



## **The effect of the Flipped Classroom Model on the language skills of primary school students**

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### ***Abstract***

This research aimed to describe the language skills of primary school students through the application of the Flipped Classroom Model, and to investigate the effect of the Flipped Classroom Model on the language skills of primary school students. This research used a quantitative approach through a pre-experimental design. It was conducted at three primary schools in the Regency of Semarang, Central Java, Indonesia. The research sample consisted of 82 students, who were selected from the whole student population at the schools. The data was collected by administering a language skills test. The data analysis techniques used were the descriptive statistics analysis technique and the inferential statistics analysis technique through a t-test. The research results show that students' language skills before the application of the Flipped Classroom Model was within the fair category ( $M = 71.8$  and  $SD = 6.47$ ), while after the application, it was in the high category ( $M = 80.9$  and  $SD = 4.59$ ). The results of the inferential testing shows that the Flipped Classroom Model could significantly improve primary school students' language skills.

Key Words: flipped classroom, Indonesian language skills, primary school student



## Introduction

Language is a vital instrument in a wide range of aspects, such as communication, science, culture, and more. Language is a communication primarily used for building and maintaining one's relationship with others. Hence, in learning a language, students need to not only know the grammar and vocabulary, but more importantly know how it is used in different communicative contexts (Sekiziyivu, 2015). Language learners are motivated to perform well in class (Joos, Jakobson, & Halle, 2006), and are also able to do well in real world situations and contexts. Life success is greatly influenced by language skills (Oroujlou & Vahedi, 2011). Therefore, language skills learning must be initiated as well as possible, from early on at the primary school level.

These days, the improvement in language skills are not sufficient to promote students' language activities (especially those of fourth graders). The reason for this is that students tend to prefer visual to reading culture. This condition is exacerbated by the lack of reading culture among students. Language learning has been more memorisation-based than cognitive. The International Association for the Evaluation of Education Achievement (IEA) (Development, 2015), has ranked student in Indonesia, in term of their ability to read, at 26 out of 27 countries. This means that language learning contributed to the significant failure of students in learning successfully at school.

This fact shows that conditions in the field of language learning have not materialized as expected (Drucker, 2014). Hence, in order to motivate learners to master the language, teacher ought to attempt to use authentic materials in testing language abilities. Teachers, while designing activities, should holistically consider all language abilities (Nunan, 2006).



The rapid development of information technologies with a plethora of products (such as gadgets and smartphones) pushes students to be more engaged in gaming. They are not interested in reading texts (school textbooks, newspapers, children magazines, story books, etc.), let alone writing. Students' being engaged in scientific and cultural activities without the use of language in a written form is unimaginable. Therefore, teachers' role in generating students' reading interest has a considerable influence on the learning activities. Teachers can design the class environment by displaying or placing reading books in the corners of the classroom, displaying students' works at the school wall magazine (students are obliged to write messages and impressions of their peers' works), making slogans and other works.

Learning model and learning quality have a reciprocal relationship and influence each other. Learning quality is determined by the quality of the learning model. A good model innovation can improve the learning quality since the information generation from the model can be used to enhance the learning quality. Language learning model innovation is one of the keys to language learning success. In relation to the promotion of primary school students' language skills, language learning success is determined by the learning model used. The model used enables the generation of information that teachers or students can use to improve the learning quality and language skills.

The flipped classroom (FC) learning model can be applied by teachers to their respective classrooms by minimising direct instruction in the teaching practice while maximising interactions. One of the advantages of the FC model is the establishment of multidirectional interactions between all parties within the classroom (teacher-student, teacher-teacher, student-student). A teacher's role transforms from material deliverer to learning guide through question and answer activities, learning in small groups, and individualised guide (Jonathan Bergmann, 2012). According to researchers, the FC concept, for developing primary school students'



language skills, equips students with the ability to explore concepts and generate innovative new ideas or products; driven by internal and external motivation. Therefore, students should be given the freedom and opportunity to think creatively in order for them to be engaged in the process of producing creative products including written, picture, and other works.

