Abstract

**Purpose:** The researcher tried to give fun and interest to class activities for learners who are familiar with the game environment. And I tried to actively utilize Gamification, which can help achieve educationally meaningful goals, in class education. A lot of research is needed so that learners can learn the learning elements that feel boring and difficult by applying the gamification element to education more fun and easily by themselves. So, the researcher applied edutech tools related to gamification to the beauty curriculum, and studied the effect of gamification on class participation motivation.

**Method:** During the beauty and health class in the first semester of 2021, the researcher conducted an interactive class using a quiz-type gamification edutech tool such as Kahoot in subjects like wedding makeup, beauty hygiene laws, total coordination, and beauty English etc. In the 15th week of the final exam period, the researcher used a Google questionnaire to investigate the students’ responses to class activities during the first semester. In the first semester of 2021, the researcher conducted a survey of 100 people in the 1st–4th grades of the Department of Beauty and Health as research subjects.

**Results:** More than 90% of the students who participated in the survey were women, and 88.5% of students in their 20s were surveyed. As a result of the survey, it was found that the students’ concentration aspect, learning experience, learning goal achievement, and lecture satisfaction were somewhat higher in the game class activities using the gamification tool. Most of the students responded positively to using gamification tools in class.

**Conclusion:** There were also opinions that the accessibility of the gamification app was somewhat difficult and difficult for students who experienced it for the first time. During subject orientation, and when students experience difficulties from time to time, prior guidance and steady guidance on how to approach the gamification app should be combined. In a future study, the researcher would like to study more deeply in which parts of the gamification tool the students are most interested in.

**Keywords** Gamification, Motivation, Learning, Edutech, Beauty

1. Introduction

In the 21st century, innovative educators have argued that education needs to be transformed after the 4th industrial revolution[1][2]. There have been major changes in society, economy, and culture since Covid 19, and the biggest change among them has been an innovative turning point in education[3]. Almost all educators around the world have experienced face-to-face and online classes due to COVID-19. Therefore, the paradigm of education has changed to an environment that can no longer retreat. Now, we need a communication education model for developing creative convergence talents that the future era of artificial intelligence wants [4]. The ability of teaching and learning methods using digital technologies to transform future education is essential for both instructors and learners[5].
Gamification means to induce active participation, immersion, and enjoyment of learners by applying game-like thinking and game mechanics[6]. Current learners of the game generation have the ability to process information quickly. They also have a variety of characteristics that favor graphics over text[7]. Therefore, educators must apply new learning principles and methods to their learning that are appropriate to their cognitive styles and cultures[8].

An analysis of the UK and France, where they have a high level of immersion in class, shows that the UK gives challenging and curious learning tasks, and in the case of France, learning activities that arouse motivation and curiosity are mainly carried out[9]. A lot of research is needed so that learners can learn the learning elements that feel boring and difficult by applying the Gamification element to education more fun and easily by themselves.

In this study, Gamification, which can help learners who are familiar with the game environment, achieve educationally meaningful goals through fun and interest as a medium, was actively used in education. The purpose of this researcher was to study the effect of applying Gamification edutech tools to the beauty subject on the motivation to participate in the class.

2. Gamification and Learner's Motivation to Participate in Class

2.1. Gamification

The Korean game industry is not only a digital entertainment industry, but also an important culture of modern people. As a way to maximize the positive effects of games and reduce the negative effects, educational game contents for the general public have been developed[10]. Gamification grafts mechanics used in games to non-game areas[11][12]. McGonigal(2011) argues that games can make a better world and a better school than today, and that in a rigid and passive school classroom environment, students can easily get bored and have difficulty concentrating[13]. In the study of Ham Young-ju(2021), a curriculum design model and a content development model for developing Christian educational content in a block-type coding method based on gamification were presented, and educational content usable for Christian education was produced[14]. Kyung-eun Lee and Dong-ryeon Jang(2021) focused on the MZ generation and conducted a participatory blended gamification study for the metaverse environment, focusing on global brand cases[15]. In a study using a game app-based smart tool, a learning method that organically connects to each other was considered by classifying it into three stages: pre-learning activity before class, learning activity in class, and review activity after class[16]. In the study of English grammar learning, there was a significant difference by conducting pre- and post-test classes using Kahoot and Socrative app[17]. Kahoot! produces marked students’ engagement and satisfaction in formative assessments enabling it to be applied live for any learning session either face to face or virtual for distance learning[18].

