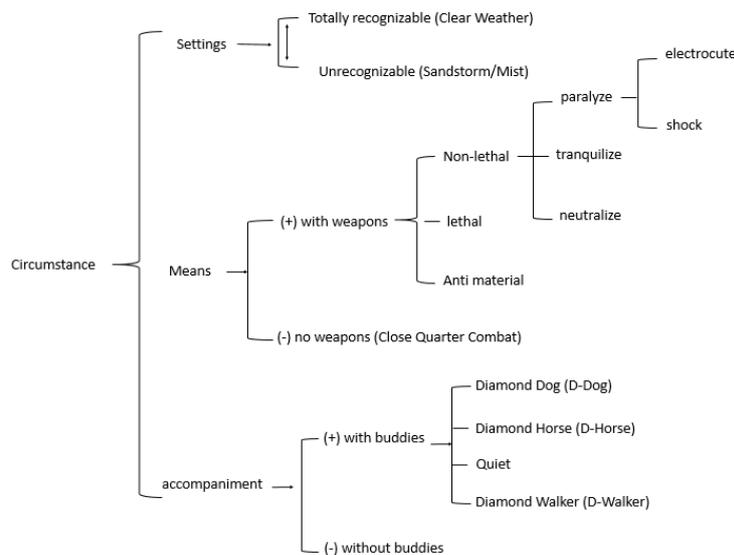


Figure 5. The Game System Network of Circumstance in Narrative Representation (adapted from Caple (2013))

4.4 Environment as Text

Environment as a text means that players can change the environment as they see fit by changing the experience and controlling them (Abraham & Jayemanne, 2017). In this aspect, video game players can change the appearance of their buddies especially D-Dog, or Diamond Dog, and D-Horse or Diamond Horse. These two animals are considered a text because the players can develop their ability by making them wear uniform: battle dress or stealth one, and can give them command as long as the bonding level between playable character and the buddies is higher. These two buddies can be useful in doing the mission because these animal buddies can help the players. This lexical items by using the word help and supports show positive valuation towards these buddies (Martin & White, 2005).

4.5 Environment as Backdrop

Environment as backdrop means that the players cannot change or manipulate the environment since the environment can be considered static or even dynamic but unchangeable (Abraham & Jayemanne, 2017). In this video game, environments such as rain, mist, sandstorm, grass, and night time are used to cover and help the players to accomplish the mission in stealthy ways. For sandstorm and mist, the lexical items are double-edged sword because they can be useful and dangerous at the same time. The appraised items "limits visibility" and "limits visibility and hearing" are positive and negative valuation (Martin & White, 2005) at the same time because the weather can hinder the players and non-playable characters to see and hear each other's actions but somehow it can make the players lost.

5. Conclusion

In the issue of promoting the environmental awareness during cold war, this video game not only make the environment as backdrop such as in figure 5 about circumstance of settings which can be recognized or unrecognized but it also makes the environment as a text which can be controlled, and changed. The other model of using environment is that this video game also makes environment as resource where the players can use the resources such as medical plants, animals, and people or digital people or non-playable characters as the object to increase certain value: unit level, video game currency, and development process for weapons, items and devices.

The environmental issue during cold war is where people are clashing into each other in bloody war, yet in this video game this perspective is changed. The rule of the video game makes players unable to choose action carelessly because taking action without considering the consequences will take the players into unwanted situation because when players choose to extract enemies and hiring them as staff, the unit level in Mother Base can be higher and developmental process which need manpower can be done quickly. Furthermore, when players chose to kill animals without rescuing them, they will not receive additional rewards in form of video game currency (GMP) and heroism. Without any of these rewards, players will have difficulties in playing video game and accomplishing the missions in the most convenient way.