Theoretical and pedagogical factors form the basis for why language teachers and researchers are interested in applying task-based learning in the language learning process in the classroom environment (Bao & Du, 2015). The development of the creative flipped classroom learning model was inspired by previous research by Marlowe (2012), which shows that this model was able to reduce students' stress levels, improve students' thinking abilities, and enabled students to explore the concepts they encountered significantly. The Flipped Classroom Model helps monitor students' effectiveness in adapting to situations when interacting with a new learning environment. Therefore, Flipped Classroom Model is affectively relevant to use for improving students' language understanding and skills. The Flipped Classroom Model can have an impact on overall student achievement and enjoyment. Students actively investigate themselves in terms of improvement in their learnt language skills. Students may be given unique activities to improve their attitudes and behaviour according to the justification of their language skills.

The description above mentioned shows that the Flipped Classroom Model is suitable to use in the language learning. This suggests an assumption that by implementing the Flipped Classroom Model, a teacher will be able to maximise and develop students' language skills. As such, this research was aimed at examining the effect of the Flipped Classroom Model on primary school students' language skills.

According to the problems described, the problem formulation in this research is as follows: (1) How are the language skills of students engaged in a class that does not implement

the Flipped Classroom Model?; (2) How are the language skills of students engaged in a class that implements the Flipped Classroom Model?; (3) Does the Flipped Classroom Model have any effect on primary school students' language skills?

## **Materials and Method**

This research employed a quantitative approach through a pre-experimental design. This design involved an observed group that did not receive any treatment but was later given a treatment using the Flipped Classroom Model, in the Indonesian Language subject. This research took place at primary schools in Semarang Regency, Indonesia. The data sources were teachers and students. The total number of sampled students was 504. The average class size was 28 students. The sampled school belonged to three primary school students and three teachers and the sample size was approximately 55% of the school population. In general, all the fourth-grade classes in each sampled school were selected.

In this research the data were collected by means of a test. The test was a language skills test. The data analysis techniques used in this research were the quantitative-descriptive data analysis technique and inferential analysis technique through a t-test.

## **Results and discussion**

### ***Research results***

This research analysed the implementation of the Flipped Classroom Model in learning activities. The Flipped Classroom Model is a strategy that can be implemented by teachers through minimizing the amount of direct learning in their teaching practice while maximizing interactions. The steps of the Flipped Classroom Model, implemented in Indonesian Language learning, in this research are as follows: first, prior to a face-to-face meeting, students were asked



to study the materials for the following meeting independently at home by watching teacher-made learning videos or the videos of others; second, in class, students were divided into several heterogeneous groups; third, the teachers played the role of a discussion facilitator during the learning activities using a cooperative learning method. The teachers also prepared a number of questions regarding the material discussed; fourth, the teachers administered a quiz/test. This ensured that the students were aware that the activities in which they were engaged were not a mere game, but a learning process. During the quiz, teachers would also take the role of a facilitator to help students in their learning and solving of the questions with regards to the material discussed.

This research was focused on three aspects: the language skills of students engaged in the class that did not implement the Flipped Classroom Model; the language skills of students engaged in the class that implemented the Flipped Classroom Model; and the effect of the Flipped Classroom Model on primary school students' language skills. The three aspects are outlined as follows.

### ***The language skills of students engaged in the class that did not implement the Flipped Classroom Model***

The first data set in this research was about the language skills of students who were not taught by employing the Flipped Classroom Model. Students' scores were obtained from the language skills test designed by the researchers. As many as 82 students' language skills score data were obtained. The scores ranged from a minimum score of 53.00 to a maximum score of 83.00 with the first quartile being 67.00, the second quartile being 73.00, and the third quartile being 76.00. The descriptive statistics of the language skills scores of the non-flipped classroom group can be seen in Table 1.

Table 1 shows that the language skills score data from the non-flipped classroom group had a mean of 71.8 and a standard deviation of 6.47, indicating that the mean of the scores tended to fall within the fair category. Therefore, it can be concluded that the language skills of students engaged in a class that did not implement the Flipped Classroom Model was within the fair category.

Based on figure 1, the known score language proficiency of each child is as follows. 1) The minimum score was 53 (3 students). These students are included in the category 'not fair'. The maximum score was 87 (3 students). These students are included in the category 'not fair'; 2) The median score was 73 (12 students). These students are included in the category 'fair enough'; 3) The average score is 72 and falls within in the category 'not fair.' Based on table 1, the score of student learning outcomes in general are included in the categories 'not fair'. As such, it can be said that the results of the study on non-flipped classrooms does not the meet the criteria of effectiveness.

