The Development of Ethoshunt™ to Transform Teaching and Learning Practices of Counseling Ethics Education

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Abstract: Ethics incorporate the sources of human standards and values. However, there is a consistent struggle to locate both concepts of social condition and human values; and the question of what comprises counseling ethics education is complex and intriguing. Therefore, there is an urgency to transform teaching and learning practices of counseling ethics education by integrating educational gamification to complement the conservative classroom teaching and learning methods. A prototype called Ethoshunt™ is developed from gamification ideation as an educational gamification-based app that can be utilized in teaching and learning of counseling ethics education. The elements of game dynamics, game mechanics, functionality, and learning flow of Ethoshunt™ emerged as unique aspects which enable the students engrossed with learning objectives and charted with learning outcomes, digitally. The researchers advance that Ethoshunt™ may bring a new gamut of talent for educators in developing technology-mediated learning to augment teaching and learning activities in counseling ethics education. Ethoshunt™ holds the potential to inspire students while making counseling ethics education learning more fun and enjoyable. This offers possibilities to revolutionize existing counseling ethics education teaching and learning practices in line with the needs of the 4th Industrial Revolution.

Keywords: Ethoshunt™, educational gamification, counseling ethics education, teaching and learning

1. Introduction

We have been observing rapid technological and science advancements (Chowdhury, 2016); and recently, the 4th Industrial Revolution is profoundly influencing our ways of living and every other aspect of our lives (Wang, 2021). The 4th Industrial Revolution has modified the global sociological model (García-García et al., 2020) and how does sociological function. This new wave of transformations implies the use of various advanced technologies embedding the use of internet widely to support technologies (Schumacher et al., 2016). Intelligent machines with human actors are integrated in the new industrialization era to increase economic efficiency, reduce manufacturing costs, improve labor productivity, and return on investments (Sima et al., 2020). On the other hand, Fox et al. (2020) referred the 4th Industrial Revolution as quantum industry, which is detailed, complex, and challenging.

According to Fox et al. (2020), quantum technologies offer remarkable advantages as compared to existing technologies. However, optimization of current job role and self-equipped with necessary skills are crucial to ensure acceleration of quantum technologies-related commercialization (Fox et al., 2020). Global development has witnessed three major transformations prior to the inception of the 4th Industrial Revolution (Alam et al., 2020). The three major paradigm transformations are agriculturalization, followed by weaponization and industrialization (Alam et al., 2020). The 4th

Industrial Revolution which is also known as the era of intervention and incorporation of technology consists of four fundamental parameters which are: (a) digitalization; (b) cyberization; (c) webization; and (d) artificial intelligence (Alam et al., 2020). Simulation, cloud computing, big data, Internet of Things (IoT), 3D printing, virtual and augmented reality, smart sensors, and drones are examples of key technologies of 4th Industrial Revolution. The key technologies of 4th Industrial Revolution includes gamification. These contemporary technologies can be integrated to multidisciplinary platforms including education. The key question that is addressed in the current study is how does one of the key technologies which is gamification transforms teaching and learning of counseling ethics education?

According to Md Khambari et al. (2021), educators worldwide are encountering challenges to continue providing quality teaching and learning practices, in both virtual and physical settings. The responsibilities of meeting the millennials' expectations and keep them engaged during classes could be challenging too. Hence, in line with the advancement of technology, it is essential to integrate new tools and technology incorporating game elements to extend learning while promoting cognitive and emotional development of the students. The application of game elements such as game mechanics, game components, game dynamics, and game aesthetics with the support of virtual learning environment (VLE) is commonly known as gamification and it offers more advantages to human beings.

Gamification refers to the use of game-like concepts to engage students in learning (Zakaria et al., 2020a). However, gamification involves non-gaming systems (Zolfaghari et al., 2021). Rewards, goals, badges, and leaderboards are the most commonly used gamification elements (Zakaria et al., 2020a; Zakaria et al., 2020b; Zolfaghari et al., 2021). Past studies have studied on the utilization and integration of gamification is various disciplines. For instance, Alsawaier (2018) has conducted a general study to investigate the effect of gamification on motivation and engagement, Klock et al. (2021) have studied gamification in freight transportation, and Pasca et al. (2021) have synthesized gamification knowledge in the field of tourism. Shifting towards benefits and contribution, gamification has remarkably benefited human being and proven crucial in various disciplines.

