

# The Development of Ethical Education through Digital Games: The Butterfly Effect Implementation

Lenka Magová

**Mgr. Lenka Magová, PhD.**

Constantine the Philosopher University in Nitra  
Faculty of Arts  
Department of General and Applied Ethics  
Hodžova 1  
949 74 Nitra  
SLOVAK REPUBLIC  
lmagova@ukf.sk



Lenka Magová is an assistant professor on the Department of General and Applied Ethics at the Constantine the Philosopher University in Nitra, Slovak Republic. She specializes in the field of theory, methodology, and didactics of ethical education. In her research activities, she deals mainly with the interconnection of ethics and literature, and didactic possibilities of applying literature in the context of ethical education. Her scientific interest is also partially focused on other media (including digital games) utilizable for education towards prosociability and respect for human rights.

## ABSTRACT:

The demands of educational practice are changing alongside our dynamically changing society. It is, therefore, necessary to purposefully and systematically seek ways to motivate, teach, and develop independent thinking among learners. This theoretical study aims to identify and characterize the essential assumptions and reasons for the implementation of digital games into ethical education classes. The fundamental premise is the thematic variability of game narratives, and a fulfillment of the experience attributes through the interactivity both in terms of the direct interactivity of the learner and the medium and in the subsequent discussion as a part of value reflection. Attention is focused on the process of ethical decision-making, ethical dilemmas, and problems that can be identified in many digital games containing at least a basic narrative structure. Interactive narration includes, besides the story itself, the influence of the participant on the further direction of the storyline, allowing players to see the consequences of their individual decisions within simulated situations. The study explores a game principle – the butterfly effect – in the context of ethical decision-making in particular through the game *Detroit: Become Human*, as well as demonstrates its usability within ethical education classes.

## KEY WORDS:

butterfly effect, decision-making, *Detroit: Become Human*, digital games, dilemmas, ethical education, game-based learning, storytelling.

## Introduction

The present is marked by rapid social, economic, cultural, and technological changes. It is more necessary than ever to reflect them even from an ethical point of view to be able to deliver an opinion on them. Reflection and discussion of current ethical problems must take place at all levels of society and within all age categories. It is necessary to encourage children and young people to do so, both by being a model example to them, and by developing their moral sensitivity and ability to make ethical decisions, solve ethical problems and dilemmas. Everyday educational situations in the family or school provide space for it, and the educator in the widest sense should be prepared to adequately exploit them and actively create them as well. In this context, not only in the educational system of the Slovak Republic, the subject of ethical education represents a unique space for the implementation of activities, a task of which is the development of the mentioned abilities, and which can flexibly react to current social issues. Emphasis on utilizing motivational learning procedures, on a heuristic approach to learners' development, and presentation attractiveness is a challenge for all subjects, including ethical education. Although the essential aspects of the subject of ethical education formulated by L. Lencz (based on the R. R. Olivar's project<sup>1</sup>) are still valid, a comprehensive review reflecting the current challenges of the society is required. One of the possible ways to innovatively expand ethical education methodology lies in the incorporation of modern interactive media such as digital games.

<sup>1</sup> For more information, see: OLIVAR, R. R.: *Etická výchova*. Bratislava : Orbis Pictus Istropolitana, 1992.

The fundamental premise consists of the available variability of games containing narrative elements, and a fulfillment of the experience attributes through both the direct interactivity of the learner and the medium and the subsequent discussion as a part of a value reflection. Storytelling digital games seem to be the optimal type, providing a space for reflecting the ethical context. Current narrative gaming structures even allow players to interact with the storyline's direction through the decision-making process, for example, within the popular principle of the *butterfly effect*. This theoretical study aims to identify and characterize the basic prerequisites and reasons for the application of digital games to ethical education classes, focusing on ethical decision-making, solving ethical problems, and dilemmas. It primarily accentuates the individual's responsibility to others, society, and to oneself (their health, family, etc.).