### ***The language skills of students engaged in a class that implemented the Flipped Classroom Model***

The second data set in this research is about the language skills of students who were taught by employing the Flipped Classroom Model. Students' scores were obtained from the language skills test designed by the researchers. As many as 82 students' language skills score data were obtained, ranging from a minimum score of 70.00 to a maximum score of 90.00 with the first quartile being 77.00, the second quartile being 80.00, and the third quartile being 85.00. The descriptive statistics of the language skills scores of the Flipped Classroom group can be seen in Table 2.

Table 2 shows that the language skills score data from the flipped classroom group had a mean of 80.9 and a standard deviation of 4.59, indicating that the mean of the scores tended to fall within the high category. It, thus, can be concluded that the language skills of students engaged in a class that implemented the Flipped Classroom Model was within the high category. Based on Figure 2 known score language proficiency of each child as follows. 1) The minimum score was 70 (2 students). These students are included in the categories 'fair'. The maximum score was 90 (3 students). These students are included in the categories 'good'; 2) The median score was 80 (16 students) These students are included in the categories 'good'; 3) The average score was 80 which is in the category 'good'. Based on table 2, the score of student learning outcomes, in general, are in the category of 'good'. As such, it can be said that the results of the study on flipped classrooms meets the criteria of effectiveness.

### ***The effect of the Flipped Classroom Model on students' language skills***

The testing was conducted using a t-test. In this research, the effect of the Flipped Classroom Model on students' language skills was tested. The language skills of the students from the non-flipped classroom group were denoted by "X", while the language skills of the students from the flipped classroom group were denoted by "Y". The statistical hypotheses tested in this research are as follows.

To test this research's hypotheses, an inferential statistics analysis was carried out. The inferential analysis was carried out using a t-test with a p-sig or p-value aided with the SPSS software. Prior to conducting the inferential analysis, a data normality test was conducted using the Kolmogorov-Smirnov Z test. The normality test results show that this research's data was normally distributed, thus the data could be used in the subsequent parametric statistical test.



The criteria of the hypothesis testing is that  $H_0$  is rejected if  $p\text{-sig} < 0.05$  or  $t \text{ count} < t \text{ table}$  and  $H_0$  is accepted if  $p\text{-sig} \geq 0.05$  or  $t \text{ count} \geq t \text{ table}$ . The paired samples test output from the t-test is presented in Table 3. Based on the testing results presented in Table 3, the  $p\text{-sig}$  was 0.00, indicating that  $p\text{-sig} < \alpha 0.05$ . Thus,  $H_0$  was rejected in favour of  $H_1$ . This shows that the Flipped Classroom Model had a significant effect on students' language skills. It was also found that the t count was 16.47, while the t table (df: 81) was 1.9. In other words,  $t \text{ count} > t \text{ table}$ . It can be concluded that  $H_0$  was rejected, while  $H_1$ , which says "the Flipped Classroom Model has an effect on students' language skills", was accepted.

The inferential test results prove that there was a significant effect of the Flipped Classroom Model on students' language skills. Students' language skills improvement pattern is presented in detail in Figure 3.

Figure 3 shows that statistically, the language skills outcomes were different between those of a non-flipped classroom group and those of a flipped classroom group. In terms of quantity, the learning which was implemented in the Flipped Classroom Model exhibited better outcomes. It can be concluded that the learning which was implemented in the Flipped Classroom Model could significantly enhance primary school students' language skills.

### ***Discussion***

This research's results prove that the Flipped Classroom Model could significantly improve the language skills of primary school students. This was proven by the improved and better-developed language skills of primary school students after the Flipped Classroom Model was implemented.

Effective learning management is one of the characteristics of the Flipped Classroom Model. Roehl supported this, stating that the Flipped Classroom Model enables students to make use of the class time to work on problem-solving, develop concepts, and be engaged in collaborative learning (ROEHL A., n.d.). This shows that something positive can be realised in student learning if the Flipped Classroom Model is applied.

Flipped classroom is a model that supports literacy development. Garza, in a study, states that by applying the Flipped Classroom Model a teacher can deliver learning content to students at home via electronic means, enabling the use of class time for practical application activities. This is useful to the learning that is oriented to students' literacy skills development (Arnold-Garza, 2014).

