Reinforcing Character Education and Nationalism among the Students in Indonesian School of Jeddah with Android-Based MIC (*Multimedia Indonesian Culture*) and Flipped Classroom Method

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Abstract. Learning content is very advanced and modern, but the teaching system is not. while its human resources are integrated with sophisticated technology, and high-speed internet access, as well as a good method for implementing high-tech multimedia in learning. The *Flipped Classroom* and MIC (*Multimedia Indonesian Culture*) based on android method is one solution to strengthen character building and nationalism of students. The purpose of this study is to (1) describe the design of *Multimedia Indonesian Culture* based on android, (2) test the significance and, (3) analyze the differences in the influence of *flipped classroom* methods and conventional methods using the same media namely MIC (*Multimedia Indonesian Culture*) based on android to strengthen character building and nationalism student of Jeddah Indonesian School. The research method used was quasi-experimental, research was carried out at the Jeddah Indonesian School. Based on the results of the study, the application of the *flipped classroom* method resulted in a posttest average value of 77.60, the average value of the 54.44 pretest with the N-Gain value of 0.51 including the medium category and the conventional method produced a posttest average value of 58.92, the average value of pretest is 51.73 with the value of N-Gain 0.15 including the low category, the probability value of 0.000 is smaller than 0.05, which means there is a significant difference between the application of *flipped classroom* methods and conventional methods using the same media namely MIC (*Multimedia Indonesian Culture*) based on Android, which means that the method of *flipped classroom* with MIC based on android is more effective in strengthening character building and nationalism of students. MIC based on android further motivates students in learning character building and nationalism, the *flipped classroom* method leads students to learn independently, making students more actively involved in learning**.**

Keywords: Character Building, Nationalism, Multimedia, Indonesian Culture, Flipped Classroom.

1. Introduction

Technology has been far developed and integrated to many aspects of human life, particularly education. Teaching and learning activity in the 21st century requires the utilization of advanced multimedia technology, yet the application of the teaching system in many school is more to the 14th century's.

The use of out of date multimedia in a conventional teaching method will result to students with low character and sense of nationalism. This is due to the implementation of teaching method that is boring, not encouraging independent learning, and lack of teacher's guidance which make the students difficult to complete their assignments. In response to this occurrence, flipped classroom method with android based MIC (*Multimedia Indonesian Culture*) can be applied to solve the issues.

The problems faced by this country is very concerning, especially those regarding the morality among children and teenagers as the next generation of the nation. Character education and nationalism education is one of the solutions offered to this problem. Character education can be integrated with the subjects taught at school, for example "through social science subject, it can be implemented by inserting the character education values into the lesson, with the learning objective of the students able to be responsible in their life of the people and of the nation."[1]

Other issues occur among the young generation of Indonesia is their preference on foreign culture rather than their local culture. Developing a multimedia by generating either an offline software or cloud computing may serve as the solution by inserting the cultural values and the local wisdom into the multimedia content as their learning media to learn more about the cultural values and local wisdom of Indonesia. [24]

The development of technology should be followed by more innovation on technology-integrated cultural and local wisdom content, otherwise more issues would appear. For instance, among 30 children, only 9 of them know about *tembang donalanan* (Javanese Children Song). *Tembang dolanan* has lost its fame in comparison to the modern song that is currently released. A researcher specializing on *tembang dolanan,* made an innovation, he turned *tembang dolanan* into a series of illustrated story book. In every book, a CD consisted of Central Java's *tembang dolanan* is provided. The songs include *Cublak-Cublak Suweng, Jaranan, Padhang Bulan, dan Gundul-Gundul Pacul*. This way, the children get a story to read, listen to the song, learn about the song as well as the moral values within the song altogether.[25] Finally, the children would develop their love towards local cultures, strengthen their character education and sense of nationalism.

The implementation of technology inside learning activities surely requires certain techniques or method so that the knowledge can be successfully transferred to the students. One of the methods commonly used is flipped classroom, This method can increase students' participation, motivate the students to actively involve in learning activities, and solve certain problems that is previously found in class. [16] Through the application of flipped classroom method and by developing Mobile Apllication Development class, it is proved that flipped classroom method is more effective than the traditional learning method.[26] Flipped classroom helps to create an active learning environment that allows independent learning becomes feasible. This is because personal guidance and supervision can be done through technology that it offers a significant impact for learning and students' achievement. [5]

Developing MIC for learning activity is very effective to be implemented as the attempt to reinforce character education in elementary school (Farid Ahmadi, dkk, 2017) and "MIC can be developed as android application"[13]. A multimedia in the form of android-based application can be used as the way to preserve traditional and national songs of Indonesia.[19] The other example of multimedia is simulation application of *angklung (saung)* that is designed to use unity and worked in android. All the menu functions properly, and this application runs well by implementing the values of multimedia.[4] Therefore, this research has a reasonable background and feasible to be conducted.

The goal of this research is to describe android-based MIC (*Multimedia Indonesian Culture*), test the significance and analyze the difference of influence between flipped classroom method and conventional method on android-based MIC application to reinforce character education and sense of nationalism among students in Indonesian School of Jeddah. This research would contribute to improve the learning outcome for character education and sense nationalism, as well as providing theoretical and practical benefit to education society.

