Cypriot Journal of Educational Sciences

Volume 16, Issue 2, (2021) 627-640

www.cjes.eu

# The effect of the think–pair–share model on learning outcomes of Civics in elementary school students

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**Suggested Citation:**
Wuryandani, W & Herwin. (2021). The effect of the think pair share model on learning outcomes of Civics in elementary school students. *Cypriot Journal of Educational Science*. *16*(2), 627-640. https://doi.org/10.18844/cjes.v16i2.5640

Received from November 25, 2020; revised from January 18, 2021; accepted from April 09, 2021.
Selection and peer review under responsibility of Prof. Dr. Huseyin Uzunboylu, Higher Education Planning, Supervision, Accreditation and Coordination Board, Cyprus.


**Abstract**

This study aims to test and prove the effect of the think–pair–share learning model on student learning outcomes in Civics in elementary schools. The research design used is a pre-experimental design with the One Group Pre-test–Post-test type. This research was conducted in one group that was randomly selected. The treatment intended is the think–pair–share learning model. The research sample used was 31 students who were at the grade IV level. The data collection technique was carried out using test instruments in Civics. Data analysis was carried out using descriptive statistical analysis and inferential statistics through the t-test. The results of this study indicate that there is a significant effect of the think–pair–share learning model on student learning outcomes in Civics. The score of the student learning outcomes has increased significantly after implementing the think–pair–share learning model in Civics learning.

Keywords: Civics, learning outcomes, think–pair–share.

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## 1. Introduction

The success of a learning programme really depends on the role of the teacher in managing learning. Even in learning activities, the teacher's role is positioned as the front guard that determines the success of the process (Tjabolo & Herwin, 2020). The teacher is responsible for planning learning, implementing learning and evaluating learning so that the learning objectives can be conveyed to students who are learning the objectives. Therefore, teachers must be able to adapt their learning programmes which are structured with various aspects such as the characteristics of the development of students, the competence of the material to be taught and other aspects related to the success of learning programmes. Current trends in integrating creative teaching into learning activities reflect the model innovative classrooms, which can change the learning process for the better (Lai, Hsiao & Hsieh, 2018; Zainuddin, 2018).

Learning objectives will be realised properly if the process and learning outcomes are maximally achieved. Student activities in learning activities are an important factor in achieving maximum learning objectives. Learning outcomes will be good if supported by maximum learning activities. Therefore, to achieve maximum learning outcomes, student learning activities must be improved (Arianti, 2020).

Various teaching innovations involving efforts towards a student-centred approach have been effective in developing student creativity, critical thinking, learning motivation and problem-solving in learning activities. These learning innovations are expected to help students build their own knowledge and have direct implications for higher quality learning (Amponsah, Kwesi & Ernest, 2019; Chan, 2016; Dearn, 2010). Leite and Dourado (2013) suggest that conceptualising the learning process as a problem-solving process can develop students' problem-solving skills in learning activities.

Basically, the curriculum requires that the teacher be able to design and implement a learning model that allows students to feel happy in learning and not be bored in learning the material taught by the teacher. This is so that students always have motivation to learn and they can improve their abilities in cognitive, affective and psychomotor aspects. Thus, teaching skills are an absolute must for teachers in carrying out their duties as a teacher in the classroom.

The application of innovative teaching models has the potential to improve the learning experience, motivation and problem-solving abilities of students who have a positive impact on student learning outcomes (Cain, 2019; Gomez-Urquiza et al., 2018). It is necessary to use strategies that are relevant to learning activities so that teachers can optimally facilitate the learning process and achieve the expected learning objectives (Wena, 2010). Some of these things can be achieved by implementing cooperative learning nuances (Lee, Brown & Lee, 2001; Ramadhanti & Yanda, 2018; Saguni, 2013).