In a study on the application effect of game-based student response system(GSRS) in nursing major education, the effectiveness of learning immersion was verified[19]. In another study on nursing education, a game-based class using Kahoot was applied, and the effect on learning immersion, critical thinking disposition, and problem-solving ability was confirmed[20].

Games should be actively used in class to increase students’ motivation to learn, induce fun and interest in class, and bring vitality to the classroom.

2.2. Motivation of learners to participate in class

In the 21st century, essential elements for successful acquisition of knowledge and skills are creativity and innovation, communication and collaboration, research and information fluency, critical thinking, problem-solving ability, decision-making ability, digital citizenship, engineering operations and concepts, etc.[21]. In order to develop these core competencies and abilities of students, it is necessary to first understand their tendencies. Looking at the characteristics of the recent Z generation, students of the Z generation have digital native characteristics as they
are exposed to digital media such as mobile as soon as they are born[22][23]. They are sensual, individualistic, and like to have fun. The following figure shows the characteristics of Generation Z well<Figure 1>.

Figure 1. Characteristics of Generation Z.

The following is a look at the previous studies on learning immersion and class participation in classes to which gamification is applied. Kim Young-eun and Kim Jeong-eun(2021) found that gamification had a positive effect on the learning motivation and learning immersion of pre-primary early childhood teachers in their study[24]. In a study analyzing the learning effect of classes to which gamification factors were applied, it was found that in classes to which gamification factors were applied, students had a high learning immersion attitude and actively expressed their opinions[25]. Joo-Young Chung and Mi-Hwa Lee conducted a study on learning immersion and class participation in a class to which gamification was applied. The gamified class showed significant results in all sub-factors of learning immersion and class participation[26].

3. Research Method

This researcher conducted an interactive class using a quiz-type gamification edutech tool such as Kahoot in the subjects of wedding makeup, beauty hygiene laws, total coordination, and beauty English during the class of the Department of Beauty and Health in the first semester of 2021[27]. The gamification tool was used not only during class, but also as a tool for flipped learning or as a tool for after-school assignments, midterm and final exams[28]. In the 15th week of the final exam period, a Google questionnaire was used to investigate the students’ class activities during the first semester. The questionnaire was made with reference to previous research[29]. In the first semester of 2021, we conducted a survey of 121 students from the first year to the fourth year of the Department of Beauty and Health. Duplicate or careless responses to the survey were deleted and 97 data were used as the results.

3.1. Require learner participation

First of all, it was important to understand the propensity of students for learner analysis. As this is a study to motivate class participants, the ASSURE Model was referred to[30]. According to the learning goals, the media methods and materials that can turn the content into a game were selected. According to the weekly gamified evaluation method, students’ understanding was observed, and any problems were identified, and methods that could be corrected in the next semester were sought.
3.1.1. Select methods, media and materials

Three research methods were conducted. The first was a way to increase students' synchronization and immersion by making a quiz on the flipped learning video, the second way to make and use a quiz for in-class activities, and the third way to make a quiz game for class assignments or evaluation. As game tools, Kahoot, Edpuzzle, and Slido were mainly used.

3.2. A survey on the effect of gamification on user motivation to engage in class

The survey was divided into sections such as demographic variables, experiences in terms of concentration, learning experiences, difficult experiences with access to gamification app, experiences of achievement of learning goals of gamification app, and lecture satisfaction.

4. Research Results

4.1. Experience of concentration

86.4% of the students answered yes to the question “I really focus on class-related content when I play games using various quiz tools such as Kahoot, Edpuzzle, and Slido”. In the question “Learning activities using edutech tools to solve quizzes such as Kahoot, Edpuzzle, and Slido helped me to participate happily in class”, 86.5% of students answered said I agree. As shown in the following <Table 1>.

Table 1. Experience of concentration.

Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.
4.2. Learning experience

In the question “I think class-related knowledge is increasing in learning activities that are solved through quizzes such as Kahoot, Edpuzzle, and Slide”, 85.3% of students answered that they agreed. In addition, 86.8% of students answered that they agreed with the question, “Classes that solve class-related contents with quizzes such as Kahoot, Edpuzzle, and Slide are helpful for learning.” As shown in the following <Table 2>.

