Improving HOT Skills of Elementary School Students by Implementation of PBL in Distance Learning

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ABSTRACT

Social Science Education (in Indonesia so called *Ilmu Pengetahuan Sosial* (IPS)) learning at Islamic elementary school (in Indonesia so called *Madrasah Ibtidaiyah* (MI)) has taught more about how students are able to write, read, and memorize concepts rather than in the development of students' higher order thinking skills (HOTS). In order to enhance students' HOTS skills, the Project Based Learning (PBL) Model learning efforts were implemented in class V MI students. The subjects of this study were 162 students who came from three different schools of MI in South Tangerang City, Indonesia. The method used in this research is a quasi-experimental method. The research data were obtained by using the essay test instrument for students' high-order thinking skills in social studies learning, interviews, questionnaires, and observations. The results showed that there was an important alteration in the improvement of higher order thinking skills (HOTS) between students who studied using the online Project Based Learning Model in the experimental class and control class students who studied using conventional learning methods . The main processes that significantly affected the increase in the HOTS of MI students in the experimental class were (1) In this online PBL activity, the teacher began the class by asking essential questions and (2) During project implementation that required students to seek information from books, websites, and conducting interviews with local communities to finalize project activities.

Keywords: Project Based Learning, Social Sciences Education, Higher Order Thinking Skills

Introduction

The level of achievement of Indonesia's Program for International Student Assessment (PISA) ranking is still very low if it is compared to the average country of The Organization for Economic Cooperation and Development (OECD). The average science score in OECD countries is 489, while Indonesia has only reached a score of 396 which has reduced from 2015, 403. For mathematics, the average OECD country is 490, but Indonesia's score is only 379, down from 2015 which is 386. Temporarily, the reading score of Indonesia's average is only 371, has declined from 2015, which is 397. In actual fact, the OECD average is 487 (Harususilo, 2019).

Regarding to the abovementioned data, the learning process in Indonesia ought to make essential changes. Alterations in the learning process are unquestionably not only in the three fields tested in PISA, Science, Mathematics and Language. Nevertheless, transformations must be made in all fields of study in schools, including learning at the Islamic elementary school (in Indonesia so called *Madrasah Ibtidaiyah* (MI)) level. Therefore, a transformation must be carried out in the learning process in schools, as well as social studies learning at MI, changing a teaching method, which is only teaching students how to write, read, and memorize concepts and facts to the development of higher order thinking skills (HOTS). Yılmaz-Özcana & Tabak (2019) states that social studies are subjects that can facilitate the development of students' higher order thinking skills.

The insistence of HOTS reported that recent time schools are no longer adequate to teach students to memorize facts and concepts by themselves, but students are required a proper guidance in order to be able to make decisions, make priorities, develop strategies and be able to solve problems collaboratively. In implementing these skills, high-order thinking skills are needed undeniably. These skills will not be enhanced and will not be embedded in students if they only use low-level thinking skills, namely the level of alertness, understanding, and application (Besty Moore & Stanley, 2013). Heong et al. (2012) argued that higher order thinking skills will also have a momentous outcome on future economic growth. Meanwhile, Vijayaratnam (2012) accentuates the significance of teaching students to learn to solve various problems because activities like this will significantly support students in relating theory to practice in real life.

Taking into consideration the importance of developing HOTS as described above, it is essential to make some variations in the learning process in MI. One of the variations that can be conducted is by implementing the Project Based Learning (PBL) Model in IPS subject in MI. Swift (2018) suggests that implementing Project Based Learning is one of the effective ways to help students practice thinking skills in IPS learning in MI/SD. While Lo (2018) stated that high quality PBL in IPS learning is very possible to do and very interesting to students. PBL can also be

applied to all students, both high-skill students and moderately capable students (Larmer, 2018).

Moreover, the PBL model is important to be implemented in learning because PBL can facilitate students to advance critical thinking skills by revealing students to real-world learning (Goodman, 2010 and Turner, 2012). In line with Goodman, Hartini (2017) also suggested that PBL can enhance the critical thinking skills of Elementary School (SD) students. Desinta, Bukit, & Ginting (2017) also declared that PBL impacts the critical thinking skills of Senior High School students. Meanwhile, Cash (2017) claims that the use of the PBL model can challenge students and make students comprehend that they are the center of the learning process. In contrast to Cash, Bell (2010), Efstratia (2014) and Iwamoto et.al (2016) stated that the PBL Model emphasizes experiential learning with problems originating from the real world which can improve student learning outcomes. Furthermore, Efstratia asserted that PBL cognitive skills and attitudes are compared to conventional learning models which is only learning cognitive skills. Furthermore, in PBL the product is not the main goal, but the aspect of the learning process remains the main goal (Tascı, 2015).

The implementation of PBL in MI is preferably done by face-to-face learning. Nonetheless, during the Covid-19 pandemic, learning could not be done face-to-face yet it had to be done online from home. This condition of learning from home has occurred since the beginning of 2020 and has changed to almost all countries in the world. In connection with this condition, Sun, Tang, & Zuo (2020) have the opinion that the COVID-19 outbreak for refugees the learning process must be carried out massively remotely where this condition has never happened before. In this study, the PBL process to improve higher-order thinking skills, therefore, was carried out online by utilizing the Zoom and Whatsapp applications.