A conducive and pleasant classroom situation is something that must be realised by the teacher so that student activities in learning activities can support the achievement of learning objectives. The choice of learning model must be one that provides benefits to achieve learning goals successfully. Through learning activities, students are expected to be motivated and have self-awareness and discipline in learning. This can be carried out by implementing moving class learning and supported by the existence of maximum pedagogical competence and teacher performance in the learning process in schools (Marina, Indrawati & Suarman, 2019).

The empirical phenomenon that became the problem found was the difficulty of students understanding Civics learning material optimally. The learning that has been carried out so far has not been able to lead students to achieve the maximum learning goals. This is supported by the condition of the learning process and activities that are not in accordance with expectations. In learning activities,

it is often found that students are not motivated to follow Civics learning. They think Civics learning is boring. This is evidenced by the finding of students who do not pay attention to the explanation from the teacher and students who do other things that have nothing to do with the material being discussed; there are even students who only disturb other students who are taking lessons. Some of these problems have an impact on students' absorption of subject matter. Student learning outcomes in Civics learning are still low and not as expected.

These conditions indicate the need to consider a treatment innovation in Civics learning in the classroom. Kurjum, Muhid and Thohir (2020) suggest that there are various learning approaches that must be considered in designing a learning plan such as learning strategies, models, methods and techniques. The application of modern learning strategies in the classroom is very important so that students get a clear understanding of the learning process (Abid, 2020). The use of appropriate learning strategies has a close relationship with learning motivation and academic achievement (El-Adl & Alkharusi, 2020). Therefore, updates must always be made so that the learning process can be adjusted to current developments and problems. Learning activities are actions taken by a person both physically and mentally to build knowledge and skills and develop their potential through learning activities. Based on this, ideally the learning applied by the teacher should be able to direct students to work together, help each other in knowledge and understanding of the material through cooperative learning (Pratiwi, 2019).

One of the cooperative learning models that are considered relevant for maximising Civics learning in class is the think–pair–share model. This learning model provides opportunities for students to think and respond to the material being discussed. In addition, this model also guides students to be able to help each other so that some of these things become strong factors in maximising and improving students' abilities in learning (Sumarni, 2016). This model is very suitable to be applied in elementary schools, especially in higher classes. This is based on the fact that high-grade students already have the ability to understand and express concepts in learning and can express their ideas through observation, speculation and other analysis (Seah, 2015). Some of these descriptions are the basis for conducting studies related to innovative learning models in Civics learning in the classroom. This study aims to test and prove the effectiveness of the think–pair–share model in Civics learning in elementary schools.

## 2. Method

The approach used in this research is a quantitative approach. The use of a quantitative approach is a description of the learning outcome data with the application of the think–pair–share learning model in Civics. This study used a pre-experimental design with the One Group Pre-test–Post-test type. The design is presented as follows:

$O_1$ X $O_2$

where

$O_1$ is the pre-test results before implementing the think–pair–share learning model;

X is the treatment (think–pair–share learning model);

$O_2$ is the post-test results after implementing the think–pair–share learning model.

The design of this study consisted of two measurements, namely at the pre-test, then given treatment using the think–pair–share learning model and the second measurement at the post-test,

namely after the treatment had been given. The two results were then tested statistically to test their significance.

This study is focused on the application of the think–pair–share learning model to see its effectiveness in Civics learning in elementary schools. To apply this learning model, it is necessary to pay attention to the core phase guidelines as a characteristic of the think–pair–share model. The following shows the steps for think–pair–share that must be of concern in learning activities (Tanujaya & Mumu, 2019; Tint & Nyunt, 2015).

**Think (Individual activity)**

Each student is assigned to a problem given by the teacher. All students are given time to listen to their ideas and ideas before their love with the conditions are given. After that, the ideas and ideas are conveyed to the teacher before entering the next pairing stage.

**Pair (Paired activities)**

The teacher forms pairs and directs students to their ideas and ideas with their partners. Students will bring together ideas and ideas that have been designed previously. Each pair will reach the end at this stage before moving on to the next stage.

