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PRELIMINARY STUDY: 3D GAME ON PERSONALIZED WILDERNESS ADVENTURE

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Abstract

Survival in the bush was once essential for existence, requiring children to learn survival skills at a young age. These skills, while less commonly needed today, remain valuable for emergencies and everyday challenges. However, traditional methods of teaching these skills make it hard to engage learners due to a lack of enjoyment and relevance. There is a pressing need for personalized gamification to teach youth about nature and survival techniques effectively. This preliminary study investigates the impact of personalized gamification elements on learning survival skills. The study aims to understand the participants' preferences and the effectiveness of gamified learning. An online survey was distributed via social media platforms, gathering data from 30 respondents aged between 18 and 25 years. The survey comprised two main sections: demographic information and user perceptions regarding personalized gamification and traditional learning methods. The findings reveal that 93.3% of respondents have experience playing survival games, yet over half are unfamiliar with personalized gamification elements. This data underscores the potential for personalized gamification strategies to enhance the enjoyment and learning of survival skills through games.

Keywords: Personalization; Gamification; Enjoyment; Survival skills; Preliminary Study

INTRODUCTION

Survival skills were once essential for existence, with children learning these skills at a young age. Wilderness survival skills offer a unique educational experience, fostering an understanding of ecosystems, flora and fauna, weather patterns, and ecological interdependencies. Survivors share traits like imagination, critical thinking, and adaptability, learning to interact responsibly with nature (McGurk, 2023).

This project imagines a change in perspective in which people learn vital survival skills through fun and educational gaming while also developing a deep respect for and understanding of nature. According to research, incorporating enjoyable game design elements can significantly enhance user engagement and learning outcomes (Zain et al., 2016). The project goal is to see individuals fully immerse themselves in the simulated forests of survival games and develop real-world skills and knowledge, prepared to face the elements with competence and adaptability.

In order to promote responsible and peaceful relationships with nature and survival, this project wants to build a community of knowledgeable people who absorb these skills far beyond the boundaries of the virtual world. Besides, this project will inspire a generation that is intimately attuned to nature, equipped to thrive in the wilderness, and passionate about protecting our planet's ecological integrity and beauty through this 3D game journey.

PRELIMINARY STUDY

An early observation or investigation of a problem or subjects connected to the intended review or evaluation is called a preliminary study. The preliminary study was carried out for this game project in order to gather data regarding customized gamification through decision-making satisfaction in studying survival materials through conventional ways. Many people within the scope that has been fulfilled are participating in an online survey. By using a Google Form to distribute the survey, a preliminary study has been performed.

The goal of this study is to determine how agreeable people are being exposed / not being exposed to personalized gamification to learn more and engage in engaging activities related to it. The survey was done by 30 respondents from the age range of 18 years old to 25 years old.

Personalized Gamification

Personalized gamification involves adapting game mechanics and content to suit individual preferences and learning styles, which can significantly enhance engagement and educational outcomes. Gamification applies game mechanics in an area, not in a gaming context, whose main objective is to increase engagement between people (Yousefi, 2020).

Personalized gamification addresses the drawbacks of the one-size-fits-all strategy by tailoring the experience to individual preferences. It has been applied to promote behaviour

change across various fields. Recent empirical findings suggest that customized strategies may be more effective than generic ones in achieving desired outcomes (Rodrigues et al., 2021). Since achievement motivation is a key predictor of academic performance (Steinmayr et al., 2019), it is crucial for creating enjoyable learning experiences and enhancing academic achievement. Gamification positively impacts psychological learning outcomes compared to non-gamified interventions (Sailer & Homner, 2020), thus promoting game-like experiences to improve motivation.

One common approach to personalization is using player or user typologies to understand individual preferences (Tondello et al., 2016). Personalized gamification can increase user satisfaction, performance, and behaviour change (Tondello & Nacke, 2020). However, it can also have negative or mixed effects depending on the characteristics and design of the gamified system. The success of a personalized gamification strategy depends on understanding the target audience and effectively integrating game elements that resonate with their preferences and motivations (Zain et al., 2021).

METHODOLOGY

The Survey Instrument

The survey was distributed through the link shared on social media such as Facebook, Instagram, WhatsApp, and other social media applications. The information data was successfully collected by using Google Form. The respondents were to be asked to reflect on their well-known personalized gamification in survival games and also their agreeability regarding the enjoyment of learning survival materials through the game. Each item is given a scale of agreeability according to the Likert scale ranging from Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), and Strongly Agree (SA). Table 1 shows the questions for the preliminary study and its codes as references.