This research's findings show that Indonesian Language learning looked more effective with the implementation of the Flipped Classroom Model. These findings are in line with those of a previous study (Ogden, 2015), which describe flipped classroom as a strategy that can be implemented by teachers by minimising the amount of direct learning in their teaching practice while maximising interactions (Lu & Han, 2018). This strategy uses technology that provides extra learning materials for students online. This would spare the class time previously used for learning.

Ogden, also supports this research's findings, stating that if the direct learning time is minimised by way of using students' time at home, teachers will have more flexibility using class time to strengthen students' practical understanding. This shows that, not only will students gain a better theoretical understanding, when the Flipped Classroom Model is implemented, they will also have better developed skills (Strayer, 2007).

The core of the Flipped Classroom Model is shifting the learning process from class out. Formal class can be used by students to collaborate and interact. Students use various network



devices that allow for independent learning at school and control the independent learning progress. Students also ask their teachers in class questions that arise during the learning (Ayçiçek & Yanpar Yelken, 2018). This supports the results of this study that students' skills were improved after the students were given the opportunity to collaborate and interact with either other students or teachers in the flipped classroom. In the application of this model, students had more opportunities to find varied learning sources, which were suitable to use to develop students' language skills.

This study's findings also shows that the Flipped Classroom Model was also able to increase students' courage and confidence and reduce discomfort. Students' were given the opportunity to engage in a more active environment with directed communication. Students were also able to engage in the goal setting and learning assessment. This meant that students were engaged in an active, creative, effective, fun way in the overall learning process. The supervision that was neither too strict nor too authoritarian, allowing the students to learn comfortably and meaningfully. This is in line with the findings of Strayer's study (Rozinah Jamaluddin & Siti Zuraidah Md Osman, 2014). Strayer showed that one of the advantages of the flipped classroom is that it directs teachers to ask students to read the learning material before coming to the class, enabling them to incorporate concepts at higher levels during the learning in class. In addition, the use of various sources such as television, computer, or other technological aids can support the achievement of learning objectives.

This research's results also shed light on the fact that flipped classroom enables students to participate actively in class. The active learning activities in class that were implemented in this model could positively influence students' level of involvement in class. In such learning situation, students will gain greater opportunities to develop a higher level of thinking (Ayçiçek & Yanpar Yelken, 2018). That finding, to a great extent, supports this research's results. In this



study students' language skills were improved after the Flipped Classroom Model was implemented.

Furthermore, the creative Flipped Classroom learning model could be used for monitoring students' effectiveness in adapting to a new learning environment. This is in line with the findings of the research by Jamaluddin & Osman (Rozinah Jamaluddin & Siti Zuraidah Md Osman, 2014). This study showed that the Flipped Classroom is highly useful in the development of various characteristic of students, for example, behavioural engagement, agentic engagement, cognitive engagement, and emotional engagement (Gomez-Lanier, 2018).

Those findings are also supported by Lanier (Gomez-Lanier, 2018), who states that Flipped Classroom offers an opportunity for students to spend much of their class time discussing and working in groups, enabling them to find mistakes while gaining experience in collaboration as well as expertise in the material discussed (Triantafyllou & Timcenko, 2014). Flipped classroom does not only improve students' knowledge and skills, but also influences various learning aspects such as critical thinking skills, time management, and students' learning productivity.

Flipped classroom is one of the most novel developments in teaching, which is highly dependent on recent technologies and more open sources (Yin & Wu, 2016). Students can be given materials online to gain necessary knowledge before coming to the class. This ensures that class time can be focused on clarifying and applying that knowledge. This model promotes students' attempt to learn on their own (outside the classroom) through readings, shows, exercises, or quizzes. Under the model, the class time is specially used for group work activities. This learning and teaching approach attempts to make students the masters of their learning trajectories.



As a new learning model, Flipped Classroom has become a hot issue in learning research and has been accepted and accoladed by many researchers and schools. This model has changed teachers' dominant role in classrooms, teaching and learning relationship between teachers and students, and students' passive learning to an active one. Various teaching practices have proved that the Flipped Classroom Model can set a maximum limit to mobilise students' learning enthusiasm and improve their learning efficiency, and this is an effective way to teach (Yin & Wu, 2016).

