The effect of inside outside circle (IOC) model by using flashcards towards students’ English vocabulary mastery

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ABSTRACT
This research aims to determine the effect of Inside Outside Circle (IOC) model by using flashcards on students’ English vocabulary mastery. This research was done on the 3rd-grade students of one elementary school in Magelang Regency, Central Java, Indonesia. This research used Pre-Experimental Design which type is One Group Pretest Posttest Design through one kind of treatment. The samples in this research were 3rd-grade students as many as 20 students. The data collection method was a multiple-choice test. The instrument test of this research was a validity test by experts (expert judgment), they are English lecturers of a private university Magelang and a 3rd-grade teacher of elementary school in Magelang Regency. The results of this research pointed out that there was a positive effect of the Inside Outside Circle (IOC) model by using flashcards on students’ English vocabulary mastery. The effect was shown by pre-test and post-test results with means 49 and 80. The result of the Wilcoxon test showed that the significance of Z value was -3.725 with Asymp. Sig. (2-tailed) 0.000 < 0.050.

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Introduction
English is a much-needed language for international citizens. We can find sentences in English for examples; at packaging of food products, beverages, electronic devices, social media, etc. English plays an important role in the development of science knowledge and education directly in developing countries, especially Indonesia. For example, in universities. Publication of scientific articles from research results also requires an explanation using English. So, it can be one of the reasons why one of the foreign languages that has been taught in Indonesia’s schools since elementary school is English. However, because education in Indonesia currently refers to the 2013 Curriculum, it makes English subject in elementary school is not included in the compulsory subject taught. The Ministry of Education and Culture (Kemendikbud) of the Directorate General Teachers and Education Personnel issued
a warrant in which the letter contained: freedom of an elementary school to include English as local content.

Elementary school students are in the golden age moment to learn a kind of language (Muzammil, 2019). Children's memory at this age is still firm, so it will be easier to master a language. In the process of mastering a language, it is necessary to master the vocabulary of its language. Therefore, in the process of learning English, it will be essential to have English vocabulary mastery. Vocabulary mastery learning is a sustainable and great task (Nappu, 2015). Therefore, teachers as educators should be involved in it by providing input and full support for students. Introducing English vocabulary to children at elementary school age is not an easy job. English vocabulary learning activities for children at elementary school age should be designed more attractively to make children enthusiastic in learning. This is similar to the statement according to Syafrizal and Haerudin (2018), who said that teaching English for young learners is different from teaching adults in a way that they are often more enthusiastic, active, and easily adaptive than adults. Elementary school students still like playing, so the teacher is expected to be imaginative and creative in developing their teaching strategy to make the English lesson more exciting.

That is why teachers must be smart in choosing and sorting models and media learning that will be used in teaching and learning activities. Other than models and media which are interesting, teachers also must be good at conveying the meaning of the content of materials that is being taught. There are many interesting learning models, one of them is the Inside Outside Circle (IOC) model. Lie (2008) expressed her opinion that the Inside Outside Circle (IOC) model was a learning technique that allowed students to share information at a time. This learning model can create variety when learning in the classroom and can help increase students’ understanding. The Inside Outside Circle (IOC) model could give students ample opportunity to assimilate information and increase a vocabulary understanding together at a single time.

When in English vocabulary learning activities, the teachers have taken advantages of effective and interesting learning models. But, in the implementation of learning media, it is not appropriate, so the learning process will not work as it is desired. Teachers also must be able to create models and media that will be used to teach, so that students can easily understand the conveyed materials. In addition, to utilize an attractive model, teachers in their understanding of English vocabulary lesson planning must be able to create interesting learning media, especially visual media. Many kinds of examples of visual media that teachers can use as learning media, one of them is called flashcards.

Arsyad (2011) suggested that flashcards are small cards that contain pictures, text, or symbols that remind or lead students to something related to pictures that can be used to practice spelling and to enrich vocabulary. Flashcards have two sides where the front side is picture and word while the backside is the meaning of the word. Flashcards, when used, will have great power in motivating and stimulating students to learn. Flashcards are easy media to help students and teachers in the learning process. Teachers can use it anytime and in any situation when they want to teach. Flashcards are considered as effective media to memorize vocabulary.

Therefore, based on the description above, the researchers were interested in researching how effective the Inside Outside Circle (IOC) model is by using flashcards towards
students' English vocabulary mastery. With its various features, this research aims to determine the effect of Inside Outside Circle (IOC) model by using flashcards on students' English vocabulary mastery which was done on the 3rd-grade students of one elementary school in Magelang Regency, Central Java, Indonesia.

