Abstract

**Purpose:** Over the past century, there have been remarkable discoveries in politics, economics, science and medicine, but innovation in education has not been noticeable. However, in January 2020, the outbreak of Corona 19 in China and spread all over the world was an opportunity for the transformation of educational innovation to change significantly. Since the first semester of 2018, this researcher has applied media-based teaching and learning methods to classes mainly using Google tools and software, including Google Classroom. The purpose of this study is to develop a learning model using media-based teaching and learning methods for innovation in future education, apply it to classes, and find out the satisfaction of classes.

**Method:** In this study, the media-based learning method that was most effectively used in the class was applied to the 2020 beauty class semester 1 subject. In addition, a satisfaction survey was conducted on media learning-based teaching and learning methods. Tools used as media-based teaching and learning methods are Google Classroom, Kahoot, Google Forms, Powtoon, and YouTube. A total of 14 items were used to survey satisfaction with media-based teaching and learning methods, including demographic questions.

**Results:** Results: The media-based teaching and learning method used in this study was named as a 5 step-based smart learning method and is as follows. Core-based learning, Game-based learning, Practice-based learning, Reflection-based learning, and Task-based learning. The students’ satisfaction with lectures was somewhat high.

**Conclusion:** If a pandemic like Corona 19 is prolonged, we need to work harder to innovate future education. And the ability of these digital-based, media-based teaching and learning methods is essential for both instructors and learners. To this end, it is necessary to resolve the configuration and operation management of infrastructure, lack of various contents, unrealistic teacher support, and misunderstandings about smart device education, and closely examine the effects and applications of media-based education.

**Keywords** Media Based, Teaching and Learning Method, Education, Innovation, Google Classroom

1. Introduction

Over the past 100 years, our society has undergone remarkable developments in politics, economy, society, and science. However, the method of education has been consistent in a standardized form. For the past century, it has been a passive form in which learners accept and learn the instructor's teaching content in a unilateral form of knowledge through the traditional teaching method centered on the instructor.

Since the 21st century, beyond the walls of the Third Industrial Revolution led by computer and Internet-based information society, the era of the Fourth Industrial Revolution, in which virtual and reality converged, and led by the AI society, has arrived[1]. A lot of knowledge is
mixed in the world of clouding. As new generations intersect, classes can no longer be taught in the form of instructors alone. Students are not having fun in class. The progress toward the class content that must be conducted for each class week is meaningless. Learning cannot be done properly. The instructor also loses energy. In this vicious circle, reform of teaching and learning methods is essential.

Until now, changes in future education have not been noticeable. The reality was that only some innovative future educators cried out and the echo was small. However, as Corona 19, which occurred in Wuhan, China, in December 2019, further spread to the world, everything changed, especially the education world, which had not changed much for 100 years. Learning had to take place in situations where teachers and students could not meet. During the last three years, when flipped learning, called "Let’s flip the classroom," has become a hot topic, only some educators have used smart teaching and learning methods. Flipped learning is a new teaching model that focuses on the students’ initiative. It is the reversed form of the traditional lecture method. However, Corona 19 shook the dormant education world, and educators around the world were unable to insist on analog teaching methods in front of non-face-to-face classes. Just as the Black Death in the Middle Ages caused the outbreak of the Renaissance, the innovation of future education due to Corona 19 came 10 years earlier. Now, all educators must develop the ability to freely use tools for future education.

With a report by technology company, about 85% of jobs are expected to change to new jobs after 2030, today’s school leavers are facing a future in an uncertain job market. We have to find out how schools are helping students to develop skills that will make them work-ready.

2. Media Based Learning

2.1. A study that applied media based learning to classroom instruction

The history of class using media has been around for a long time. In the past five years, the Fourth Industrial Revolution has become a hot topic, and a variety of media-based teaching and learning methods and examples have been emphasized. Media-based learning refers to a form of instruction in which teachers use media to understand concepts, principles, and content to students. Research using media-based teaching and learning methods is being actively conducted in situations where students cannot meet in the classroom due to the COVID-19 outbreak. Learning is done well when students become the subject of the class so that they can take the initiative in learning. After the Corona 19 virus pandemic, various media-based teaching and learning are even more important. Research using media-based teaching and learning methods is as follows.