Canio et al. (2021) found that shopping gamification indirectly influenced shopping engagement through the usage of a mobile app. On the other hand, Bitrián et al. (2020) found that gamified sports apps satisfy basic psychological needs of individuals such as relatedness, autonomy, and competence. Maturo and Moretti (2018) have analyzed the role of gamification-based health apps to promote medicalization. According to them, gamification or the use of gamified self-tracking transforms tedious tasks into pleasurable activities which eventually increases productivity without oppressing the individuals. Hence, gamification has huge potential in making significant improvements in all aspects of our lives including education. The primary objective of employing gamification in learning environments is to create new learning environment, increase student motivation, keep them engaged, and consequent learning outcomes (Legaki et al., 2020; Zakaria et al., 2020a; Zakaria et al., 2020b). Gamification-based applications users would also demonstrate positive learning behaviors and the application reinforces human behaviors. Furthermore, gamification allows student to learn with energized focus (Garcia-Sanjuan et al., 2018), improves motivation level (Chung et al., 2019; Hsu & Chen, 2018), challenges students with high ability (Tsay et al., 2018), promotes flexible learning environment (Tsay et al., 2018), and maintain positive attitudes toward the program or course of study (Davis et al., 2018).

Similarly, the current study introduced Ethoshunt™, an educational gamification-based mobile app as a tool which can be utilized in teaching and learning of counseling ethics education. Past studies have revealed significance of gamification in mental health and well-being (Cheng, 2020; Fleming et al., 2017; Six et al., 2021), multicultural counseling (Mzohd Daud et al., 2019), and emotional health treatment through Cognitive Behavioral Therapy (CBT) (Christie et al., 2019). Similar to Ethoshunt™, Suhaimi et al. (2018) has applied gamification in teaching and learning. The researchers conducted literature search and

found that gamification in counseling is still at infancy stage. We found limited gamification-related resources in counselor education.

In this study, the technical components of Ethoshunt™ were published in Zakaria et al. (2020a). Ethoshunt™ was mainly developed to complement the existing counseling ethics education teaching and learning practices. Currently, the counseling ethics educators are utilizing traditional teaching tools such as whiteboard, presentation slides, textbooks, and online resources. Changes are required specifically in the teaching and learning of counseling ethics education as ethics education is a cut and dry course (Carnes-Holt et al., 2016; Subarimaniam et al., 2020; Warren et al., 2012; Zakaria et al., 2022).

Ethics incorporate the sources of human standards and values. However, there is consistent struggle to locate both within concepts of social condition and human values; and the question of what comprises counseling ethics education is complex and intriguing (Levitt et al., 2015; Mullen et al., 2014; Zakaria et al., 2013). Furthermore, there is lack of proper and clear solutions to the counseling ethical issues (Hill, 2004; Zakaria, 2013; Zakaria & Warren, 2016; Zakaria et al., 2017). Therefore, there is an urgency to transform teaching and learning practices of counseling ethics education by integrating educational gamification to complement the conservative teaching and learning methods. According to Zakaria et al. (2020b), gamification is used in various focus areas and guarantees technology advancement in many sectors. They also found that one of the most recurrent target users of gamification are students. They have highlighted that one of the probable hubs of gamification could be education sector. Hence, it is worthful to explore Ethoshunt™. The researchers believe that the new educational gamification-based tool could be more amuse and immersive with experiential-based learning features.

2. About Ethoshunt™

A prototype called Ethoshunt™ is developed from gamification ideation as a tool which can be utilized in teaching and learning of counseling ethics education. This educational gamification tool is developed not to replace; but to complement the existing conservative teaching methods utilized in counseling ethics education. The elements of game dynamics, game mechanics, functionality, and learning flow achieved through Ethoshunt™ emerged as unique aspects which enable the students engaged with learning objectives. Furthermore, Ethoshunt™ ensures that students are charted with learning outcomes, digitally.

The system architecture of Ethoshunt™ was designed to handle few types of interfaces which are Android mobile app, desktop web browser, and mobile web browser (Zakaria et al., 2020a). For desktop web browsers, the system has been pilot tested via Safari (Apple; Version 11.0.3) on Mac OS X EI (Apple; Version 10.11.6) and Google Chrome (Version 74.0.3729, official build; Google) on Windows 10 (Microsoft). For mobile web browser and the Android mobile app, the system was tested using Google Chrome (Google; 74.0.3729.157) and (Google; Version 9.0) respectively. Figure 1 depicts the gamification-based mobile application being used by a postgraduate student for her counseling ethics education course and Figure 2 shows the features of the app.