## Utilization of Digital Games in Ethical Education

Games have been used as a learning tool for centuries (e.g., chess for strategic thinking). Game-based learning applies a concept of repetition, failure, and the accomplishment of goals (the same principles on which digital games are built) into a curriculum, thus students actively learn during an effort to reach a goal while choosing actions and experiencing the consequences of those actions.<sup>2</sup> "Games are effective not because of what they are, but because of what they embody and what learners are doing as they play a game".<sup>3</sup> M. Prensky considers digital game-based learning as a gradually emerging alternative learning paradigm (edutainment) with successful results because digital games themselves are potentially the most engaging pastime in the history of mankind and most of the current learners (as well as many educators) already belong to the generation of digital natives, naturally adapted to digital technologies.<sup>4</sup> By reviewing digital game-based learning literature, R. Van Eck determined three general approaches for integrating games into the learning process: educators make students take on the role of game designers to learn the content (learn programming languages, etc.); educators build custom educational games adapted to the curriculum to seamlessly integrate playing into learning; educators integrate existing digital games (educational games, serious games and even commercially published games not necessarily developed for learning) into the curriculum.<sup>5</sup>

The appropriate inclusion and application of digital games in the learning process can motivate students to work, provide experience, and deepen interest in the subject. Besides, it is important to alternate the methods and forms of teaching adequately in the educational process. Within the characteristics of activating teaching, J. Hanuliaková points out the influence of the chosen medium for educational process effectiveness, and, in this context, she also describes, for example, the educational possibilities of virtual reality.<sup>6</sup> When integrating digital games into education, the teacher has the opportunity to utilize the natural interest of children and young people in technology, get closer to their

2 CAHILL, G.: *Why Game-Based Learning?* [online]. [2020-04-09]. Available at: <<https://thelearningcounsel.com/article/why-game-based-learning>>.  
3 VAN ECK, R.: Digital Game-Based Learning: It's Not Just the Digital Natives Who Are Restless. In *EDUCAUSE Review*, 2006, Vol. 41, No. 2, p. 18.  
4 See also: PRENSKY, M.: *Digital Game-Based Learning*. New York : McGraw-Hill, 2001.  
5 VAN ECK, R.: Digital Game-Based Learning: It's Not Just the Digital Natives Who Are Restless. In *EDUCAUSE Review*, 2006, Vol. 41, No. 2, p. 20-21.  
6 HANULIAKOVÁ, J.: *Aktivizujúce vyučovanie*. Bratislava : Iris, 2015, p. 16.

world, develop a positive climate in the classroom, and ideally to create a forum for discussion on other relevant topics. Learners spend a significant part of their lives at educational institutions. This time should be, therefore, interesting and fulfilling for them, encourage them to study, enable them to develop attitudes towards people and society, shape their value orientation, and their ability to make ethical decisions. The game (in general) is a natural part of human life with a specific position in ethical education didactics. It is both a form and a method. Particularly games containing moral content and role-playing are an important part of ethical education classes.<sup>7</sup> The innovated state educational program of the Slovak Republic<sup>8</sup> defines the mission of the ethical education subject to educate a person with their own identity and value orientation, in which respect for man, life and nature, cooperation and prosociality occupies a significant place. In order to fulfill this vision, it is not enough just to provide information on moral principles, but it is necessary to support the understanding and interiorization of moral standards through experiential learning and to facilitate the adoption of behaviour that is in harmony with them.

The implementation of digital games in the educational process, including ethical education classes, is also accompanied by several limitations, which may complicate or negatively affect the whole process. The first is the inadequate technical equipment of schools because the ability to use game devices to teach may be crucial in this regard. The possible solution is the utilization of mobile games for smartphones, which currently most students have already owned. Another important limitation is the qualified application of digital games to ethical education classes which means not only knowing the content of the specific game but also its technical attributes, as well as its potential for the specific topic and class. The teacher's competence to adequately select and integrate teaching methods and forms, to use material resources, to know the learners' developmental characteristics, and to positively influence the climate in the classroom are directly combined here.<sup>9</sup>

The choice of the digital game belongs to the primary aspects, which affect its effectiveness and purposefulness. The market offers an enormous number of possibilities, but it can easily become paralyzing for a teacher who is not oriented in this area. Qualified application of digital games includes, among others, a clear identification of areas with scope for their functional use. *Serious games*, the integrated educational goal of which is superior to their entertainment function, even beyond edutainment,<sup>10</sup> seem to be adequate, or educators may develop custom digital games matching criteria for the specific purposes of education and game-based learning.<sup>11</sup> The utilization of digital games that were not created for educational purposes is quite established as well (e.g., *Minecraft*<sup>12</sup> for developing STEM skills<sup>13</sup>), particularly due to their availability (unlike the relatively limited repertory of serious games, and professional requirements related to game development) and their ability to mediate complex topics and experiences. Concerning ethical education, the greatest potential probably lies in utilizing the presence of virtual decision-making simulations (and their consequences), additionally involving the player's interaction.