**Share (Activities with all students)**

Students share the results of their discussion in pairs with the whole class. In this phase, there will be a big discussion, where each pair will respond and comment to look for similarities or differences in views or opinions of various pairs.

The sample used in this study was 31 students of grade IV SD, who were selected using simple random techniques. The research data were collected using observation techniques and learning outcomes tests. Before using this research instrument, the content validity was tested first by using the Aiken Validity Index approach and proving reliability using the inter-rater assessment technique. The results of the assessment show that all items are valid and the entire instrument is reliable. The data analysis technique used is descriptive statistical analysis and inferential statistical analysis using the t-test. Prior to inferential testing, the normality of the data was first tested using the Kolmogorov–Smirnov test with $\alpha = 0.05$. All data from the research results in each group were tested for normality, resulting in two p-value scores in each data group that were compared with a significance level of $\alpha = 0.05$. For the test criteria, i.e., if the p-value > $\alpha = 0.05$, then the relevant data is normally distributed and vice versa (Saputri & Herwin, 2020).

In this study, a statistical hypothesis is needed to carry out inferential statistical analysis or to test the effect of the think–pair–share learning model on student learning outcomes in Civics. The statistical hypothesis in this study is described as follows:

$H_0$: $\mu_1 \geq \mu_2$

There is no significant effect of the think–pair–share learning model on student learning outcomes in Civics.

$H_1$: $\mu_1 < \mu_2$

There is a significant effect of the think–pair–share learning model on student learning outcomes in Civics.

where

$\mu_1$ is the student learning outcomes in Civics before the implementing of think–pair–share

$\mu_2$ is the student learning outcomes in Civics after the implementing of think–pair–share

## 3. Results and discussion

The results of this research data are grouped into two parts, namely Civics learning outcomes data before the implementation of the think–pair–share learning model, and the other group is learning outcome data after the implementation of the think–pair–share learning model. Civics learning outcomes in the pre-test referred to in this study are the results achieved by students related to Civics learning material before implementing the think–pair–share learning model. Learning outcomes are measured by the application of the pre-test. In this study, data for this component score were obtained from 31 students. The data scores from these variables are 31 with a score range between 40.00 as the minimum score and 80.00 as the maximum score, with the first quartile being 60.00, the second quartile being 60.00 and the third quartile being 70.00. Descriptive statistical data from the measurement results before the application of think–pair–share model is presented in Table 1.

Table 1. Descriptive statistics data of student scores before TPS

| Statistics | | Score |
|---|---|---|
| Mean | | 65.3 |
| Median | | 70 |
| Mode | | 70 |
| Std. Deviation | | 10.4 |
| Variance | | 108.2 |
| Minimum | | 40 |
| Maximum | | 80 |
| Percentiles | 25 | 60.00 |
| | 50 | 60.00 |
| | 75 | 70.00 |

Based on Table 1, it can be stated that the data on the results of the measurement of learning outcomes before the application of think–pair–share show an average score of 65.3 with a standard deviation of 10.4, which indicates that the tendency of the average score is in the enough category. The histogram of the distribution of Civics learning outcomes scores before the think–pair–share is applied is shown in Figure 1.

Based on Figure 1, information is obtained that the histogram of the distribution of scores from the measurement of Civics learning outcomes variables before the application of TPS shows that the curve has a tendency to focus on a score of 65.3. This score is the area of the mean score before the implementation of TPS. If the average score is compared with the categorisation of learning outcomes, it can be concluded that the score before the application of TPS is in the enough category.