2. Method

2.1 Material

Character Education. There are two concepts of character. One believes that character is inherently exist within oneself. While the other argues that it is built through education, including from character education at school. There are several methods applied to teach character education at school. One of the alternatives is through Coaching program with 4 M formula (*mengetahui, mencintai, menginginkan dan mengerjakan*) or equals to 4 T (to know, to love, to want, and to do). Another way is to do habituation program. Next, there is also the method of: teaching, role modeling, determining priority, and priority praxis.[18]

The development of technology, particularly on gadget, has so much impact on children. The negative impact that mostly found on children are: the difficulty in socializing, slow motoric development, and significant behavioral change. Hence, it is essential for parents to supervise, control, and pay attention to every children's activities without forgetting to introduce the children to culture, the attitude to respect and behave among society. [3]

The development of students character not only can be done through Civic Education but it can also be taught indirectly, out of the classroom activities, and further followed by the use of method, media, and learning resources.[9]

Tri-center of education is the proper facility to build the children's character, especially those in elementary school year. The process in developing children's character can be done by consistently imposing the character values to children in the context of family, school environment, up until to the level of society as a whole. With such consistency, the expected values will be internalized properly and build the desired good character. [14]

Nationalism. The desire of a nation to unite is the most important aspect to achieve nationalism. For Soekarno, nationalism is the media to uphold the values of *esprit de corps.* According to him, there are two rationales on how nationalism occurs: first, the desire of a nation to freed themselves from colonialism; second, the sense of unity and love to the nation without concerning on the diversities among society. [20]

Indonesian nationalism is reflected as anti-colonialism attitude and action. In other words, nationalism in Indonesia was born from the values of anti-colonialism, oppression, discrimination, despotism, injustice, and atheism. [15]

One example of nationalism is the unity and attachment among Malayan people, especieally the frontiers, regardless the difference of nation's ideology and the territory that separate Indonesia, Malaysia, and Singapore. It doesn't mean that frontier people do not have the sense of nationalism and love of the nation. On the contrary, the communal experience in regards to history and cultures gives more colors, diversity, or singularity on their version of nationalism. [6]

Multimedia Indonesian Culture. Multimedia aims at presenting information in a fun, interesting, easy to understand, and clear manner. Interactive multimedia, such as interactive animation application, can attract children's interest to learn about culture.[8] For instance, there is a application in the form of edutainment interactive media with augmented reality as the media to introduce historical artifact in Sangiran.[17]

Another example of a study on an application containing various local culture using black box-method. All the menu functions properly and the questions administered to the subjects presented that the application works well.[7] The design of packaging for Muria Batik Kudus would implicitly show the exclusivity of *batik* product as well as introducing the culture of Kudus through the catalog provided in the packaging.[22]

This research the application of Multimedia Indonesian Culture is designed with the help of flash CS 6, and it is developed for android-based platform.

Flipped Classroom. Recent evidences proves that flipped classroom method gives more influence to students' learning in comparison to traditional learning method.[11] Furthermore, it also positively affect the students in terms of their achievement, motivation, involvement, and interaction. Several challenges found in implementing flipped classroom is the low quality of lecture video and the lowly-trained instructor.[27]

Studies stated that flipped classroom method resulted to higher students' achievement, more positive perception among students, and higher rate of satisfaction among teachers rather than using the traditional model. If the conditions met, flipped classroom may become a very effective learning style. [23]

Additionally, flipped classroom method can also be applied in online class as a new innovation in the learning activity. This method offers better and more positive learning, and the students can measure their progress in learning. [10] This method can also be integrated with MOOC (Massive Open Online Course) and designed as *Flipped MOOC*. The most important indication on Flipped MOOC is the requirement to turn MOOC, which previously oriented on content transmission, into a personalized, interactive, and interesting learning environment. It can also be enriched with the setting of flipped classroom approach combined with gamification and learning analysis.[12]

2.2 Method

The research method applied in this research is quasi experiment that includes in Non-equivalent Control Group design.[21] It consists of two research groups, those are experiment group and controlled group. The experiment group received the treatment of Flipped Classroom Method by using android-based Multimedia Indonesian Culture (MIC). The controlled group would receive conventional method with the use of android-based Multimedia Indonesian Culture (MIC).

For the population in this research, there are two classes with 25 students in experiment class and 26 students in controlled class. Both classes, or the population, have the same characteristics based on type of subject, class hour, curriculum, and learning condition. Then, a pre-test was conducted to collect the initial average, data homogeneity, and data normality. If the results of the pre-test are similar, the variant is homogeny, and the data distribution is normal, it means that the sample belongs to the same population. After the test administered, the class inside the population is randomly selected and collected into one experiment class and another one for controlled class by using cluster sampling technique [2].

The variable in this research is independent and dependent variables. The independent variable here is the conventional method with the use of android-based Multimedia Indonesian

Culture (MIC). On the other hand, the dependent variable is the knowledge on character education and sense of nationalism. The data are collected using the technique of tests and non-tests. The tests instrument used is a multiple choice exercises with five ooptions of answer (A, B, C, D, and E). Before it is used as instrument, the test has been tried out to examine the validity, reliability, difficulty index, and discrimination index. The non-test instrument includes questionnaire, observation, and photo documentation.