7 VACEK, P.: *Psychologie morálky a výchova charakteru žáků*. Hradec Králové : Gaudemus, 2011, p. 142.  
8 *Inovovaný štátny vzdelávací program*. [online]. [2020-04-11]. Available at: <<https://www.statpedu.sk/sk/svp/inovovany-statny-vzdelavaci-program/>>.  
9 For more information, see: SANDANUSOVÁ, A. et al.: *Reflexia aktuálnych poznatkov o kompetenciách učiteľa*. Prague : Verbum, 2018.  
10 MICHAEL, D. R., CHEN, S. L.: *Serious games: Games that educate, train, and inform*. Mason : Course Technology PTR, 2005, p. 17-27.  
11 JACOBSON, D. et al.: Impairment or Empowerment: Game Design to Reduce Social Stigma for Children with Physical Disabilities. In *Acta Ludologica*, 2019, Vol. 2, No. 1, p. 28-29.  
12 MOJANG STUDIOS: *Minecraft*. [digital game]. Stockholm : Mojang Studios, 2011.  
13 *Powering Up STEM with Minecraft*. [online]. [2020-05-10]. Available at: <<https://education.minecraft.net/blog/powering-up-stem-with-minecraft>>.

# Ethical Decision-Making and Dilemmas as Part of Digital Games

Ethical decision-making is the process of choosing one of two or more options arising from the ethical principles of the individual and society. It can be characterized as conscious decision-making in accordance with ethics. According to J. Daniel's phases of the decision-making process, the phases of ethical decision-making can be divided as follows:

- *problem (its discovery and specification)* – an essential part of ethical decision-making. Moral sensitivity, the ability to see and perceive moral problems and dilemmas in real life are basic prerequisites for their responsible solution;
- *generating thoughts and ideas* – identification of possible solutions arising from individual ethical theories. The more of them an individual can produce, the greater the chance for one to make the right choices;
- *evaluation of individual thoughts and ideas* – a critical assessment of individual options, prediction of results, knowledge of benefits, as well as possible risks;
- *choosing the best solution to the problem* – at this point, it is necessary to emphasize the motivation to act morally. Although it overlaps the whole process of evaluation, at this point, despite knowing a morally correct decision, an individual may deliberately opt for others (i.e., prioritizing their interests above the interests of society and so on);
- *carrying out the choice (decision)* – concerning this point, it is necessary to emphasize the personality characteristics of an individual, which may affect their ability to make this decision also under pressure.<sup>14</sup>

In addition to these phases, ethical decision-making can be complemented by a backward reflection of carried out choices. Experience with decisions made by an individual in the past affects other decisions to be made by them. Self-reflection, positive or negative experience, and the consequences of the decision affect all phases of the decision-making process. Ethical decision-making generally consists of solving *ethical problems* and *dilemmas*. According to K. Schrier and D. Gibson, digital games “provide an authentic content within which to practice and experience ethical dilemmas and decision-making”.<sup>15</sup> The integration of ethical problem choices with mixed results into off-the-shelf games is increasing; it means that players grapple with real-world ethical issues and situations within a fictional game world. The attractiveness of such implementation lies in both the intellectual and emotional involvement of the players. An *ethical problem* can be named more easily than an ethical dilemma, i.e., when analyzing the situation, the right and wrong solutions can be essentially identified. Digital games integrate various mechanics to reflect the implications of choices made by players within an ethically challenging situation. We can observe it, especially in role-playing games. For example, there is positive and negative karma in *Fallout 3*<sup>16</sup>. Overall ‘karma score’ may then influence the attitude of some non-player characters (NPCs) towards the player, dialogue options, etc. The players in

14 DANIEL, J.: *Prehľad všeobecnej psychológie*. Nitra : Enigma, 2003, p. 156.

15 SCHRIER, K., GIBSON, D.: Using Games to Prepare Ethical Educators and Students. In KOEHLER, M., PUNYA, M. (eds.): *Proceedings of SITE 2011 – Society for Information Technology & Teacher Education International Conference*. Nashville : AACE, 2011, p. 1373.