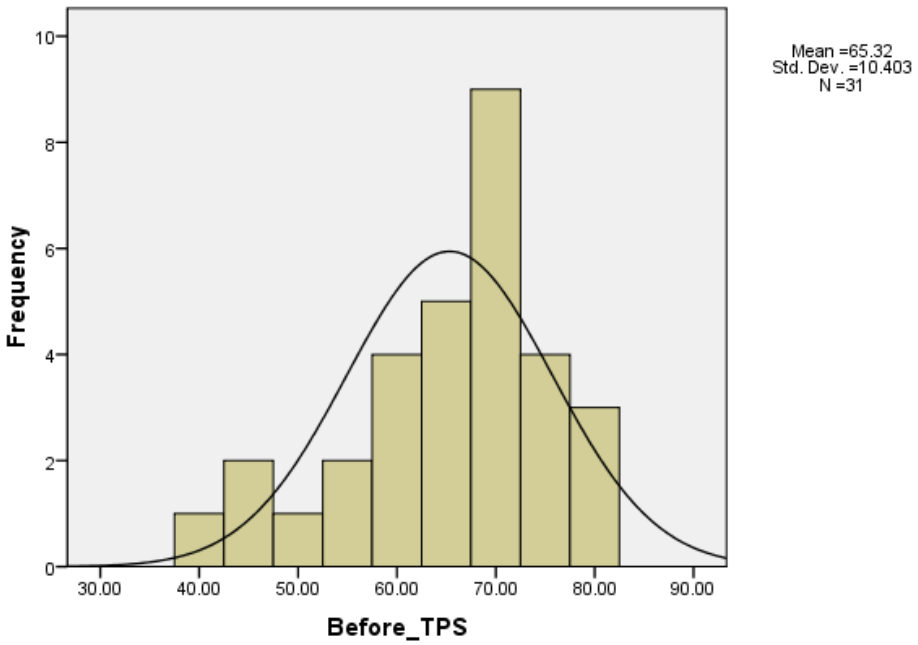


Figure 1. The distribution histogram of student scores before the implementation of TPS

Civics learning outcomes after the application of the TPS learning model referred to in this study are the scores achieved by students after participating in the teaching and learning process using the think–pair–share learning model. Learning outcomes are obtained through test techniques. Civics learning outcomes data are obtained from post-test or after the teacher applies the TPS learning model. The score data from this learning outcome variable amounted to 31 with a score range between 60.00 as the minimum score and 95.00 as the maximum score, with the first quartile being 75.00, the second quartile being 80.00 and the third quartile being 90.00. Descriptive statistical data from the measurement results of Civics learning outcomes after the application of the TPS learning model in more detail is presented in Table 2.

Table 2. Descriptive statistics data of student scores after TPS

| Statistics | | Score |
|---|---|---|
| Mean | | 80.6 |
| Median | | 80 |
| Mode | | 80 |
| Std. Deviation | | 8.9 |
| Variance | | 79.5 |
| Minimum | | 60 |
| Maximum | | 95 |
| Percentiles | 25 | 75 |
| | 50 | 80 |
| | 75 | 90 |

Based on Table 2, it can be stated that the social studies learning outcomes data show an average score of 80.6 with a standard deviation of 8.9, which indicates that the average score tends to be in the

very good category. The histogram of the distribution of Civics learning outcomes scores is shown in Figure 2.