The research questions were (1) Is there any differences in the increase in HOTS of Social Science Education (in Indonesia so called *Ilmu Pengetahuan Sosial* (IPS)) between the experimental class and the control class in class V MI students in South Tangerang City, Indonesia? and (2) How did the students of MI in South Tangerang City, Indonesia respond to online project-based learning?

Methodology

The method used in this research is a quasi-experimental method. The quasi-experimental method applied to see the improvement of students' HOTS in social studies MI using the online Project Based Learning Model with students learning with conventional learning models. The experimental design implemented was a quasi-experimental Nonequivalent Control Group Pretest-posttest Design in which the experimental group and the control group were not randomly selected (Sugiyono, 2009). Experiments were carried out by providing an online project-based learning model in the experimental group and conventional learning in the control group.

Participants

The research subjects consisted of 162 students from three different schools of MI in South Tangerang City, Indonesia. The details are (1) 18 students of class Vb as the experimental class and 20 students of class Va as the control class at MI Al I'tishaam Kota Tangerang Selatan, (2) 34 students of class Vc as the experimental class and 34 students of class Va. as the control class at MI Al Mursyidiyyah, South Tangerang City, and (3) 28 students of class Va as the experimental class and 28 students of class Vb as the control class at MIN 02 South Tangerang City.

Place and time of research

This research was conducted at MI Al Mursyidiyah, South Tangerang City (Accreditation A), MIN 02 South Tangerang City (Accreditation A), and MI Al I'tishaam Kota Tangerang Selatan (Accreditation B). The implementation time is in January 2021.

Data collection technique

The data technique was carried out through tests and non-tests. The test technique used to obtain data about students' HOTS is in the form of an essay. The non-test data used in this study were interviews, questionnaires, and observations. Interviews and questionnaires were used as data analysis techniques to understand student responses to online PBL implementation and problems in learning. While observation is used to attain data from observations of the implementation of PBL online.

Data analysis technique

The average alteration test for improving HOTS between the experimental class and the control class in this study was analyzed by using the Independent Sample T Test data analysis technique using SPSS for windows version 20 software. The increased ability to improve abilities in the experimental class and control class was analyzed using the N-Gain formula developed by Richard R. Hake (1999) below.

$$N\text{-}gain = \frac{\text{Skor postes} - \text{skor pretes}}{\text{Skor maks} - \text{skor pretes}}$$

Information:

N-gain = Normalized gain (normalized gain)

Post score = Final test score

Pretest score = Initial test score

Max score = Maximum score

The criteria for class group categories are as follows (Richard R. Hake, 1999):

Category increase in height ("High-g") ($<g>$)> 0.7;

Medium increase category ("Medium-g") 0.7> ($<g>$)> 0.3;

Low increment category ("Low-g") ($<g>$) <0.3.

Discussion

In the discussion section that will be discussed in this study are (1) Description of the online PBL process at MI in South Tangerang City, (2) Student responses to PBL in online social studies, and (3) Differences in the improvement of students' higher thinking skills in the experimental class with the control class. For more details, it can be described as follows.

Online PBL implementation

Data concerning the implementation of online PBL in South Tangerang City, Indonesia were obtained through observation techniques. Observations were made during the learning process with online PBL. The description of the implementation of online PBL is divided into two sub-discussions, namely the implementation of online PBL in MI with the predicate of very good accreditation (B) and Sub implementation of online PBL in MI with the predicate of superior accreditation (A) which is different because the three MIs were sampled this research has a different character. MI Al I'tishaam City of South Tangerang is involved in the predicate of Very Good Accreditation (B), while MI Al Mursyidiyyah of South Tangerang City and MIN 02 of South Tangerang City are comprised in the predicate of Superior Accreditation (A).

The PBL Model stages utilized in this study are the PBL Model steps developed by Takiddin, Jalal, & Neolaka (2020) by making some modifications in the implementation process because learning is done online. Hartweg & Worth (2016) asserts that one of the significant factors that must be in the selection of a learning model is the knowledge of students who will be applied. Therefore, the phases in this PBL are developed along with the level of development and ability of MI students so that when the social studies learning process in class V MI online at three MIs in South Tangerang City can be implemented properly. Online PBL steps in IPS in MI can be seen in table 1 below.