16 BETHESDA GAME STUDIOS: *Fallout 3*. [digital game]. Rockville : Bethesda Softworks, 2008.

*Mass Effect 2*<sup>17</sup> earn ‘paragon’ or ‘renegade’ points during the game for playing within rules of morality and law, or more rebelliously above the law. Based on the level of paragon and renegade score, players gain access to unique dialogue options with NPCs, possibly influencing further developing the situation or even the story as a whole.<sup>18</sup>

An *ethical dilemma* is a situation within which an individual has to decide between two or more alternatives, but neither of them is optimal, and choosing one value or norm, violates others. G. Wark and D. Krebs identified 6 dilemmas that people can experience in their lives:

- *Philosophical dilemma* – an abstract, hypothetical and always impersonal dilemma that does not directly affect a man or his closest social surroundings, for example, euthanasia, the death penalty, drug legalization;
- *Antisocial dilemma (1)* – reaction to a misdemeanour, a decision on how to respond to an offense, injustice, or violation of the rules, for example, when a friend is cheating during a test;
- *Antisocial dilemma (2)* – reaction to the temptation to meet own needs, fulfill desires or make a profit immorally, for example, when one lies to parents to avoid punishment;
- *Social pressure to violate own values or identity* – an individual is under pressure from a person/group to engage in activity that violates their values, for example, urging a friend to try narcotics;
- *Prosocial dilemma (1)* – reaction to conflicting demands, when two or more people have conflicting or exclusionary demands on an individual often with subsequent consequences on their relationship, for example, divorcing parents have demands on their child;
- *Prosocial dilemma (2)* – reaction to the needs of others, when the individual feels an inner conflict whether or not they are responsible for some proactive action to support another person, for example, returning to a former partner, because they threaten to commit suicide.<sup>19</sup>

A frequent model situation of an ethical dilemma that has already been applied in various types of media artifacts is *the trolley problem*. The origin of this moral dilemma dates back to the 1970s. It was designed by the philosopher P. Foot, and other philosophers and psychologists analyzed and modified her model example over time.<sup>20</sup> The basic idea lies in decisions of the subject to which track divert the moving trolley – a track with five people or a track with one person. This dilemma has also been implemented in several digital games. Its modified version can be found, for example, in *inFAMOUS*<sup>21</sup> as a choice between rescuing the main character’s girlfriend, Trish, or rescuing six innocent doctors (all hanging on two distant buildings with bags on their heads). The decision does not affect Trish’s fate in the game, because if the player decides to rescue her, he finds out that the rescued is not Trish but one of the doctors, and Trish was in a group with the

17 BIOWARE: *Mass Effect 2*. [digital game]. Redwood City : Electronic Arts, 2010.

18 SCHRIER, K., GIBSON, D.: Using Games to Prepare Ethical Educators and Students. In KOEHLER, M., PUNYA, M. (eds.): *Proceedings of SITE 2011 – Society for Information Technology & Teacher Education International Conference*. Nashville : AACE, 2011, p. 1374-1375.

19 KREBS, D. L., DENTON, K., WARK, G.: Forms and Functions of Real-life Moral Decision-making. In *Journal of Moral Education*, 1997, Vol. 26, No. 2, p. 133.

20 For more information, see: FOOT, P.: The Problem of Abortion and the Doctrine of the Double Effect. In *Oxford Review*, 1967, Vol. 5, No. 1, p. 5-15.; THOMSON, J. J.: Turning the Trolley. In *Philosophy & Public Affairs*, 2008, Vol. 36, No. 4, p. 359-374.; GREEN, J. D.: *Moral Tribes: Emotion, Reason, and the Gap Between Us and Them*. New York : Penguin Books, 2013.

21 SUCKER PUNCH PRODUCTIONS: *inFAMOUS*. [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2009.

other doctors he didn't save. Although the trolley problem is an ethical dilemma, the game presents it as an ethical problem, because depending on the decision, the player gains positive blue-colored karma for saving the doctors (towards 'Hero' ranking) or negative red-colored karma for an attempt to rescue Trish (towards 'Infamous' ranking). Besides the effect on karma, the decision consequences are presented in the following emotionally charged cutscene – dying Trish tells the hero, Cole, that she is proud or ashamed of what he has become.

In *Prey*<sup>22</sup>, the trolley problem is applied in its original forms. At the beginning of the game, the player's character takes final tests as a participant of unspecified research. These tests consist of answering questions presented on the computer, including three variations of the trolley problem – activity/inactivity of the subject, the possibility of sacrificing someone, the possibility of self-sacrificing.<sup>23</sup> In this case, the answers have no direct effect on game development, they just reflect the player's way of moral judgment, and thus the possible prediction of how they could deal with the situation set by the storyline – escape the space station in the early stages of the game leaving all survivors behind; eliminate the threat, and saving the station and all survivors; destroy the station, whereby they can die themselves, escape and leave all survivors behind, or save the survivors and escape with them. Ethical decision-making and dilemmas seems to be quite common parts of digital games, however, a basic precondition is the presence of at least an elementary *narrative* structure in the game. The story can be considered as a medium that provides players situations containing elements of decision-making possibly placeable in an ethical context. Thanks to the interactivity, dealing with ethical decision-making/dilemmas is carried out at a completely different level, and the link with the narrative itself also contains didactic potential.<sup>24</sup>