3. Results and Discussions

Before the treatment is given to the students, the students ought to do the pre-test to identify the common initial condition between the sample that receive flipped classroom method and conventional method. After they receive the treatment, the data acquired is analysed to assess the development of knowledge on character education and sense of nationalism. The analysis is done to analyse if there is a significant difference on the influence between the application of flipped classroom and conventional method.

In order to analyse the samples, both samples must have the same starting point. Therefore, a pre-test is conducted to compare the average score gained by experiment class and controlled class as presented in the table below.

Table 1. The result of pre-test and post-test from Experiment Class and Controlled Class

Class	N	The result of Character Education and Sense of Nationalism			
		Pre-test	Post-test	N-Gain	Sig.
Experiment	25	54.64	77.60	0.51	0.000
Controlled	26	51.73	58.92	0.15	

After testing the result of pre-test by using Independent Sample T-test, the outcome from character education and sense of nationalism learning presented that the pre-test average score for experiment class is 54.64, while the controlled class is 51.73. The pre-test average score from is higher than controlled class, yet the significance value is higher than the p value that is $0.465 > 0.05$, which means that there is no difference on the pre-test result between experiment class and controlled class in terms of character education and sense of nationalism knowledge among the students in Indonesian School of Jeddah.

After the treatment is administered, the results of the post-test showed that the average score gained by experiment class is higher than controlled class, that is $77.60 > 58.92$, with the significance value of $0.000 < 0.05$. In other words, there is a significance differences on the influence between the application of flipped classroom and conventional method in using MIC (*Multimedia Indonesian Culture*) towards the outcome of character education and sense of nationalism learning.
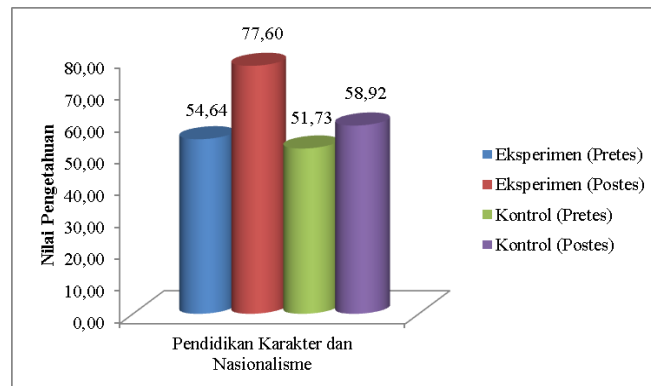
Figure 1. The score of Character Education

The N-gain value from experiment class is 0.51 and it is categorized as medium, while the other gained 0.15 and considered low. It can be concluded that if MIC is collaborated with flipped classroom method it creates a more effective result in improving the students' knowledge on character education and sense of nationalism in comparison to the use of android-based MIC with the implementation of conventional method.

Based on the findings, the average pre-test score of experiment class is 54.64, after the treatment is given the average of post-test elevated to 77.60. There is an improvement on the knowledge of character education and sense of nationalism as much as 22.96. According to the explanations above, it can be concluded that the use of android-based MIC with the application of flipped classroom method affect the students' character education and sense of education with 22.96 improvement value.

From the results of the study, it can be seen that the pre-test average score for controlled class is 51.73. And after android-based MIC with conventional method is administered to the students, the average of the post-test becomes 58.92. It means that there is an improvement on the knowledge of character education and nationalism for about 7.19 points. According to the result of pre-test and post-test from controlled class and experiment class, it is proved that the use of android-based MIC with the implementation of conventional method does not significantly affect the character education and sense of nationalism.

The difference on the influence affected by flipped classroom method and conventional method is discovered by calculating the improvement value in experiment class substracted by the improvement of controlled class, that is 22.96 – 7.19 = 15.77. The post-test average score in experiment class in higher than controlled class. The significance value is lower than the p value of 0,05. Besides the N-Gain of experiment class is higher and classified in medium category. Thus, a conclusion can be drawn that the use of android-based MIC with flipped classroom method is more effective in reinforcing the knowledge on character education and sense of nationalism.

4. Conclusion

Based on the results and discussion presented above, and in accordance with the research objective, it can be inferred that: (1) MIC (*Multimedia Indonesian Culture*) learning is

developed for android-based platform; (2) there is a significant differences on the implementation of flipped classroom method and conventional method in using the android-based MIC (*Multimedia Indonesian Culture*); (3) the use of android-based MIC (*Multimedia Indonesian Culture*) with the application of flipped classroom method is more effective to reinforce the character education and sense of nationalism among the students in Indonesian School of Jeddah. Android-based MIC also helps to motivate the students in learning about character education and sense of nationalism. It also encourages the students to learn independently and allow the students to actively involve in the learning activities. All and all, those are the reasons why android-based MIC and flipped classroom method is believed to be more effecting in reinforcing character education and sense of nationalism.

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