Method

This research used Pre-Experimental Design (non-design) which the type is One Group Pretest Posttest Design through one kind of treatment. The design shapes the selection of samples are not random or random but are intentionally chosen by the writers, and there are no control variables. As for a pre-programmed design chart with a one-group pre-pre-test design is as follows (Sugiyono, 2016):

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Treatment</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>O₁</td>
<td>X</td>
<td>O₂</td>
</tr>
</tbody>
</table>

Table 1. One group pre-test post-test design

Table 1 shows that the variables in this research are two; dependent variable and independent variable. The dependent variable in this research is an Inside Outside Circle (IOC) model by using flashcards. Whereas, the independent variable in this research is students’ English vocabulary mastery.

This research was done on the 3rd-grade of one elementary school with as many as 20 students with a total population of 30 students. The elementary school is located at Magelang regency, Central Java, Indonesia. The research focus that will be used in this research is English subject in basic competition of vocabulary about public places. The time of research was in the 2nd semester of 2020/2021.

The data collection method was using the test. The test was done twice that was a pretest with to measure students' ability before learning was accomplished using the Inside Outside Circle (IOC) model by using flashcard towards students’ English vocabulary mastery and subsequent post-test to measure the students' mastery of the language after learning was accomplished using the Inside Outside Circle (IOC) model by using flashcard. The tests performed in the research were multiple choice.

The validity of the instrument was made up of testing of content validity (expert judgment) by the English lecturer at a private university in Magelang, Central Java, Indonesia and the homeroom teacher of 3rd-grade of elementary school, and then the construct validity test performed on students outside the samples was in 3rd-grad of one elementary school as many as 27 students. The reliability tests used Cronbach's Alpha formula (Sugiyono, 2016). The results of the validity test and reliability test by SPSS 25.0 for Windows are declared valid and reliable.

There were three steps conducted in this research. First, in the pre-test, the action was done by giving the pre-test concerning 3rd-grade English vocabulary materials in public places. The test aimed to determine or measure the extent of students' initial ability before the treatment using the Inside Outside Circle (IOC) model by using flashcards.

Second, the treatment was done in three stages. In Treatment 1, the researchers treated experimental groups by testing the inside outside circle learning model (IOC) with the media
of flashcards. In this activity, the final result was that the students worked on the LKS (students’ workbook) and an evaluation with two indicators of preliminary achievement, identified the simple vocabulary of the public places and mentioned the vocabulary of public places in a simple way. In Treatment 2, the researchers treated experimental groups by testing the Inside Outside Circle (IOC) learning model with the media of flashcards. In this activity, the final result was that the students worked on the LKS with two middle achievement indicators, knew the meaning of the vocabulary of the public places and copied the simple vocabulary of the public places. In Treatment 3, the researchers administered treatment of the group experiments by testing the Inside Outside Circle (IOC) learning model with the media of flashcards. In this activity, the final result was that the student worked on the LKS with two indicators of final achievement, read the vocabulary conversation of public places in a simple way and wrote the vocabulary conversation of public places.

In the post-test, the action that was done is giving a posttest concerning class the 3rd grade English vocabulary materials in public places. The test aimed to find or to measure the outcome of students’ ability after treatment was administered by Inside Outside Circle (IOC) using flashcards. The final results of this test were used to compare students' abilities between before and after treatment.

Findings and discussion

Pre-test vs post-test statistical calculation

This research was started on Wednesday, June 16, 2021 with the first introduction and holding a pretest for the 3rd-grade students. Furthermore, it was the same day as treatment 1. Then on Friday, June 18, 2021 students were given treatment 2, and on Monday, June 21, 2021 the students were given treatment 3. The treatment that was given using the Inside Outside Circle learning model (IOC) by using flashcards. On Monday, June 21, 2021, after the research was completed, students were then given a posttest.

Each implementation of learning began with a greeting and then praying under the leadership of the class’s leader. Then, the teacher checked the students' condition and explained what to learn during the learning process. The teacher illustrated the subject matter of English subjects to be studied in public places. The teacher divided the students into 4-5 groups. Next, the teacher gave the picture cards (flashcards) that contained the learning material. Each student was asked to find the card that was brought. After that, the teacher called on half of the students to create an inner circle and the other half to make an outer circle. And the last, the teacher called the students to face each other to give information regarding vocabulary materials found in the flashcards that were brought in.