In a study on the development of a Korean-style classroom instruction model based on media-based learning, Seo Su-Hyun(2016) said that it has a synergistic effect in education when it is appropriately used in class while respecting learners’ experiences of media outside of school. It does not mean simply the use of media, but it is to develop the possibility of critical thinking ability education by utilizing the media as a tool for thinking, inquiry, and communication. The development and emergence of new and diverse media influenced the transformation into interactive and horizontal communication between instructors and learners in education. It should be composed of a media-based class curriculum that allows learners to cultivate a leading and critical attitude, and to produce and cultivate creative and active commu-
communication skills[6]. Kang Yong-don (2019) studied English Teaching Method Using Flipped learning in the Artificial Intelligence Era. In her research, a learning model was developed using flip learning in order to develop the problem-solving skills required in the future and the competence of creative and convergent talents[7].

The optimal platform for flip learning is Google Classroom. Google has announced Classroom in May 2014 as a new tool in Google Apps for Education. More than 30 teachers of Daffodil International University have started using Google classroom from September 2014[8]. Google Classroom is one of the free services by Google in G-suite for Education plan. It promotes paperless instruction for streamlining assignments, it boosts collaboration and fosters seamless communication to make teaching more productive and meaningful. Google Classroom can be easily deployed in the URL "classroom.google.com", educators can set up classroom in minutes and create content for students. It is also free for schools, best-in-class security is also included without cost for plan holders. The platform also integrated with other Google tools to help educators provide instant feedback and track a student progress to improve performance, it has also a mobile application for easy access anytime and anywhere[9]. A tool that allows teachers and students to interact with each other is 'Google Classroom'. 'Google classroom' is the optimized internet platform for flipped learning. Kim Seo-young (2020), who studied the effects of Google Classroom-based digital classes on middle school students' English listening/reading ability and affective factors Said that middle school students improved their English listening and reading skills by using Google Classroom and digital browsing using Google tools[10].

Since its first introduction in Norway in 2013, Kahoot has been steadily gaining popularity and is used in over 100 countries around the world. The word 'kahooting' is an application that has developed into a proper noun enough to appear in the Urban Dictionary[11]. Kahoot is a game-based educational tool that has recently appeared in many domestic educational and classroom sites. Kahoot was utilized as a learning tool in that it is a free learning app that can be used not only on mobile but also on the web, and students can use it immediately without installing the app. Learning games made with Kahoot can adjust the time limit and set exciting background sound effects, and the tension created by these settings creates a learning atmosphere that is like playing a game. Students find Kahoot very fun and take learning like a game, making them want to stay focused and play the Kahoot game.

With the prolonged spread of the Corona 19 virus, which occurred in Wuhan, China in December 2019, classes for the first semester of 2020 were changed to non-face-to-face classes. This researcher sought to use the tools for online communication classes with students over long distances. Among the various online communication class tools, I used Zoom, Teams, Google meet, Streamyard, and YouTube live. Each communication tool for online classes had its characteristics, strengths and weaknesses. This researcher used tools suitable for the characteristics of the class and used it for online communication classes.

Byun Tae-jin (2017) investigated that in the case of science subjects, there are many studies using smart devices such as smart pads, smartphones, and wearable devices, as well as studies that have been applied to classes using educational software. Looking at the trends of media-based education by era, in the 2000s, web-based instruction was mainly conducted using the Internet(online). In the 2010s, media education (smart education) was mainly conducted using smartphones and smart pads. Recently, media education using wearable devices such as augmented reality (AR) and smart watches has been conducted[12]. As a result of a domestic trend study on the educational effect of media based on virtual reality and augmented reality technology, it can be seen that these media have significant educational effects in terms of learning attitude, satisfaction, and concentration[13]. Most of these studies report that the effects of virtual reality and augmented reality technologies are positive for educational applications.
In summary, in recent research on media-based learning, it is said that using a variety of media activates meta-cognition, has a positive effect on improving memory, and increases learning satisfaction.

2.2. Smart learning model research

As a result of research and analysis on the development of flip-learning instructional models using smart tools, students recognized that their understanding of learning increased while learning video lectures made by teachers. In this teaching method, the students themselves became the masters of the class, participated directly, and became more immersed in class, and the ability to use multimedia and self-directed learning increased[14].