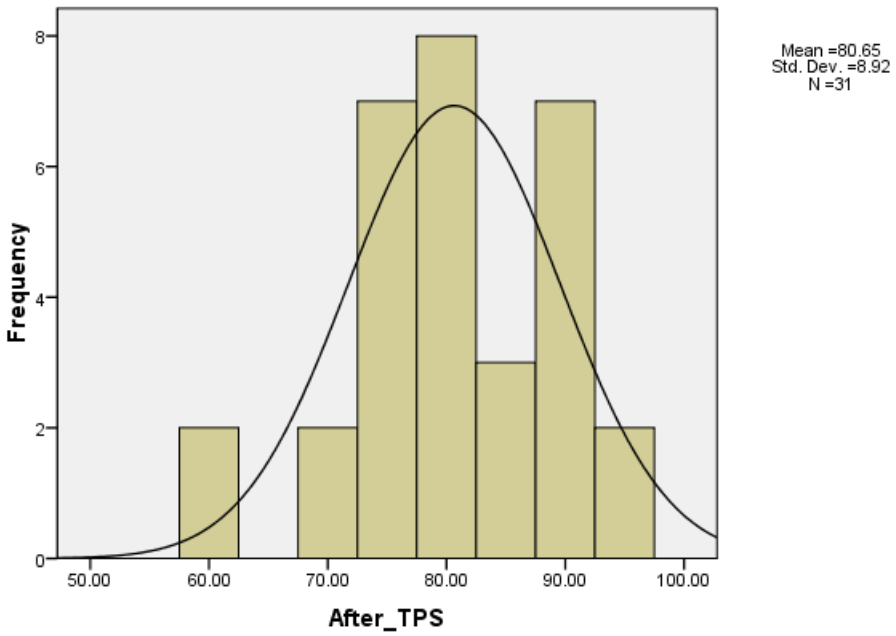


Figure 2. The distribution histogram of student scores after the implementation of TPS

Based on Figure 2, information is obtained that the histogram of the distribution of social studies learning outcomes scores shows the curve has a tendency to focus on a score of 80.6. This score is the area of the mean score of Civics learning outcomes after the application of the TPS learning model. If the average score is compared with the categorizsation of learning outcomes contained in the student learning outcomes report book, it can be concluded that Civics learning outcomes after the implementation of TPS are in the very good category. Based on the results of descriptive analysis for the two data groups, the results can be compared on from the histogram as followsshown in Figure 3.

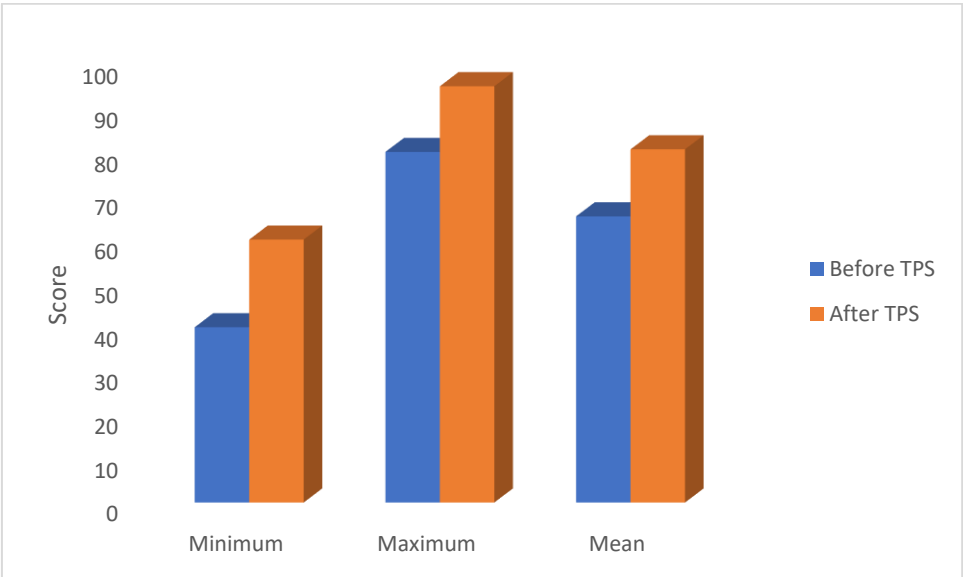

Figure 3. Comparison of student scores based on descriptive statistics

In descriptive statistics, information is obtained that learning by applying TPS descriptively has a higher score than before implementing TPS. The mean score of students before implementing TPS was only 65.3, while after learning to apply TPS, the average score of students was 80.6, meaning that there was an increase in descriptive terms. Based on the results of the analysis, it can be concluded that descriptively there are differences in student scores between before implementing TPS and student scores after implementing TPS. This shows that TPS learning has an effect on improving student Civics learning outcomes. The effect of the TPS can be seen directly by the increase in student scores after the application of the TPS learning model.