At the first meeting, the material that was presented was about public places with two indicators of preliminary achievement, identified the simple vocabulary of public places and simply mentioned the vocabulary of public places. The learning outcomes were that students worked on the LKS in groups and then managed the individual assessments. Next, at the second meeting, the material at public places with two middle achievement indicators knew the meaning of the vocabulary of public places and copied the simple vocabulary of public places. The learning outcomes were; students worked on the LKS in groups and then worked on the individual assessments. In the third meeting, the material that was presented still
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centered around public places with two final indicators of achievement: that of simply reading vocabulary conversations about public places and writing vocabulary conversations about public places. The outcomes of the learning were; students worked on the LKS in groups and then practiced reading the dialogue with their group mate; after that worked on the individual assessments. After all treatments were done, the teacher continued the learning by providing a final test (posttest) to determine the extent of the students’ ability after treatment. The questions of the posttest were one that the previous 18 questions had validated.

Based on the interview results with a 3rd-grade teacher of elementary school around December 2020, the teacher stated that English learning in 3rd-grade still had some obstacles; the one is that students still have difficulty in mastering vocabulary. It can be seen in the time the teacher gave students quizzes/questions about English vocabulary. Many students still could not answer it because of the lack of vocabulary mastery. Students' English vocabulary mastery is still not optimal because the learning model and media used are still classified as less effective when applied to 3rd-grade students. During the learning process, the material delivered by the speech method makes students feel bored and less interested in learning English. The lack of a special teacher of English was also one of the factors that hinder the process of English learning. Since not all of the homeroom teachers are able or have more time to teach English subjects which are local content.

Drawing on the result of pre-test, the first step that the writers took to obtain data from the groups involved was to do a pretest early. The test was a matter of multiple-choice in the cognitive tests of 18 problem items. The test questions contain public places material that had been validated before. Pre-testing was done by 20 elementary students of 3rd grade. The pretest ACTS as initial data to identify the initial conditions of the sample before the treatment was done using the inside outside circle learning model by using flashcards. Pretest was on Wednesday, June 16, 2021. The result is presented in Table 2.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high (86-100)</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>High (71-85)</td>
<td>3</td>
<td>15%</td>
</tr>
<tr>
<td>Enough (56-70)</td>
<td>4</td>
<td>20%</td>
</tr>
<tr>
<td>Low (41-55)</td>
<td>7</td>
<td>35%</td>
</tr>
<tr>
<td>Very Low (25-40)</td>
<td>6</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100%</td>
</tr>
<tr>
<td>Mean</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Highest score</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>Lowest score</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Informed by the result of post-test, the final measurement after treatment was posttest. Posttest presentation was held on Monday, June 21, 2021. Posttest was given to determine the extent of the students’ final ability after the treatment. The posttest was a question of multiple choice 18 questions done by 20 students. Once the data were obtained, it can be seen in Table 3.
Further, pretest measurement was given before the subjects were given treatment. The research subject was given treatment of applying the Inside Outside Circle (IOC) by using flashcards towards students’ English vocabulary mastery. Posttest measurement was given after the subjects were given treatment. Both the pretest and the posttest measurements were then processed. After the result was known, then the data was being compared between the pretest and posttest. Pretest and posttest comparison are shown in Table 4.

<table>
<thead>
<tr>
<th>Comparison</th>
<th>Results</th>
<th>Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest score</td>
<td>72</td>
<td>100</td>
</tr>
<tr>
<td>Lowest score</td>
<td>28</td>
<td>50</td>
</tr>
<tr>
<td>Mean</td>
<td>49</td>
<td>80</td>
</tr>
</tbody>
</table>

This study also reveals that the normality data test used Shapiro wilk's test by SPSS 25.0 for Windows. If its significance is less than 5% or 0.05, then it can be concluded that it is a non-normal distribution. If data filters more than 5% or 0.05, then the data distribution is normal. Normality test results based on SPSS computer program 25.0 for Windows can be seen in Table 5.

<table>
<thead>
<tr>
<th>Shapiro-Wilk</th>
<th>Statistics</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>0.929</td>
<td>20</td>
<td>.149</td>
</tr>
<tr>
<td>Post-test</td>
<td>0.893</td>
<td>20</td>
<td>.031</td>
</tr>
</tbody>
</table>

Table 5 portrays that pretest values have a significance of 0.149. Hence, the significance of more than 0.05 indicated normal distribution data. Meanwhile, the value of a posttest had a significance of 0.031, so it is less than 0.05 indicated in non-normal data. According to this statement, the data in the research is not entirely normal.
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Moreover, hypothesis tests were used to provide proof of the hypotheses that had been formulated earlier. As for the hypotheses that was formulated are:

Hₐ: There was a positive influence on the use of the Inside Outside Circle (IOC) learning to help a student's English vocabulary.