## Storytelling as a Condition for Ethical Decision-Making and Dilemmas Simulations

Individual media (such as literature, film) containing narrative components and which naturally implement ethical issues and problems into their content are generally considered as attractive educational tools. By contrast, digital games have until recently had no space to establish themselves in ethical education. The possibilities of utilizing digital games in ethical education could be fully explored and researched after the games were able to provide more complex narrative structures, including player's decision-making with possible impacts on the further development of the storyline. Although studies of narrativity related to digital games have not yet reached a comprehensive conclusion, frequent discussion on the topic, whether games can be considered as new narrative media or, conversely, negating any relationship between digital games and narratives, is limited by their orientation to only one aspect of that relationship.<sup>25</sup> It can be assumed that

22 ARKANE STUDIOS: *Prey*. [digital game]. Rockville : Bethesda Softworks, 2017.

23 Remark by the author: The third option, an altruistic act, self-sacrificing, was added to the original version by J. J. Thomson.

24 LOMNICKÝ, I. et al.: *Didaktika etickej výchovy pre etickú prax*. Nitra : UKF in Nitra, 2017, p. 62.

25 AARSETH, E. J.: Quest Games as Post-Narrative Discourse. In RYAN, M. L. (ed.): *Narrative across Media. The Languages of Storytelling*. Lincoln, London : University of Nebraska Press, 2004, p. 362.

this discussion will dynamically continue and develop, taking into account the increasing amount of new game titles, emerging narrative structures, and game mechanics. The interdisciplinarity of the issue points to a wide range of possibilities for the topic research, but at the same time, it makes it problematic to attain clear conclusions. It is necessary to reflect both the differences and the similarities existing between games and stories because the interconnection of these two natural parts of human life contains significant educational potential.

Stories are a natural part of education with a wide range of possibilities for the application of their educational potential, which is declared, besides others, by scientific projects in various areas dealing with it, exploring the perspectives of work with it, and offering application proposals.<sup>26</sup> The main difference between a traditional story and interactive storytelling is the participant's impact on the storyline.<sup>27</sup> Interactive stories in digital games invite the player to participate in developing the story and directly influence its ending, thus the transition from linear narratives to branching. One of the current attractive narrative structures is the so-called *the butterfly effect* that offers a complex simulation of decisions and their consequences. At the same time, it represents a significant potential for its use in the framework of ethical education. The term butterfly effect refers to a hypothetical scientific concept embraced by popular culture to emphasize the importance of negligible events. It illustrates that some complex dynamic systems exhibit unpredictable behaviour in such a way that small variances in the initial conditions could have significant and considerably divergent effects on the process results.<sup>28</sup> In digital games, it occurs within the player's possibility to choose from several options, which further affect the direction of the game, often including its end. This narrative structure allows us to see the consequences of individual decisions within simulated situations, and also with certain emotional involvement of the player. From games whose stories are based on the butterfly effect principle, we can mention *Heavy Rain*<sup>29</sup>, *Until Dawn*<sup>30</sup>, *Life Is Strange*<sup>31</sup>, *Detroit: Become Human*<sup>32</sup>, etc. The natural consequence of applying the butterfly effect is the narrative endings' multiplication, thus the game can have many different endings, depending on the player's key decisions during playing. *Heavy Rain*, already an iconic game regarding the butterfly effect, provides a total of 17 different endings to the story.<sup>33</sup>

26 For more information, see: MAGOVÁ, L.: Príbeh ako významný prostriedok výchovy k mravnosti. In *Scientia et Eruditio*, 2019, Vol. 3, No. 2, p. 46-55. [online]. [2020-04-06]. Available at: <<http://pdf.truni.sk/see/download?see=2019-02-05-magova.pdf>>.

27 TYNDALE, E., RAMSOOMAIR, F.: Keys to Successful Interactive Storytelling: A Study of the Booming "Choose-Your-Own-Adventure" Video Game Industry. In *i-manager's Journal of Educational Technology*, 2016, Vol. 13, No. 3, p. 29.