After proving the effectiveness of the TPS learning model in descriptive Civics learning, the next thing that needs to be proven is the effectiveness of the TPS model inferentially. This is carried out to prove the significance of the TPS model on improving civics learning outcomes. To prove this, the two data groups were tested using the t-test. However, before carrying out the inferential analysis, data normality testing is first carried out as a requirement for using parametric statistics. Table 3 shows the results of normality testing for the two data groups in this study.

Table 3. Data normality test results

| Data Groups | $p_{value}$ *KS* | α | Conclusion |
|---|---|---|---|
| Before TPS | 0,21 | 0,05 | Normal distribution is fulfilled |
| After TPS | 0,54 | 0,05 | Normal distribution is fulfilled |

Based on the test results, information is obtained, namely, in the data group before the application of TPS, the Kolmogorov–Smirnov psig coefficient is 0.21, and the coefficient is greater than the 0.05 significance level so that the data for the group are normally distributed. In the data group after the application of TPS, Kolmogorov–Smirnov's p-value coefficient was 0.54; this coefficient is greater than the 0.05 significance level so that the data for that group can be stated as normally distributed.

In addition to information from the results of normality testing with the Kolmogorov–Smirnov test described in the previous presentation, other information obtained is related to data normality for the two groups of variables, namely presentation in the form of a normality graph. The presentation of the

data in the normality graph aims to observe the position of the data against the straight-line graph derived from the z-score. The normality test graph for this data is shown in Figure 4.

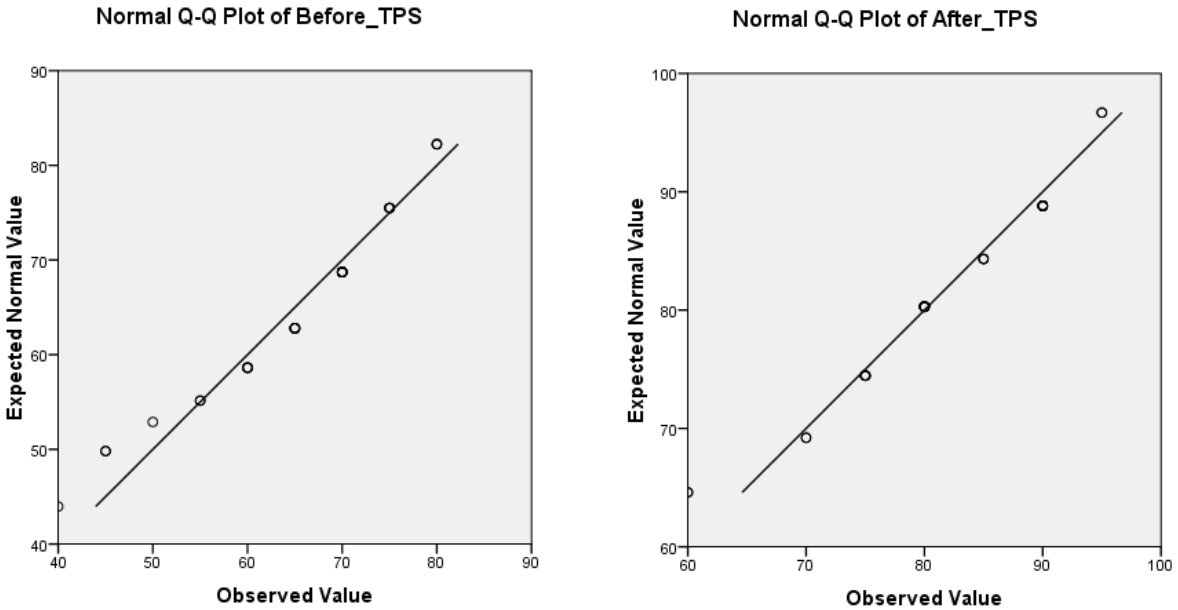


Figure 4. Graph of normality of the two data groups

Based on Figure 4, information is obtained that there is a straight line originating from the z-score and is surrounded by the distribution of data for the two data groups, for both data before implementing TPS and data after implementing TPS. This indicates that the data in the two groups can be stated as normally distributed.