H₀: There is no influence in using the Inside Outside Circle (IOC) learning model with a media flashcard to the student's English vocabulary.

The principle that is used to accept or reject hypothesis is by comparing the value of z with a degree of significance at 5% or 0.05. If the z significance is less than 5% or 0.05, then Hₐ is accepted. If the z significance is over 5% or 0.05, then H₀ is rejected. The hypothetical test of this research used a nonparametric wilcoxon test with the help of SPSS computer program 25.0 for Windows. Hypothetical test results can be seen in the following Table 6.

<table>
<thead>
<tr>
<th>Test Statistics</th>
<th>Posttest - Pretest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>-3.725⁹</td>
</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 6 depicts that based on the wilcoxon test, it is known that the z significance of -3.725 with asymp. Sig. (2-tailed) 0.000 (0.000<0.05). This can be understood that there was a positive influence in the use of the Inside Outside Circle (IOC) learning model by using flashcards towards students’ English Vocabulary in the 3rd grade of one elementary school in Magelang Regency.

The study findings demonstrate that mastery is an inherent ability in a person to master and delve into things the person is learning and then uses or implements it in their personal life. According to the Great Dictionary of the Indonesian Language of the Language Center (KBBI), a vocabulary is the vocabulary or the many words of a language. This would be similar to the opinion of Chaer (2007) in Elviza, Emidar, and Noveria (2013) who said, "a vocabulary is all the words found in a language." Those vocabularies would be the basis to form a sentence. Vocabulary can also be defined as a set of words that a person can understand.

Further, according to Elviza et al., vocabulary mastery is a mastery or ability to understand and use words found in a language, spoken, or written. Vocabulary mastery was needed because the more vocabulary one person has, the easier it would be for the person to relate and acquire information; even the vocabulary could also be used to measure the level of intelligence. The students who also had translated the English vocabulary were later introduced by reading the English vocabulary. Then, the process of reading is repeated which could help them understand and remember the form of the English vocabulary. Therefore, the means of the English vocabulary is essential for students. It indicates that vocabulary mastery constituted the ability of a person to understand, master, and apply a word-forward. The vocabulary served both a general language and a known language which are...
observed, studied, memorized, understood, used or applied to communicate in everyday activities.

Some experts divide vocabulary into two types: active and passive vocabulary. Harmer (1991) in Alqahtani (2015) distinguished between these two types of vocabulary. The first type of vocabulary refers to the one that the students have been taught and that they are expected to be able to use. Meanwhile, the second one refers to the words which the students will recognize when they meet them, but some of the words the students will probably not be able to pronounce.

Haycraft, quoted by Hatch and Brown (1995) in Alqahtani (2015), indicated two kinds of vocabulary, called receptive vocabulary and productive vocabulary. According to Stuart Webb (2009) in Alqahtani (2015), receptive vocabulary is words which learners recognize and understand when they are used in context which they probably cannot be produced. Learners recognize the vocabulary when they see or meet in reading text, but they do not commonly use them in speaking and writing. Concerning productive vocabulary, Webb (2005) in Alqahtani (2015) also expressed his opinion that productive vocabulary is the words that the learners understand. The learners also can pronounce the words correctly and use them constructively in speaking and writing. This typical vocabulary involves what is needed for receptive vocabulary and the ability to speak or write appropriately. Therefore, productive vocabulary can be addressed as an active process because the learners can produce the words to express their thoughts to others.

Learning model, likewise, is at its core a detailed plan or basis to create a learning process that corresponds to what is aspired to, particularly by teachers/educators. One of the learning models is the Inside Outside Circle (IOC) model. Lie (2008) expressed her opinion that the Inside Outside Circle (IOC) model is a learning technique that allows students to share information with one another at a time.

This study confirms Shoimin’s (2014) views on steps in implementing of syntax Inside Outside Circle (IOC). In the Introduction phase, the teacher does apperception, the teacher explains the learning that will be done using an Inside Outside Circle (IOC) model, the teacher conveys the purpose of learning, and the teacher provides motivation. In the Corrective phase, the teacher divides the students into groups of 3-4, the teacher divides the task into each group to find information, each group learns on it, looking for the information which is given, afterwards, the learner from each group joins the other group (regrouping), half of the class forms a small circle facing outward, the other half of the class forms a large circle facing outward, pairing off with the students in a small circle, two students who are in pairs share information, the students in the small circle group stay in their place, while the students in the large circle move one or two steps counterclockwise, after the move, the students turn in the large circle and share information with the students in the small circle group and it is done until the rest of the students get the information, the move is halted when students in large circle groups return to their first couples. In the Conclusion phase, guided by teachers, students conclude the material that has been studied, the teacher gives an evaluation or a question of self-training, and teacher gives homework to students.