Table 1: Preliminary study question with code as references

Code	Survey Questions
PE1	I feel that personalized gamification elements would enhance my learning experience.
PE2	I believe that gamified learning platforms should have the ability to tailor content to match individual user preferences.
PE3	The current design of gamification lacks sufficient personalization, making it less enjoyable for me.
PE4	I prefer gamified content that adapts to my decision-making process.
PE5	I think that incorporating personalized elements into gamification would improve my motivation to learn.
PE6	There is a lack of personalized elements in decision-making processes in survival games.
PE7	I have not been exposed to personalized gamification elements.
ES1	I find traditional methods of learning survival skills not to be enjoyable for me.
ES2	I do not enjoy using traditional learning materials to gain knowledge for survival skills.
ES3	I believe that with the right enhancements, traditional learning methods could be made more enjoyable.
ES4	I prefer alternative methods of learning survival materials over traditional methods.
ES5	Learning through games would provide me with an overall enjoyable experience.

The Participants and Procedure

A preliminary study was conducted to investigate the needs and perceptions related to personalized gamification in survival games. The survey targeted respondents aged 18 to 25 years old and successfully collected data from 30 participants. The survey was distributed online using Google Forms, making participation voluntary. The survey gathered demographic data, including gender, age, education level, occupation status, and prior experience with personalized gamification elements. The survey link was shared via social media platforms such as Facebook, Instagram, and WhatsApp.

RESULT AND DISCUSSION

Demography respondents

The demographic data of the respondents are presented in Table 2. The result shows that there are more than half of the respondents are females, with 16 (53.3%) and 14 (46.7%) males. In terms of age, most respondents are between 21 and 23 years old 24 (79.7%), and with a smaller proportion of those aged 24 and 25 years old total of 5 (16.7%). Table 1.1 also revealed that 23 out of 30 respondents held a bachelor's degree and 7 (23.3%) had a diploma level of education. Among the respondents, 22 (73.35) were students. Besides, 6 (20%) respondents

that worked, and 2 (6.7%) were unemployed. A question on survival gameplay was posed to the respondents, and the results indicate that 28 (93.3%) of them have played a survival game. Furthermore, based on the table below there are only half of the respondents do not know the personalized gamification element, and most of them do not have any idea what personalized gamification really is, which are 15 (51.7%) respondents against 14 (48.3%). According to the demographic data collected, most of the respondents were female. The majority of the respondents were between the ages of 21 and 23. These responses clearly showed that the majority of the respondents were undergraduates.

Table 2: List of demographic items

Question	Range	Frequency	(%)
What is your gender?	Female	16	53.3
	Male	14	46.7
What is your age?	18-20	1	3.3
	21-23	24	79.9
	24-25	5	16.7
Education level	Diploma	7	23.3
	Bachelor's degree	23	76.6
	Master's degree	0	0
	PhD	0	0
Occupation status	Work	6	20
	Unemployed	2	6.7
	Student	22	73.3
Do you ever play a survival game?	Yes	28	93.3
	No	2	6.7
Do you know what is personalized gamification element?	Yes	14	48.3
	No	15	51.7

Personalized Gamification

Figure 1 shows the result of the agreeability of personalized gamification elements. As stated, the result for PE1 shows there are 23 (76.7%) respondents who feel that personalized gamification elements would enhance their learning experience. The result of PE2, 21 (70.0%) respondents, shows that they believe that gamified learning platforms should have the ability to tailor content to match individual user preferences. The table below also shows a certain amount of agreeability of respondents towards PE3, which are 22 (73.3%) respondents who think that the current design of gamification lacks sufficient personalization, making it less enjoyable. Based on PE4 data, there are 28 (93.3%) respondents prefer gamified content that adapts to my decision-making process.

Moreover, the result for PE5 shows that 21 (70.0%) respondents think that incorporating personalized elements into gamification would improve their motivation to learn. PE6 result shows that the majority of the respondents, 24 (80.0%), agreed that there is a lack of personalized elements in decision-making processes in survival games. The table also shows the result of PE7 where 21 (70.0%) respondents have not been exposed to personalized gamification elements. The lack of exposure to personalized gamification elements highlights an area for potential developments in gamified learning platforms (Zain et al., 2021).