The face-to-face learning style is still applied in today's learning practices, where teachers only give lectures, explanations, and notes in class, causing students to experience difficulties in learning independently and seek guidance from knowledgeable persons to understand the material concepts. Therefore, the Flipped Classroom approach is used to increase the effectiveness of the students' learning style. This approach enables students to learn a subject by frequently watching videos on that subject. In this way, students become more focused on class exercises. Additionally, this model gives the opportunity for interaction and active learning in class (Bakar, Sukiman, Yusop, Mokhtar, & Jaafar, 2016).

This research's findings essentially prove that the Flipped Classroom Model promotes primary school students' language understanding and skills. Students actively investigate themselves in terms of their improvement in their learnt language skills. Students may be given unique activities to improve their attitudes and behaviour according to the justification of their language skills. Based on the discussion above, and from the comparison between the empirical findings of this research and the review of the findings of relevant previous research studies, it can be concluded that the Flipped Classroom Model could significantly promote primary school students' language skills.

## Conclusion

Based on the research results and discussion, the conclusions drawn in this research are as follows: (1) The language skills of students engaged in the class that did not implement the Flipped Classroom Model was in the fair category ( $M = 71.8$  and  $SD = 6.47$ ); (2) The language skills of students engaged in the class that implemented the Flipped Classroom Model was in the high category ( $M = 80.9$  and  $SD = 4.59$ ); (3) The Flipped Classroom Model had an effect on students' language skills.

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**Table 1.** Non-Flipped Classroom Data

Statistics	Score
Mean	71.8
Median	73
Mode	73
Std. Deviation	6.47
Variance	41
Minimum	53
Maximum	87
Percentiles (25)	67

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Percentiles (50)	73
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Percentiles (75)	76
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**Table 2.** Flipped Classroom Data

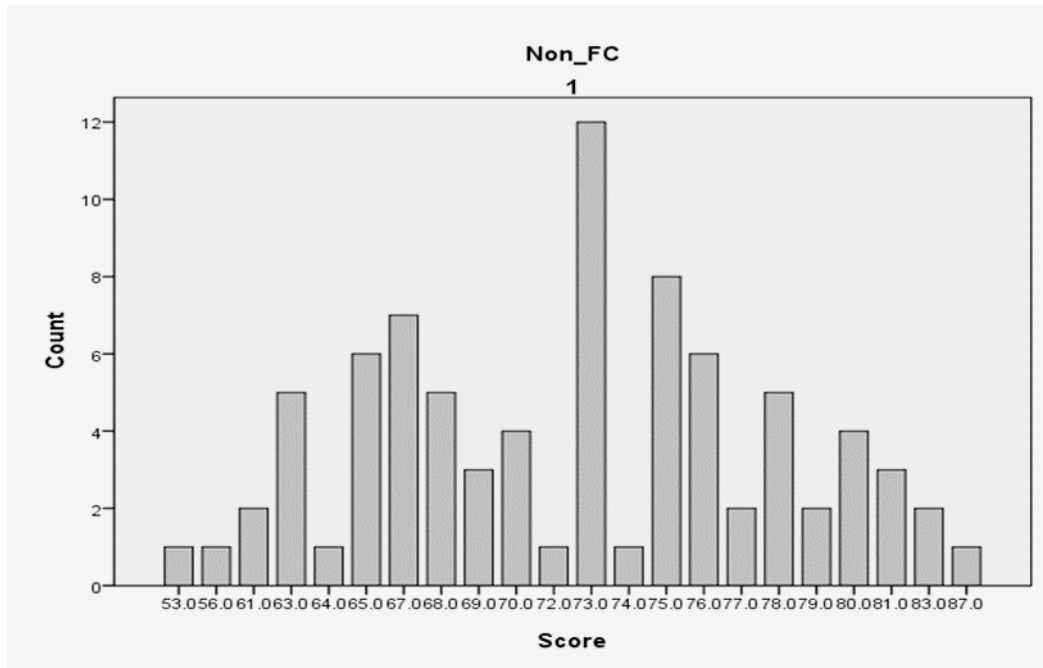
<b>Statistics</b>	<b>Score</b>
Mean	80.9
Median	80
Mode	75
Std. Deviation	4.59
Variance	21
Minimum	70
Maximum	90
Percentiles (25)	77
Percentiles (50)	80
Percentiles (75)	85