Table 2. Learning experience.

The degree to which you think your class-related knowledge is increasing

The degree to which a game class thinks it is helpful for learning

Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.

4.3. Experience of how difficult it is to access the app

In the question “It was very difficult to use edutech tool apps that solve quizzes such as Kahoot, Edpuzzle, and Slido in class,” 36.1% of students answered that they agreed. As shown in the following <Table 3>.

Table 3. Experience of how difficult it is to access the app.

Experience of how difficult it is to access the app

Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.

4.4. Whether or not the learning objectives have been successfully achieved

87.8% of students agreed with the question “I know very well how to get homework or attendance points while using learning activities that use quizzes edutech tools such as Kahoot, Edpuzzle, or Slido” did. The question “Learning activities using edutech tools to solve quizzes such as Kahoot, Edpuzzle, and Slido helped me prepare for the midterm or final exam.” 90.4% of the students answered that they agreed. As shown in the following <Table 4>. 

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Table 4. Data used to analyze the results of the study.
Table 4. Learning goal achievement experience.

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<tr>
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<th>Knows how to score assignments</th>
<th>Helps prepare for exams</th>
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<tr>
<td>Strongly agree</td>
<td>25.3%</td>
<td>31.3%</td>
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<tr>
<td>Agree</td>
<td>28.1%</td>
<td>21.5%</td>
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<tr>
<td>Neutral</td>
<td>17.5%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Disagree</td>
<td>7.6%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>9.3%</td>
<td>11.1%</td>
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Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.

4.5. Lecture satisfaction

Questions such as “I feel that the instructor is managing progress well while using learning activities that utilize quiz-solving edtech tools such as Kahoot, Edpuzzle, and Slide” 88% of the students answered that they agreed. 90.2% in the question “The blended learning method using the professor’s ZOOM and the preparation of the gamification class lectures solved with quizzes such as Kahoot, Edpuzzle, and Slido were satisfactory” 90.2% of students responded that they agreed. 89.0% of students agreed with the question “Professor delivered enough specialized knowledge and skills related to the subject by instructing them to solve them with quizzes such as Kahoot, Edpuzzle, and Slide” answered. In the question “I am generally satisfied with this semester’s class(gaming learning activity)”, 89.3% of students answered that they agreed. As shown in the following <Table 5>.

Table 5. Lecture satisfaction.

| Instructor’s satisfaction with class management | Satisfaction with instructor’s lecture preparation |
| Instructor’s satisfaction with knowledge transfer | Lecture Satisfaction |
| 5 strongly agree | 3 agree | 5 strongly agree | 3 agree |
| 4 agree | 3 neutral | 4 agree | 3 neutral |
| 3 neutral | 2 disagree | 3 neutral | 2 disagree |
| 2 disagree | 1 strongly disagree | 2 disagree | 1 strongly disagree |
| 1 strongly disagree | 5 strongly agree | 1 strongly disagree | 5 strongly agree |

Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree.
4.6. Suggestions for improvement for your class

The students responded such as “Ideas such as gamification, which apply what they learned in the middle of class to problem solving, seem to be an essential educational method in this day and age.” Overall, there were many positive responses, but the negative responses and suggestions are as follows. “It was difficult because it was my first time to use a game app, but it was fun”, “Edpuzzle” was cumbersome and difficult to participate in class”

In particular, foreign students from Myanmar and Vietnam responded, “It was difficult to log in.” In addition, students who still lack digital literacy skills, such as first year students, responded that it is difficult to understand the gamification class.

5. Conclusion

This researcher applied edutech tools related to gamification in the beauty curriculum and studied the effect of gamification on class participation motivation. As a result of applying the Gamification app to students as a task before, during, and after class, students showed positive responses in terms of concentration, learning experience, learning goal achievement, and lecture satisfaction. The students responded that using the gamification app was fun, informative, and an essential education in this era. However, on the other hand, some students responded that it was difficult and difficult to log in or use the gamification app. Therefore, it is necessary to conduct more thorough education on how to use the gamification app during orientation classes. In addition, separate mentoring education for students who complain of difficulties in each class will be required. In future research, we plan to conduct a detailed study on which elements of the gamification app were particularly useful and fun for students.

6. References

6.1. Journal articles


6.2. Thesis degree

6.3. Books

6.4. Additional references
7. Appendix

7.1. Authors contribution

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