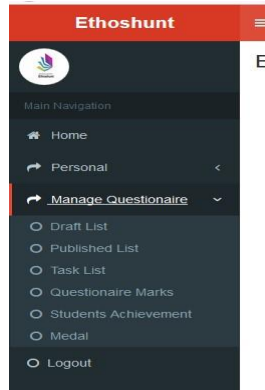*Figure 1.* Gamification-Based Mobile Application, Ethoshunt^{TM}

Figure 2. Features of Ethoshunt^{TM}

3. Methodology

The development process of Ethoshunt[TM] is a three-stage plan that involved taking the mobile app from initial concept to final launch in the classroom. The initial concept and final launch focus on the content of the gamification-based mobile app. This process excludes the development of system architecture, market launch, and securing of intellectual property of the innovation. The first stage of Ethoshunt[TM] development process is the identification of game mechanics, followed by identification of game dynamics and launch in the classroom.

2.1   Stage 1: Game Mechanics of Ethoshunt[TM]

Game mechanics is a mechanism that encourage certain behavior or move the simulation forward with the help of rewards and example of game mechanisms are points, levels, and badges (Blohm & Lelmelster, 2013). Ethoshunt[TM] functions based on the four steps as shown in Figure 2. First, the instructor will send hints related to counseling ethics to the students. Students are required to check the hints sent by their instructor and in response to the hints, students will need to submit an appropriate answer for evaluation or grading purpose. The hints and answers must be within the scope of counseling ethics education; and can be in the form of audio, image, text, or video. Points will be given to each correct answer.
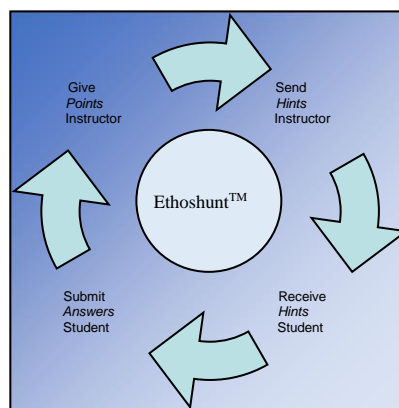

Figure 2. Game Mechanics of Ethoshunt[TM].

2.2 Stage 2: Game Dynamics of Ethoshunt[TM]

Game dynamics reveals the effect of game mechanics (Blohm & Lelmelster, 2013) and how user of the gamification-based mobile app evolves over some time. Game dynamic include feedback, time pressure, and progress. Ethoshunt[TM] is integrated with progress-based game dynamic. The users or students will progress through multiple levels and the final level would indicate highest level of understanding of counseling ethics education. Students who have mastered the course would score more points and have higher tendency to reach the final stage of Ethos levels (See Figure 2).

2.3 Stage 3: Launch of Ethoshunt[TM] in the Classroom

The launching of Ethoshunt[TM] was held in a smart classroom located at the Faculty of Educational Studies, Universiti Putra Malaysia. The researchers performed user acceptance testing to test the interface and function of Ethoshunt[TM]. The user acceptance testing involved students who have registered for the counseling ethics education course. The user acceptance testing was performed based on the following steps:
Send Hints (Instructor):

Hint   :   What does a counseling ethical decision-making model looks like?
Instruction   :   Upload an image as your answer to the question. The hints can be related to hidden information in the virtual or real world. The hints can be sent at any time of the day before the dateline without any restrictions.

Receive Hints (Student):

The student receives the hint from instructor through a dedicated Android app. A notification will be displayed on the student's mobile device screen. The types of hints can be hidden details in the real and virtual world. Details in the real world could be related to physical clues. On the other hand, details in the virtual world could be quotes, stories, images, audios, films, dialogues, and other internet-based particulars.

Submit Answers (Student):

The student submits an answer (an image as requested by the instructor) via the Android app. The instructor will also receive notification on the mobile device or laptop screen.

Give Points (Instructor):

The instructor gives Ethos points for correct answers. Students will progress through Ethos levels: (a) Infancy; (b) Childhood; (c) Teenager; and (d) Matured (See Figure 2). Students who have advanced to the matured level reflects good understanding of counseling ethics and ability to make mature ethical reasoning.
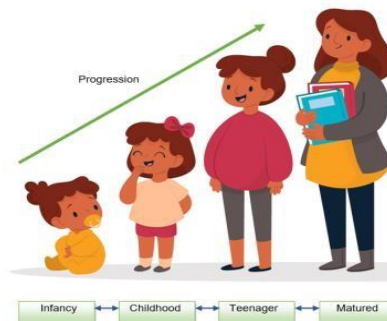

Figure 2. The Ethos Levels.