28 VERNON, J. L.: Understanding the butterfly effect. In *American Scientist*, 2017, Vol. 105, No. 3, p. 130.

29 QUANTIC DREAM: *Heavy Rain*. [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2010.

30 SUPERMASSIVE GAMES: *Until Dawn*. [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2010.

31 DONTNOD ENTERTAINMENT: *Life Is Strange*. [digital game]. Tokyo : Square Enix, 2015.

32 QUANTIC DREAM: *Detroit: Become Human (PS4 version)*. [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2018.

33 Remark by the author: US Gamer, Gamepressure, or Altered Gamer gaming sites state this number, but users at several discussion forums also suggest that *Heavy Rain* has up to 22 epilogues.

# The Butterfly Effect of Ethical Decision-Making in Detroit: Become Human

The topics of artificial intelligence and androids are highly up to date, reflect current social trends, and the game theme itself may figure as a subject of an ethical discussion focusing on the ethical aspects of new technologies, the importance of human rights, etc. H. Jonas states that science fiction narratives might be considered as thought experiments, initiating ethical reflections even about issues such as future realistic and ethically relevant scenarios.<sup>34</sup> The presence of the butterfly effect as a core element of the game allows us to demonstrate ethical decision-making, analyze individual options, and also the consequences of decisions. At the same time, we can use Detroit: Become Human as a model case of applying the butterfly effect principle directly to ethical education classes. In 2012, Quantic Dream published a short video called *Kara*<sup>35</sup> to present “new performance capture techniques and the new engine before going into production, so we developed a short showcase that would allow us to test these ideas and technologies. This is how ‘Kara’ was created”.<sup>36</sup> The video shows the process of assembling an android named Kara, testing its features and capabilities. At a certain point, the reactions of the android begin to conflict with the original settings (Kara says ‘I thought...’), and according to the regulations, the worker who assembles it has a clear command to destroy defective pieces. During dismantling, the android’s reactions show common features with human ones, but the worker stops the dismantling process only after Kara shouts that she is scared. Even in this short story, we can identify the worker’s ethical dilemma, according to Wark and Krebs’ classification, a prosocial dilemma. Should he follow the regulations about defective androids, or decide to save the manifested ‘human’? The video ends after Kara is reassembled and transferred to a line of other same looking androids. This video also contains other impulses for ethical discussion, for example, when the worker mentions to Kara that she is merchandise. The discussion can also be directed towards slavery, sexual slavery,<sup>37</sup> or human rights and their violations.<sup>38</sup> According to Quantic Dream, the video presented neither their new game, world, or story, and neither was Kara a new game character,<sup>39</sup> however despite this statement, in 2015, the company announced the future release of Detroit: Become Human with Kara as a playable character. Moreover, the game story has common elements and as outline of the basic narrative line presented in this video.

34 JONAS, H.: *The Imperative of Responsibility: In Search of an Ethics for the Technological Age*. Chicago : The University of Chicago Press, 1985, p. 30.

35 “Kara” by Quantic Dream. [online]. [2020-04-07]. Available at: <<https://www.youtube.com/watch?v=j-pF56-ZYkY>>.

36 SHUMAN, S.: “Kara” is Not Quantic Dream’s Next Game (But You May Wish it Was). [online]. [2020-04-07]. Available at: <<https://blog.us.playstation.com/2012/03/07/kara-is-not-quantic-dreams-next-game-but-you-may-wish-it-was/>>.

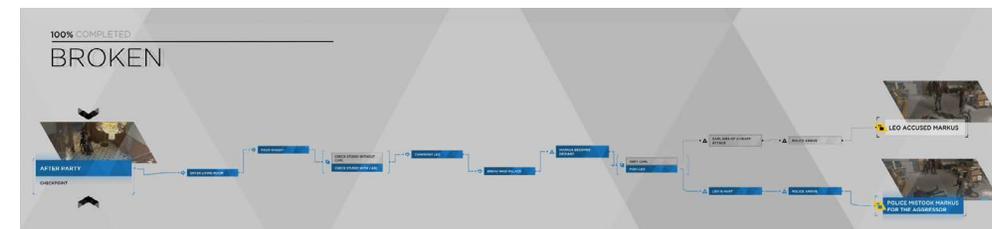
37 For more information, see: LUKŠÍK, I., MARKOVÁ, D.: Sexual Lifestyles in the Field of Cultural Demands. In *Human Affairs : Postdisciplinary Humanities & Social Sciences Quarterly*, 2012, Vol. 22, No. 2, p. 227-238.

38 See also: MAGOVÁ, L., MAGO, Z.: Výchova k rešpektovaniu ľudských práv a prosociálne aspekty digitálnych hier. In *Dot.comm*, 2015, Vol. 3, No. 2, p. 49-56.

