DEVELOPMENT OF VIRTUAL LEARNING MODEL FLIPPED CLASSROOM

Oleh :

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Abstract*: This research introduces a new learning pedagogical approach, the Virtual Flipped Classroom (VFC). The VFC is an integration of two concepts: the Flipped Classroom and Virtual Teaching. This study aims to improve students' learning abilities through the use of the flipped virtual classroom model. This research utilised a research and development, with a purposive sampling technique that studied active students in Early Childhood Teacher Education Program (henceforth-ECTE Program). Data from students' final examination scores, questionnaires, were analyzed using quantitative and qualitative approach. The final products were a virtual model flipped classroom software along with its digital based classroom design.*

INTRODUCTION

The development of information and communication technology in the 21st century is taking place rapidly. The development of information and communication technology is also accompanied by its role in various aspects of human life, including aspects of education. The existence of this information and communication technology provides an opportunity to improve the quality of teaching and learning, namely by opening up access to finding broad learning resources for students. This is one of the factors in the popularity of the new learning orientation called student centered learning.

The online based model known as "Virtual Flipped Classroom" raises new challenges that are different from those of face-to-face learning. The flipped classroom learning model enhances the active and autonomous learning of students, changes the relationships between them and with the teacher, and encourages innovation within

the learning process.

Flipped Classroom is a learning model that "flips" traditional methods, where material is usually given in class and students work on assignments at home. The concept of Flipped Classroom includes active learning, student involvement, and podcasting. In a flipped classroom, material is given first that students must learn in their homes. Instead, class sessions are used for group discussions and assignments. Here, the teacher acts as a coach or adviser. Flipped classroom is a learning model and type of blended learning that reverses the traditional learning environment by providing learning content, often online, outside the classroom. Transferring activities, including those that might traditionally be considered homework, into the classroom. In reverse classes, students watch online lectures, collaborate on online discussions, or conduct research at home while engaging in concepts in class with the guidance of a mentor.

The application of the flipped classroom model has many advantages over the traditional learning model. The availability of material in the form of video gives students the freedom to stop or repeat the material at any time in parts they do not understand. In addition, the use of classroom learning sessions for projects or group assignments makes it easy for students to interact and learn from each other.

METHOD

This research utilised a research and development, with a purposive sampling technique that studied active students in Early Childhood Teacher Education Program (henceforth-ECTE Program). The research method uses . The study was conducted on two groups of students, the experimental group used a digital based learning collaboration application and flipped classroom, while the control group used a digital-based classical system. The design used was a posttest pretest design using a control group without random assignments. Research subjects were taken in the form of class groups without random assignments. Probability sampling technique or random sampling is a sampling technique that is done by providing opportunities or opportunities for all members of the population to be sampled. Thus the sample obtained is expected to be a representative sample.

RESULT AND DISCUSSION
Scores that Use Virtual Classroom Learning Strategy

Based on data collected from respondents of 24 students, scores were obtained students who used the virtual classroom flipped learning strategy obtained the highest score of 78; lowest score of 57; average score of 69.08,

median 69, and mode 71; and standard deviation 4.462.

Scores Using the Virtual Classroom Flipped Learning Strategy

Based on data collected from respondents of 24 students, scores were obtained students who used the digital classroom flipped learning strategy obtained the highest score of 82; lowest score of 60; average score of 72.042, median 72.5, and mode 72; and standard deviation 4.55.

Then the two-average test is performed. Two-average similarity test is used to test the similarity between the two averages, in this case between the virtual classroom score and virtual classroom flipped learning.

Ho : μe = μk

Hi : μe ≠ μk

For posttest data results, From the calculation results obtained ttest = 2.249 and ttable = t (1-α / 2) (24) = t (1-0.95) (24) = 2.069. Because t-count = 2.249 is at an interval of -2.069 <2.249 and 2.249> 2.069, Ho is rejected, so the experimental class value data (virtual classroom flipped learning) is different from virtual classroom. The average value of virtual classroom flipped learning is greater than the average value of virtual classroom 72.04> 69.08.

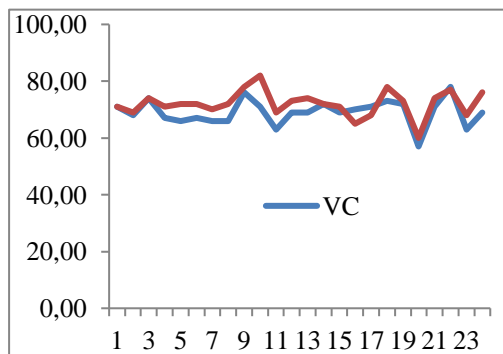For more details can be seen in the following graph.

Fig. 1. Graph of Test Score Values

Instructors implementing a flipped classroom use various methods for preparing the online content. Strayer (2007) made useful observations and suggestions for instructors who consider using the flipped classroom model. Active learning pedagogies continue to evolve, and new methods of delivering course material are being developed. Assimilating active learning can be as simple as integrating in-class activities alongside traditional lectures. Yet educators in elementary through post secondary education are finding innovative ways to restructure the classroom (Strayer, 2007) in order to focus attention on the learner (Bergmann & Sams, 2012). Instructors adopting the flipped classroom model assign the class lecture or instructional content as homework. In preparation for class, students are required to view the lecture. According to Tucker (2012), students utilize the time in class to work through problems, advance concepts and engage in collaborative learning. With internet access widely available on most college and university campuses, students may view web-based instruction on their own time, at their own pace. This provides opportunities to utilize the classroom for the application of information addressed in the online lecture. Because students have viewed the lecture prior to class, contact hours can be devoted to problem-solving, skill development, and gaining a deeper understanding of the subject matter (Bergmann & Sams, 2012). The teacher is able to provide students with a wide range of learner-centered opportunities in class for greater teacher-to-student. mentoring and peer-to-peer collaboration, increasing

the possibility to engage Millennial students (Prensky, 2010).

CONCLUSION

In traditional flipped classroom (FC), learning of new content mostly occurs through watching videos and transferring information from instructor to students utilizing technological tools, (Blau etc, 2017). The research analyzed learning experiences and their interpretations by the students. In contrast to traditional FC model, the findings revealed active learning of students in both in and out of class settings that took place before, during, and after the lesson. The instructor promoted extensive independent learning, learning regulation, continuous dialogue and collaborative interactions among peers. The re-designed model highlights co-creation of the course content and of digital learning outcomes by students, self-regulation and teamwork coregulation, which are rare in higher education.

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