In other paper, the researcher designed child safety education on the flip learning method to complement the traditional teaching method. By providing learning materials in pre-class, the theory can be fully understood, and through the thinking and expansion of pre-trained teachers, children’s safety-caring skills can be developed. For the successful implementation of the flip learning method, teachers plan and conduct educational activities based on child-centered learning methods. PBL learning includes data retrieval, creation of educational plans tailored to the developmental characteristics of children, provision of textbooks, and safety education training after providing actual safety situations. Discussion learning focuses on conducting discussions on a logical basis after providing topics such as decision making and value judgment for roles. It also evaluates the discussions of other teams after providing specific evaluation criteria. The post-class phase manages team weaknesses due to portfolio feedback. According to the child safety education applied to the flip-learning method, prospective teachers can expand their safety management skills and cope with dangerous situations related to child safety[15].

In this study, it is defined as a media-based teaching and learning method, including cases applied to classes using flip-learning and interactive instructional content using smart digital devices that are not constrained by any place and time. In addition, it was intended to develop a learning model that applied such media-based teaching and learning methods to actual beauty classes for beauty-related students and to find out the satisfaction of the classes.

3. Research Method

In this study, this researcher taught students using media-based learning methods among the courses related to beauty in the first semester of 2020, by subjects such as "Beauty and Hygiene Education", "Total Coordination", "Beauty Illustration", "Beauty English", and "Personal Color System Practice" And the teaching method was named as a 5 Phase-based smart learning model. In addition, the students' satisfaction in class was examined.

4. Research Results

4.1. 5 Phase-based smart learning model

5 Phase-based smart learning model is composed of a total of 5, as follows. First, core-based learning, second, game-based learning, third, practice-based learning, fourth, reflection-based learning, and fifth, assignment-based learning <Figure 1>.
4.1.1. Core-based learning

Core-based learning refers to learning by watching a core video containing the main contents of a class. Students can improve their understanding of the class by previewing the YouTube video provided in the Google Classroom, and they can watch and learn repeatedly. Figure 2 below shows the class video that the instructor shared on YouTube and provided it to Google Classroom for students.

4.1.2. Game-based learning

Game-based learning refers to motivating learning about key content using Kahoot games or Google quizzes. Game-based learning also allows students to learn repeatedly, and it motivates them to learn by giving fun such as sound and colorful screens. The following Figure 3 shows students individually learning the Kahoot game for class made by the instructor.
4.1.3. Practice-based learning

Practicum-based learning is called a learning process in which students solve problems with games and then use various activities in class. The following <Figure 4> shows students practicing class content through activities for learning.

Figure 4. Practice-based learning.

4.1.4. Reflection-based learning

Reflection-based learning is named as reflecting on the knowledge that students have acquired through hands-on activities. The following <Figure 5> shows students reflecting on the knowledge they learned through class activities.

Figure 5. Reflection-based learning.
4.1.5. Assignment-based learning

Task-based learning is named when students do in-depth learning by doing the remaining tasks as an activity after class as a result of reflection-based learning. The following <Figure 5> shows the contents of the assignments posted in Google Classroom.

Figure 5. Posted in google classroom.

4.2. Teaching tool for media-based learning

The tools used in the media-based teaching and learning method include the Google Classroom platform for interactive lessons, the sound and visual Kahoot, video editing tools using GOM Mix Pro, and image editing functions. Office lenses, Viva Video, and Moment Cam. There are ways to utilize videos through YouTube and Powtoon, which can utilize animation techniques. In the first semester of 2020, tools for online communication such as Zoom, Google Meet, Stream Yard, YouTube Live, etc. were also used for non-face-to-face classes due to the spread of the Corona 19 virus. A number of effective trials and applications were conducted for each subject. The following is a list of the media-based learning tools most used in class in order.

4.2.1. Google classroom

Google Classroom is a platform for flip learning that enables teachers and students to more effectively interact with classes online. In Google Classroom, a teacher opens a classroom online, and then invites students, uploads class materials, posts assignments, and delivers announcements. Students submit assignments to the online Google Classroom, and the teacher checks them. Scores and comments are possible. The advantage of Classroom is that it is effective in performing tasks for flipped learning, and has a function that can load video materials and various content materials necessary for class.