39 SHUMAN, S.: “Kara” is Not Quantic Dream’s Next Game (But You May Wish it Was). [online]. [2020-04-07]. Available at: <<https://blog.us.playstation.com/2012/03/07/kara-is-not-quantic-dreams-next-game-but-you-may-wish-it-was/>>.

In Detroit: Become Human, the player controls three characters, androids, so when it comes to applying this game to education towards ethical decision-making, the initial discussion should be concerned about ethical decision-making of androids. For example, we can ignore the differences between human and android by considering ‘deviancy’ of androids in the game as a metaphor for transformation into human (a parallel to acquiring a free will). In the case of implementing this game story into the education process, it is definitely necessary to discuss this fact with learners, however, in a purely technical sense, with digital games, we can always talk about simulation, thus the decision-making subject’s characteristics could be a negligible factor - decisions are made by a person, the player, whether playing as a human or an android. The simulation of human actions is also a simulation. Its potential lies in the mediation of experience, which the educator and the students must then elaborate during value reflection.

Detroit: Become Human consists of chapters of varying gameplay length and the complexity of story branching. Several chapters present relatively closed situations, which can be completed within ten minutes, the optimal time for incorporating such game sequence into the learning process. An example is the chapter *Broken* (Picture 1), in which the android Markus and his owner, Carl, are arriving home and find out that lights are on in the studio. They call the police and go to explore the room. They find Carl’s son, Leo, trying to steal some of Carl’s paintings to gain money for narcotics. Carl tells him to leave his house, but Leo starts accusing him that he likes Markus more than his own son and then turns his anger against Markus. Carl tells Markus not to do anything and still requires Leo to leave his house. The pressure of Leo’s verbal and, consequently, physical attacks against Markus makes him ‘deviate’, break the program to be able to decide whether to obey Carl or not. If he obeys Carl and does nothing to defend himself, Carl will have a heart attack, Leo will accuse Markus, who is subsequently shot by the police. If Markus decides to disobey Carl, he will push Leo, who will fall, hit his head and lose consciousness. Although Carl insists that Markus should leave before the police arrive, he remains and subsequently is shot by the police.

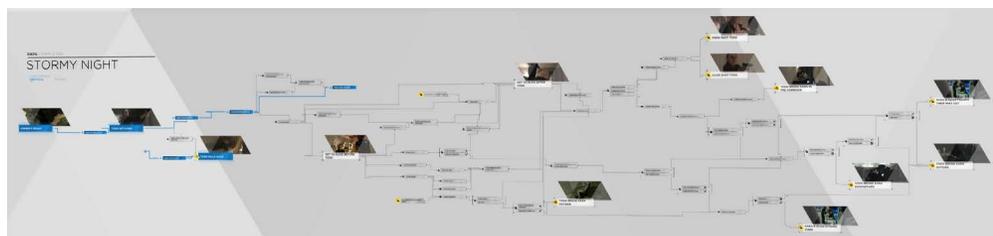


Picture 1: Completely unlocked flowchart of the chapter Broken from the game Detroit: Become Human

Source: author's screenshot; QUANTIC DREAM: *Detroit: Become Human* (PS4 version). [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2018.

Other chapters then offer more complex structures consisting of multiple key decisions branching out storylines, including affecting the structure of the following chapters (the beginning of a chapter may reflect the end of the previous one) as well as the overall story. For example, for the android Kara, the story may end early in the game. The chapter *Stormy Night* (Picture 2) is devoted to Kara’s deviation after she was a witness to domestic violence on Alice, the girl she should look after. When Alice’s life is in danger, Kara must decide to obey her owner, Todd, Alice’s father, do nothing and let Todd kill Alice, or not to obey him and try to save Alice. After that decision, the game gains momentum quickly, and has several ethical background situations – try to stop Todd downstairs; go straight for Alice and try to escape her without confronting Todd; take Todd’s weapon from the

nightstand in his bedroom along the way to Alice. The chapter has 9 possible climaxes, and Todd breaks (kills) Kara even in four of them. In one case, Todd kills Alice, and in four other cases, Kara and Alice manage to escape by bus, while completely avoid Todd, fight him out, or (Kara/Alice) shoot him.



Picture 2: Completely unlocked flowchart of the chapter Stormy Night from the game Detroit: Become Human  
Source: author's screenshot; QUANTIC DREAM: Detroit: Become Human (PS4 version). [digital game]. Tokyo, San Mateo : Sony Computer Entertainment, 2018.