After descriptively proving the related effect of the TPS model on student learning outcomes in Civics, the next thing to do is to test and prove the effect of the TPS model inferentially. This verification is carried out by comparing the two groups of data using the t-test. Related to that, in this study, there is one hypothesis being tested, namely the effect of the TPS learning model on student learning outcomes in Civics. If presented in the form of a statistical hypothesis, the statistical hypothesis tested in this study are $H_0$: $\mu_1 \geq \mu_2$ and $H_1$: $\mu_1 < \mu_2$.

The statistical hypothesis of this study shows that $H_0$ means that there is no effect of the TPS learning model on student learning outcomes, while $H_1$ means that there is an influence of the TPS learning model on student learning outcomes. To test the research hypothesis, inferential statistical analysis (t-test) is required. The criteria for testing the hypothesis are rejecting $H_0$ if the p-value is <0.05 and vice versa. The result of inferential statistical analysis with t-test shows that the t-value coefficient is −8.998 with a df of 30 and a p-value of 0.00. The coefficient shows a p-value $<\alpha = 0.05$. Thus, it can be concluded that the test rejects $H_0$ or accepts $H_1$. This shows that there is a significant effect of the TPS learning model on student learning outcomes in Civics.

The findings of this study indicate that student learning outcomes will be better if they apply the TPS learning model in Civics learning. This is supported by the view of Lyman (1981) and Nadeem and Nadeem (2019) that the TPS model has an apparent advantage in its learning syntax. The first step is Think; it is a stage that instils a habit for students to be able to reflect information quickly. This is very useful for improving students' thinking skills. The second step is Pair; in this step, students are

accustomed to working together in solving problems, analysing and comparing their opinions regarding certain topics. When they have completed these two steps, in the third step they share their conclusions with the teacher and classmates. This is very useful to instil and train students' confidence in expressing their opinions in front of many people.

Civics learning that becomes less attractive tends to be caused by several factors. However, the dominant factor that often arises is because Civics learning materials tend to be literalistic about the moral values of Pancasila as a virtue of citizenship. In addition, the civic learning model tends to be in the form of cognitive memorisation (Sumardjoko & Musyiam, 2018). The TPS model is very useful learning for students. This learning model is part of active learning which provides opportunities for students to be involved in learning activities by thinking, in pairs and sharing with other students (Kusrini, 2012). The same thing was stated by Kothiyal, Majumdar, Murthy and Iyer (2013) that TPS is a class-based active learning model, where students work on problems given by the teacher. In addition, Cahyani (2018) explained that the TPS model can improve students' speaking skills. This really supports the emergence of self-confidence in students.

Furthermore, the TPS learning model is very useful for developing problem-solving skills for students. Through discussion, students can improve critical thinking skills and communication skills. This model can also improve achievement, develop student interest in learning and self-esteem and increase collaboration between students. Another advantage obtained through the application of this model is the process of learning activities to be interesting and fun for students, developing cognitive abilities and improving speaking skills (Sharma & Saarsar, 2018).

Learning with TPS is closely related to the problem-posing approach. Siswono (2010) explains that problem-posing learning provides a good opportunity for students to ask questions to friends about the subject matter. Students can ask other students to answer their questions. In addition, students can also provide answers and ask questions at the same time. This situation is very useful for improving students' communication skills and problems. This is relevant to the TPS model that also provides opportunities for students to analyse their answers and also to share their answers with other students who are their partners. This learning model encourages students to improve problem management skills through conveying ideas and opinions to friends (Rohim & Umam, 2019).