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References

- Abraham, B. J., & Jayemanne, D. (2017). Where are all the climate change games? Locating digital games' response to climate change. *Transformations*.
- Andersen, T. H., Boeriis, M., Maagerø, E., & Tonnessen, E. S. (2015). *Social semiotics: Key figures, new directions*. New York: Routledge.
- Baldry, A., & Thibault, P. J. (2010). *Multimodal transcription and text analysis* (2nd ed.). New York: Equinox Publishing Ltd.
- Bezemer, J., & Jewitt, C. (2010). Multimodal analysis: Key issues. In L. Litosseliti (Ed.), *Research Methods in Linguistics* (pp. 180–197). London: Continuum.
- Caple, H. (2013). *Photojournalism: A social semiotic approach*. New York: Palgrave Macmillan.
- Chandler, D. (2017). *Semiotics: The basics* (3rd ed.). London: Routledge.
- Coghlan, S., & Sparrow, L. (2021). The digital animal intuition: The ethics of violence against animals in video games. *Ethics and Information Technology*, 23, 215–224.
- Colzato, L. S., van den Wildenberg, W. P. M., Zmigrod, S., & Hommel, B. (2013). Action video gaming and cognitive control: playing first person shooter is associated with improvement in working memory but not action inhibition. *Psychological Research*, 77, 234–239. <https://doi.org/10.1007/s00426-012-0415-2>
- Ensslin, A. (2018). Transmediating bildung: Video games as life formation narratives. *Games and Culture*, 15(4), 372–393.
- Fleming, T. M. et al. (2017). Serious games and gamification for mental health: Current status and promising directions. *Frontiers in Psychiatry*, 7, 1–7.
- Granic, I., Lobel, A., & Engels, R. C. M. E. (2014). The benefits of playing video games. *American Psychologist*, 69(1), 1–13. <https://doi.org/10.1037/a0034857>
- Halliday, M. A. . (1978). *Language as Social Semiotic: The social interpretation of language and meaning*. New York: Edward Arnold.
- Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication*. New York: Routledge.
- Kress, G., & van Leeuwen, T. (2021). *Reading images: The grammar of visual design* (3rd ed.). London: Routledge.
- Lemmes, J. S., Valkenburg, P. M., & Peter, J. (2009). Development and validation of game addiction scale for adolescents. *Media Psychology*, 12, 77–95. <https://doi.org/10.1080/15213260802669458>
- Martin, J. R. (2018). Interpersonal meaning: Systemic functional linguistics perspectives. *Functions of Language*, 25(1), 2–19.
- Martin, J. R., & Rose, D. (2008). *Genre relations: Mapping culture*. California: Equinox Publishing Ltd.
- Martin, J. R., & White, P. R. R. (2005). *The Language of evaluation: Appraisal in english*. New York: Palgrave Macmillan.

- Patterson, T., & Barratt, S. (2019). Playing for the planet: How *video games can deliver for people and the environment*. UN Environment. <https://www.unep.org/news-and-stories/story/playing-planet-how-video-games-can-deliver-environment>
- Pérez-Latorre, Ól., Oliva, M., & Besalú, R. (2016). Videogame analysis: A social-semiotic approach. *Social Semiotics*, 27(5), 586–603.
- Richards, J. C. (2015). The changing face of language learning: Learning beyond classroom. *RELC Journal*, 46(1), 5–22.
- Sandbrook, C., Adams, W. M., & Montefem, B. (2015). Digital games and biodiversity conservation. *Conservation Letters*, 8(2), 118–124.
- Selvi, A. F. (2020). *Qualitative content analysis*. In J. McKinley & H. Rose (Eds.), *The Routledge Handbook of Research Methods in Applied Linguistics* (pp. 440–452). London: Routledge.
- Toh, W. (2019). *A multimodal approach to video games and the player experience*. London: Routledge.
- van Rooij, A. J. et al. (2010). Online video game addiction: Identification of addicted adolescent gamers. *Addiction*, 106, 205–212.
- Weinstein, A. M. (2010). Computer and video game addiction: A comparison between game users and non-game users. *The American Journal of Drug and Alcohol Abuse*, 36, 268–276. <https://doi.org/10.3109/00952990.2010.491879>
- Wood, R. T. A. (2008). Problems with the concept of video game “addiction”: Some case study examples. *International Journal of Mental Health and Addiction*, 6, 169–178. <https://doi.org/10.1007/s11469-007-9118-0>