4. Results

The outcome of the user acceptance testing of Ethoshunt™ as a tool in teaching and learning of ethics education was projected through effectiveness of the gamification-based mobile application in counseling ethics education. The students advanced from one Ethos level to another Ethos level (from infancy stage to childhood stage, followed by teenager and matured stage) and target Ethos points were collected at the end of the user testing. The students took part in a meaningful ethics education learning flow (See Figure 3) consisting of 10 learning keys which was different from the conservative learning process. The 'achievement' concept motivated the students to accomplish task given by their instructor and 'appointment' refers to the students' responsibilities to check on the hints they received. The use of Ethoshunt™ in teaching and learning of counseling ethics education can be motivating and would encourage them to set goals in achieving matured stage. Next, they work 'collaboratively' with other peers while focusing on 'epic meaning'. Utilization of gamification-based mobile application can cultivate creativity and foster relationship with others specifically when it involves group work. On the other hand, focusing on epic meaning helps them to achieve excellent learning outcomes.

Students receive bonuses in the form of Ethos points for all their achievements and collect tareted points within a specific duration through 'countdowns'. Countdown refers to the number of points they have to count through until highest stage is achieved. 'Discovery' reflects how students navigate through the ethics education course and 'synthesis' knowledge gained. For 'loss aversion', the students will continue playing to avoid losing what they have gained. Finally, the students will work through 'infinite play' by being active and engaged in the learning process until they become expert in the course. Perhaps, students can continue playing until they achieve matured stage which means they have good level of knowledge in counseling ethics.
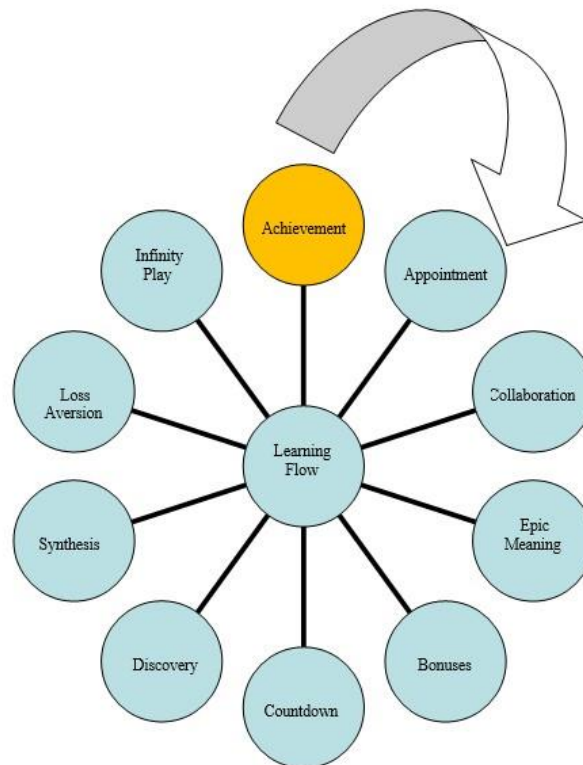

Figure 3. Learning Flow through Integrative Ethoshunt™.

5. Conclusion

As a student, discovering new knowledge and synthesizing what they have learned are part of their development. Navigating throughout the learning process can be challenging. However, integration of gamification-based tools such as Ethoshunt™ can transform teaching and learning practices of counseling ethics education into meaningful process. Securing what they have gained would reflect their responsibility level and infinite play would reflect their commitment to become expert in counseling ethics education. The researchers advance that Ethoshunt™ may bring a new gamut of talent for instructors in developing technology-mediated learning to augment teaching and learning activities. It drives motivation, fosters deep engagement, and collaboration among the students. Ethoshunt™ holds the potential to inspire students while making ethics education learning more fun and enjoyable. Furthermore, Ethoshunt™ transforms cut and dry ethics education course into meaningful contents and it can be used across disciplines. The usefulness of Ethoshunt™ offers possibilities to revolutionize existing counseling ethics education teaching and learning process in line with the needs of the 4th Industrial Revolution.

Acknowledgements

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