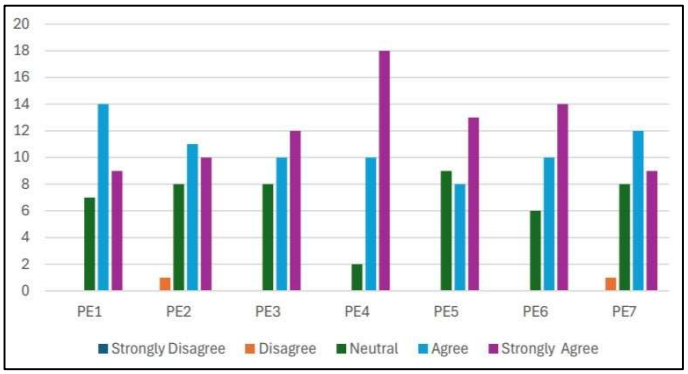

Figure 1: Personalized Gamification Elements (PE)

Table 3: Frequency (%) of response to Personalized Gamification Elements (PE)

Code	SD	D	N	A	SA
PE1	0 (0%)	0 (0%)	7 (23.3%)	14 (46.7%)	9 (30%)
PE2	0 (0%)	1 (3.3%)	8 (26.7%)	11 (36.7%)	10 (33.3%)
PE3	0 (0%)	0 (0%)	8 (26.7%)	10 (33.3%)	12 (40%)
PE4	0 (0%)	0 (0%)	2 (6.7%)	10 (33.3%)	18 (60%)
PE5	0 (0%)	0 (0%)	9 (30%)	8 (26.7%)	13 (23.3%)
PE6	0 (0%)	0 (0%)	6 (20%)	10 (33.3%)	14 (46.7%)
PE7	0 (0%)	1 (3.3%)	8 (26.7%)	12 (40%)	9 (30%)

Learning survival materials through traditional methods

Figure 2 shows the result of the participant's perception regarding enjoyment in learning survival materials through traditional methods. Based on ES1, 17 (56.7%) respondents agreed that they find traditional methods of learning survival skills not to be enjoyable for them. The question in the ES2 result shows that 17 (56.7%) respondents agreed that they do not enjoy using traditional learning materials to gain knowledge for survival skills. According to a study, the lack of enjoyment in traditional methods can hinder student engagement and motivation (Gasah et al., 2020).

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There are 24 (80%) respondents are feeling to believe that with the right enhancements, traditional learning methods could be made more enjoyable based on ES3 data collection. Gamification, for instance, has been shown to significantly enhance engagement and make learning experiences more enjoyable (Hawari et al., 2020). The data gathered from Table 1.4 shows the current perception of the respondents towards implementing a survival game in 3D in order to create an enjoyable gameplay experience. ES4 result shows that the majority of the respondents, 20 (66.6%), agreed that alternative methods of learning survival materials are preferable over traditional methods. Finally, ES5 stated that 27 (90%) respondents agreed that learning through games would provide them with an overall enjoyable experience.

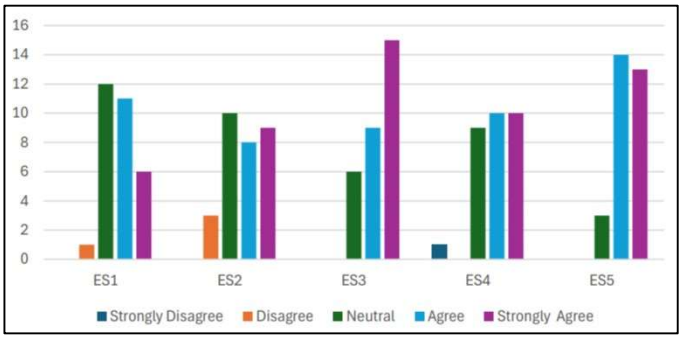

Figure 2: Enjoyment in learning survival materials through traditional methods (ES)

Table 4: Frequency (%) of response to enjoyment in learning survival materials through traditional methods (ES)

Code	SD	D	N	A	SA
ES1	0 (0%)	1 (3.3%)	12 (40%)	11 (36.7%)	6 (20%)
ES2	0 (0%)	3 (10%)	10(33.3%)	8 (26.7%)	9 (30%)
ES3	0 (0%)	0 (0%)	6 (20%)	9 (30%)	15 (50%)
ES4	1 (3.3%)	0 (0%)	9 (30%)	10 (33.3%)	10 (33.3%)
ES5	0 (0%)	0 (0%)	3 (10%)	14(46.7%)	13 (23.3%)

CONCLUSION

This survey aimed to explore the perception of personalized gamification in learning survival skills. The data indicated a significant interest in personalized gamification elements among the respondents. The results emphasize the potential benefits of incorporating personalized gamification into educational tools for learning survival skills. In the second part of the user's perception, 15(51.7) respondents slightly have zero knowledge about personalized

gamification elements. There are 22(73.3%) agreed that the design of gamification lacks sufficient personalization, making it less enjoyable. The result shows that 27 (90%) respondents support the project to proceed in which to develop a 3D survival game to teach survival methods in a more fun and playful experience. Future studies could further investigate the specific features and impacts of personalized gamification on learning outcomes and user engagement.

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