Contents uploaded by instructors and learners are automatically clouded to Google Drive, and when used by instructors in elementary, middle, and high schools or colleges, they give permission to use for free, subject to school account use, and unlimited drives. It has an attractive advantage of providing storage space. In addition, the Classroom function has the advantage that it is easy to check whether an assignment is submitted or not. The following <Figure 6> is a picture of a case where a teacher is actually using Classroom.
4.2.2. Youtube

The researcher’s YouTube was named “EasYoung TV”. This researcher produced 520 videos. The educational video is also uploaded to YouTube and used as educational content. Video required for each subject class was separately produced and created, or the course activity was produced as a video, edited, uploaded to YouTube, classified in a playlist, and shared the URL to Google Classroom for students to review. The following <Figure 7> is a YouTube site where instructors upload class videos and share URLs (EasYoung TV) [16].

4.2.3. Kahoot

The Kahoot tool for learning, which makes lessons exciting with game-based quiz games, is used in almost every lesson. The Kahoot game for learning is played at a speedy pace and gives a lot of points to students who get the correct answer quickly. At the end of the quiz, the top 3 and 5 winners are immediately displayed on the Kahoot screen. The total score of the automatically graded students can be viewed in the report, and if necessary, the score can be saved to Google Drive or downloaded to Excel, allowing instructors to conveniently utilize the score. The following <Table 8> is a Kahoot game created by this researcher for use in class.
4.2.4. Tools for online communication class

Class tools used to communicate with distant students were mainly Zoom, Google Meet, Streamyard, and YouTube live. Among them, the most used communication tool was Zoom, because the screen is clearer than other tools, and it has advantages such as automatic saving, virtual background setting, whiteboard function, and writing function. After classing with Zoom, I asked my impressions, and the students responded that it was fresh, new, it seems to be watching a broadcast, and is well focused and fun. The following <Figure 9> shows the use of the Zoom tool for online communication classes with students over long distances.

4.3. Class satisfaction survey applied to media-based teaching and learning method

50 students responded to the survey on satisfaction with the class applying the media-based teaching and learning method. A total of 19 questions were used, including demographic questions. The satisfaction survey used a 5-point scale. The contents and results are summarized below.

4.3.1. Demographic analysis

Most of the 49 students who participated in this study were female students, and in terms of age group, the 20s were the most at 89.8%. The following <Figure 10> is a pie analysis table showing the age groups of female students who participated in the study.
Figure 10. The age groups of female students who participated in the study.

4.3.2. Class participation

In the survey on class participation, 41.7% of students actively participate in class and 33.3% of students who participate well. <Figure 11> is a donut shape analysis table showing class participation.

Figure 11. Class participation.

4.3.3. Satisfaction with professor's expertise, teaching ability, passion

Students responded that 81.6% were satisfied with the professor's professionalism, teaching ability, and passion, and the satisfaction was high. The following <Figure 12> is a pie chart analysis table showing satisfaction with professor's expertise, teaching ability, passion

Figure 12. Satisfaction with professor's expertise, teaching ability, passion.

4.3.4. Student satisfaction with class

Students answered that 83.6% were satisfied with the class using the online media-based teaching and learning method for the first semester of 2020. The following <Figure 13> is a pie chart analysis table showing student satisfaction with class.
4.3.5. Improvement suggestions

Even in the Corona 19 situation, most of the students responded positively to online media-based classes. However, there were some opinions that it was difficult to use media-based learning in a non-face-to-face manner at first, and there were a few opinions that they would like to practice the practical class directly at school.

5. Conclusion

This researcher used media-based learning for each beauty-related subject in the first semester of 2020, using an online media-based teaching and learning method even in a virus spreading environment such as Corona 19. The teaching method was named as a 5-step-based smart learning model, including core-based learning, game-based learning, practice-based learning, reflection-based learning, and assignment-based learning. In addition, we examined the class satisfaction of the target students. In general, students were found to be satisfied with the teaching using the media-based teaching method, whether in face-to-face or non-face-to-face classes. The tools used in the media-based teaching and learning method were the Google Classroom platform for interactive classes, the sound and visual Kahoot, Zoom, Google meet, and YouTube.

6. References

6.1. Journal articles


### 6.2. Thesis degree


### 6.3. Books


### 6.4. Conference proceedings


### 6.5. Additional references


### 7. Appendix

#### 7.1. Authors contribution

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