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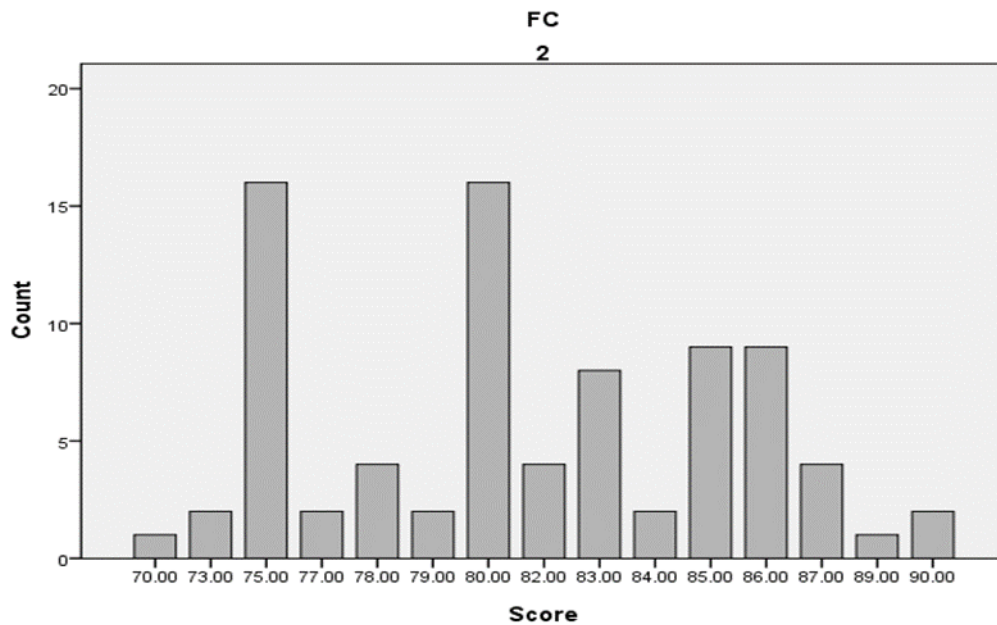
**Table 3.** Inferential Testing Results

<b>Paired Samples</b>	<b>t</b>	<b>Df</b>	<b>Sig</b>
FC-NONFC	16.47	81	.000

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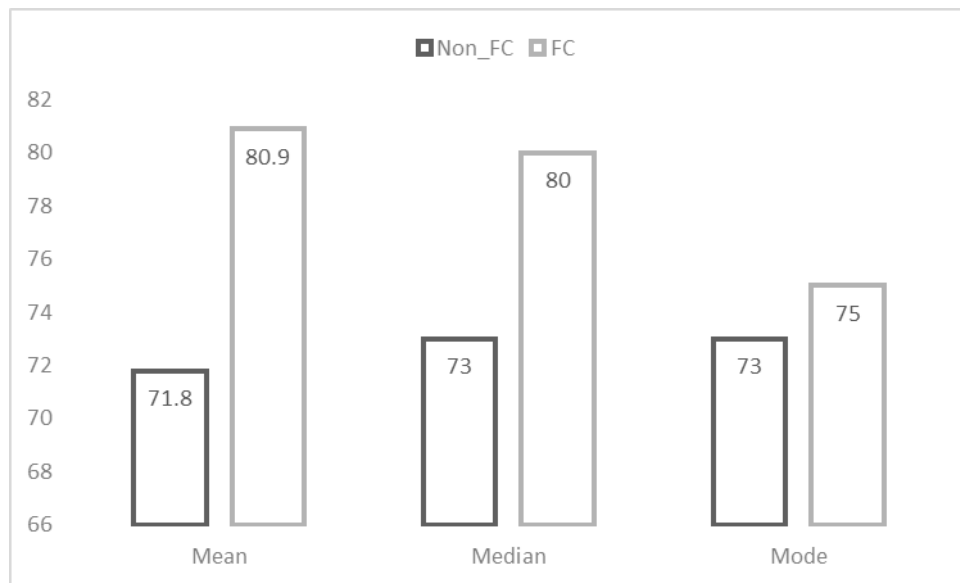


**Figure 1.** Non-Flipped Classroom Data



**Figure 2 .** Flipped Classroom Data





**Figure 3.** Comparison between the non-flipped classroom outcomes and the flipped classroom outcomes

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