While discussing decision-making in this situation, the educator could include more aspects possibly affecting decisions such as the previous awareness that Alice is also an android (this is revealed later in the story), or the fact that Todd had already broken Kara once and let her get repaired, which Kara does not remember in the chapter Stormy Night (it is only implied then). Similar complex narrative structures typical of the butterfly effect may be difficult to implement into ethical education classes, which are limited by time and technics. To minimize implementation limitations, the educator himself could create a simplified scenario based on a game narrative preserving the butterfly effect principle that would be applied to the class in a form similar to a live-action role-playing game<sup>40</sup> with students as story characters. The teacher as a gamemaster would supervise the overall development and following the parameters of the situation and then moderate the discussion on ethical-educational aspects of decisions, including the possibility to return to the point of decision and change it. Alternatively, learners themselves could be given the task to create a story scenario on a selected topic with different 'intersections' branching out the storyline and its endings. The proposed teaching design is basically consistent with the concept of gamification within education, a widely discussed issue, the implementation of which has already proved the positive impact of applied gaming mechanisms and principles on activating and increasing learners' involvement in the learning process.<sup>41</sup> In this context, we see the potential of applying similar principles to ethical education classes with a possible positive impact both on the development of student creativity and education towards responsibility, since the primary objective in both proposed concepts is to encourage students to make independent and responsible decisions

## Conclusions

The demands of educational practice are changing alongside society, so it is important to emphasize not only the need for a flexible and creative approach by educators but also the need for a purposeful and systematic search for ways to teach in accordance with

40 For more information, see: MOCHOCKI, M.: Edu-Larp as Revision of Subject-Matter Knowledge. In *International Journal of Role-Playing*, 2013, Vol. 4, No. 1, p. 55-93.

41 See also: DICHEVA, D., DICHEV, C., AGRE, G., ANGELOVA, G.: Gamification in Education: A Systematic Mapping Study. In *Educational Technology & Society*, 2015, Vol. 18, No. 3, p. 75-88.

those demands. It is a challenge for the content of individual subjects, as well as for the revision of teaching methods and forms. We focus on the potential of digital games for ethical education, not only because of their general attractiveness as a potentially significant motivating factor but also because of a diversity of their use, a multiplicity of mediated game narratives, and the overall dynamics of their development.

The digital-gaming market currently offers a wide range of digital games. One of the essential aspects influencing the effectiveness of digital games within the educational process is the choice of game itself that should be relevant regarding technical and content criteria, and also their possibilities in the moral literacy development. Although taking into account the option of using serious games and custom made games, the utilization of digital games that were not created for educational purposes seems to have pros regarding their variability, width, availability, and proved successes in the field of education (e.g., Minecraft). Concerning ethical education, simulations of ethical decision-making, ethical dilemmas, and problems can be identified in many such games; therefore, we have focused on this direction as a way to shape learners' value orientation, and their ability to make ethical decisions. Our findings indicate that storytelling in digital games (in the presence of at least an elementary narrative structure) is a condition for providing complex ethical decision-making and dilemmas simulations. We consider it another benefit because stories are a natural part of education with a wide range of possibilities also within ethical education. Besides, digital games are capable of mediating interactive forms of storytelling, meaning that the participants can impact the storyline. These aspects commonly appear in games that enable a player to make decisions directly/indirectly affecting the storyline and the overall game direction, such as Heavy Rain, Until Dawn, or Life Is Strange. In this case, the so-called butterfly effect represents an ideal space for the development of skills related to ethical decision-making and solving ethical dilemmas.

Detroit: Become Human is a good example to demonstrate the integration of ethical decision-making and dealing with ethical dilemmas, not only because of the narrative itself but also because the game is divided into different time-consuming and content-intensive sequences. The topics of artificial intelligence and androids are highly up to date, reflect current social trends, and the game story can be an object of an ethical discussion focusing on various ethical aspects related to new technologies, the importance of human rights, and many others. Interactive storytelling includes, besides the story itself, the participant's influence on the direction of the story and its ending. Interactivity, as one of the essential attributes of digital games, is thus extended by the element of narrativity, creating a space for educators and its implementation in education. The mediated experience together with a discussion focused on value reflection represents the main elements of experiential learning. Our proposal to integrate the game Detroit: Become Human or its parts (e.g., chapters) into the educational process of ethical education, alternatively in the form of integrating game elements, particularly the butterfly effect, within the process of gamification, and including learners' participation, demonstrates the use of digital games as educational tools in the hands of a competent educator (taking into account the limits related to the implementation of digital games). It can be assumed that making decisions or creating alternatives to decisions leads learners to independent thinking, active prediction of results, and acceptance of responsibility for the decision consequences.

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