In applying the Inside Outside Circle (IOC) model in class, it is good to know the strengths and weaknesses of this model. The strengths shows that it does not require the specifications for the strategy, so it can be easily put into the lesson, it can build student cooperation,
students may receive different information at the same time. Conversely, the weaknesses include in the learning process, using this model will require a large space, the learning process will last a long time; thus, students may be distracted and abused for joking, and it is complicated to do.

Flashcards begin with a brain surgeon named Glenn Doman. Flashcards used by Glenn Doman for experimental therapy by showing children with brain injuries outside the surgical process at a quick move (less than 1 second per word). The process makes the reason the cards are named flashcards. Flashcards are a collection of cards that contain words or combinations of words and pictures. Flashcards are useful as media to learn, read, and know shapes, objects, animals, mathematics, types of activities, and so on (https://duniaparenting.com/mengenal-flashcard/).

Susilana and Riyana (2009) in Hotimah (2010) pointed out that flashcards are a media of research based on a 25 x 30 cm. The pictures are handmade or photograph, and they make good use of existing pictures that are pasted on flashcards. On the other hand, Arsyad (2011) suggested that flashcards are small cards containing pictures, text, or symbols that remind or lead students to something related to pictures that can be used to train, spell, and enrich a vocabulary. Flashcards usually measure 8 x 12 cm (8 x 12 cm) or can be adjusted to the small size of the class face. They contain pictures (animals, objects, fruits, and so forth) that can be used to practice spelling and enrich vocabulary.

Flashcards have two sides. The front is a picture and a word while the back is the meaning of the word. Flashcards when used will have great power in motivating and stimulating students to learn. Flashcards are easy media to help students and teachers in the learning process. Teachers can use it anytime in any situation when they want to teach. Flashcard is an effective media to be used to learn and to memorize a vocabulary.

In applying the Inside Outside Circle (IOC) model in the classroom, there are strengths and weaknesses of this model. The following points are some of the strengths and the weaknesses of flashcards. According to Riyana (2009), the strengths of flashcards are portable in small size which can be kept in a bag or in a pocket, to be used anywhere, in class or outside of class; practically, in using flashcards, teachers do not require special expertise and do not need electricity. To use them, we simply need to arrange a sequence of pictures according to our wishes. When use those flashcards, they can be secured by being bound or by using a special box to avoid clutter; Easy to remember, a main characteristic of flashcards is to display short messages on each card presented. This shorthand message will make it easier for students to remember the message; Fun, media flashcards can be used through games. According to Sadimana, Raharjo, Haryono, and Rahardjito (2006), there are other weaknesses of flashcards include pictures are only emphasized on eye perception, objects are too complex for learning activities, and very limited in size to large groups.

**Conclusion**

The Inside Outside Circle (IOC) model by using flashcards is a learning model with a small circle system and a large circle starting with forming large groups in the class consisting of an inner circle group and the outer circle group which in this learning process used flashcards as media for students to convey the information to each other. Flashcards are small cards that contain images, text, or signs symbols that remind or lead students to something related to
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pictures that can be used to practice, spell, and enrich vocabulary. Meanwhile, English vocabulary mastery is the ability that exists within a person to be able to understand, master, and apply about an English word that is the communication basis that everyone knows.

Based on the research that has been done by the writers, the research result shows that there was an effect of using the Inside Outside Circle (IOC) model by using flashcards towards students’ English vocabulary mastery in 3rd-grade of one elementary school in Magelang Regency. The effect can be seen based on the results of the pretest and posttest with an average pretest score of 49 and an average post-test score of 80. This is supported by the acquisition of hypothesis testing analysis using the Wilcoxon test helped by a computer program named SPSS 25.0 for windows. The results of hypothesis testing using the Wilcoxon test prove that the level of 5% significance to the pretest and posttest values obtained a Z count value of -3.725 with Asymp. Sig. (2-tailed) 0.000. Since the value is 0.000 < 0.05, it can be concluded that Ha is accepted and Ho is rejected. This explains that there are significant differences between pretest and posttest. Thus, it can be concluded that there is a positive influence learning model Inside Outside Circle (IOC) by using flashcards towards students’ English vocabulary mastery in the 3rd grade of one elementary school in Magelang Regency.

References


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