The existence of student interaction and participation is an indicator of active learning in the classroom (Siau, Sheng & Nah, 2006). Furthermore, several previous studies have shown that student interactions with other students as well as between students and teachers are important factors that influence learning success (Blasco-Arcas, Buil, Hernandez-Ortega & Sese, 2013; Umbach & Wawrzynski, 2005). Interaction has been associated with three main learning theories: behaviourist, cognitivist and constructivist (Haseman, Polatoglu & Ramamurthy, 2002; Siau et al., 2006). Persaud and Persaud (2019) suggests that on the basis of behaviourist theory, the stimulus–response method is a trigger to increase student responses in learning activities and is strengthened by feedback from teachers and self-assessment is a form of interaction that has the potential to produce effective learning. This is very relevant to the nuances of the TPS model, which place great importance on interaction in learning. This is very important because encouraging students to collaborate, participate and be actively involved can increase interactivity (Haseman et al., 2002).

The TPS model contains cooperative learning activities that are suitable for various sizes of classrooms, even in other subjects. The teacher asks questions, students think first of themselves before being instructed to discuss their views and ideas with the person designated as their partner in learning

activities. Finally, the groups share information related to what each pair discussed and they report it to the whole class and end with a continuous discussion (Lightner & Tomaswick, 2017).

The TPS model is an effective learning technique for all levels of learning in school. This technique is very useful both at the elementary school level, middle school and even at the level of higher education. This is effective because in the TPS model there is a situation of critical thinking processes among students that has the potential to improve students' communicative abilities, encouraging students to be more expressive and elaborative in expressing learning tasks such as reading, writing and speaking. This TPS model is also very good at developing talents among students and stimulating students to deviate from information from thoughts carried out in learning activities (Nadeem & Nadeem, 2019).

Civics is a subject that has substance to shape the character and morals of students. Therefore, an appropriate learning process is needed so that the goals of student moral reform can be achieved properly (Angraini, 2017). The findings of this study indicate that the TPS learning model is a suitable learning model applied to Civics. This is supported by the opinion of Alma (2010) that this TPS learning model can optimise student participation in issuing opinions, increasing students' knowledge and thinking power in learning. This learning model is very appropriate to be applied in elementary schools because it emphasises the process of student activity and participation in the teaching and learning process in class, and guides students to share knowledge with other students, so it is very appropriate to be used as an effort to form student character, both in terms of cognitive, affective and student skills in a learning process in the classroom (Trianto, 2007). If the TPS learning model is applied continuously to Civics and other subjects, then not only aspects of knowledge and skills can be embedded in students but also aspects of attitude will also be built in students, because this learning model enables students to get used to sharing with other students so that selfishness in students can be minimised through the application of this learning model.

## 4. Conclusion and recommendations

Based on the results of the research and discussion that has been described, it can be concluded that there is a significant effect of the think–pair–share learning model on student learning outcomes in Civics. Thus, the application of this learning model can improve student learning outcomes in Civics in elementary schools. This is evidenced by a positive increase in the score of student learning outcomes after the application of this learning model. The findings of this study prove that the think–pair–share model is very suitable to be applied in Civics learning. This is based on the learning syntax with think–pair–share based on cooperative learning and active learning so it is very suitable for developing moral values of unity and nationality which are the main characteristics of Civics learning. Based on these conclusions, it is suggested that in classroom teaching and learning activities, teachers are expected to apply this think–pair–share learning model as a learning model in Civics to improve student learning outcomes. Because this learning model is very useful, especially for teachers and students, it is hoped that this learning model can be applied continuously in Civics and other subjects. Another recommendation is the need for further research studies, especially on other factors that contribute to the successful application of think–pair–share in Civics learning. These factors include the characteristics of learning media, class management, teacher factors and student factors that have the potential to provide great support for the maximum application of think–pair–share in Civics learning activities.

## Acknowledgements

Thank you very much to the Chancellor and Vice Chancellor of Universitas Negeri Yogyakarta who provided support in the completion and publication of this research. Thank you also to the teachers and

students for their willingness and cooperation during the implementation of this research.

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