Table 1 Online PBL Steps in IPS MI / SD
(First time from Takiddin et al. (2020)

No	Stages	Learning Activities
1	The teacher begins the lesson by asking essential questions	The teacher begins the lesson by asking questions: Example a. Why does the environment around the residence become dirty and shabby? b. What are the consequences of a dirty and shabby living environment on the health of the surrounding community? c. What do you plan to do to deal with the neighborhood where you live is dirty and shabby?
2	Prepare a project activity plan	Write down the tools you have for completing project assignments!
3	Develop a schedule of activities	Write down how long it will take to complete your project assignment!
4	Project implementation	a. Find answers to the above questions by reading books, magazines, and websites! b. Conduct interviews with local communities! c. Write your project report assignments on paper clearly and neatly!
5	Exhibition and provide feedback	a. Present your group's project report to the class during a live Zoom! b. Give criticism and suggestions on the results of other friends' projects!
6	Reflecting on activities	In this session, the teacher invites students to reflect on the implementation of the project that has just been completed. Examples of teacher questions include the following: a. How do you feel about participating in this online project activity? b. What things did you find in this project activity? c. What are the things that you should improve in the next online project activity?
7	Assessment of learning outcomes	The teacher conducts social studies learning outcomes for fifth grade MI students by referring to higher order thinking questions (questions attached).

Table 1 above is a description of the implementation of online PBL in class V MI in South Tangerang City. Modifications made in this online PBL are in learning activities. In online PBL and activities that should be carried out by groups in offline PBL at school cannot be

Online application of PBL for MI with the predicate of Very Good Accreditation (B)

PBL at MI Al I'tishaam is done online using the Whatsapp social media application. The use of the Whatsapp application in online PBL learning is due to two reasons, namely; First, based on the information that the researcher got from the teacher, there were still many students who could not operate a live online learning platform such as Zoom etc. Even though preferably students should be introduced and taught how to operate the application delivered by Gunawan, Suranti, & Fathoroni (2020) which states that online learning practices require teachers and students to do online learning. Second, because of the limited internet quota owned by most students who use their mother's smartphone while participating in online learning activities.

The obstacles that researchers had to overcome when the learning process at MI Al I'tishaam done by only using the Whatsapp application is the difficulty of delivering learning material in the form of PBL implementation because (1) when learning has commenced, there were still many students who could not receive the hands-out that the researchers sent to Whatsapp Group (WAG), (2) the difficulty of answering student questions and complaints in learning due to accumulated chat, (3) less efficient use of learning time, (4) when sending student assignments, there were still many unclear and incomplete writings, and (5) there are still some of them who could not straightforwardly participate in learning with WAG because they had to wait to come home from work.

Online application of PBL for MI with the predicate of superior accreditation (A)

MI which has the predicate of Superior Accreditation (A) in this study are MI Al Mursyidiyyah and MI 02 South Tangerang City. Learning is carried out by a combination of two online learning applications, namely Whatsapp Group and Zoom. Whatsapp groups are used to coordinate, confirm attendance, send learning materials, and send assignments. In the meantime, the learning process is carried out with Zoom Meetings.

The number of students who attended Live Zoom at MI Al Mursyidiyyah was 27 out of 34 students and at MI 02 South Tangerang City and the number of students who took part in Live Zoom was

done because students are at their own homes. PBL is done individually. The learning activities in the table above reflect learning activities that require students to develop thinking skills.

25 out of 28 students. Several students who could not attend MI Al Mursyidiyyah and MI 02 South Tangerang City were absent because they had to wait for their parents to return from work. The solution for students who could not attend is the teacher who sent course materials and project assignments via Whatsapp and would study the material, worked on and sent assignments in the evening. The use of the Whatsapp and Zoom applications is as suggested by Abidah et al. (2020) that platforms that support free online learning through various discussion spaces include Google Classroom, Whatsapp, Zenius, Quipper and Microsoft Whatsapp Features includes Whatsapp Groups that can be used to send text messages, images, videos and files in various formats to all members (Kusuma, 2020).

Student Responses to PBL in IPS Online

Student data responses to PBL online were obtained through filling out questionnaires and accompanied with interview questions for experimental class students at three MIs in South Tangerang City via the google platform form. Student responses to PBL in IPS Online can be described as follows:

In the statement "Online project-based learning is more fun learning by offline", the students' response was 12% strongly agree, 35% agree, 49% disagree, and 4% strongly disagree. The data shows that 53% of students expressed their dislike for implementing project-based learning online. Furthermore, the researcher asked students to provide their reasons for choosing whether they liked or not liked PBL online. Students' comments about the application of online PBL can be seen in Figure 1 below.

8. Mana yang lebih kamu suka, belajar proyek secara online (daring) at sekolah? Apa alasannya?

99 responses

Tatap muka, karena lebih jelas diterangkan oleh ibu guru.

Belajar tatap muka

Tatap muka , karena bisa melihat langsung dan bertemu dengan teman dan g

Tatap muka,,, alasan banyak teman dan bisa lebih paham dng penjelasan guru langsung

tatap muka disekolah karna kondisi covid seperti ini yg mengharuskan untuk belajar online untuk kpentingan bersama dalam memutus tali penularan covid

Belajar tatap muka. Karena online membuat mata lelah dan tidak bisa diskusi langsung dengan guru dan teman

Figure 1. Screenshot of Student's Answer Results on those who stated PBL

Teacher's question:

8. Which one do you prefer, online project learning or offline learning? Explain.

Students' comments:

Offline learning, because it was more clearly explained by the teacher.
Offline learning.
Offline learning, because I can meet friends and teachers.
Offline learning,,, the reason for many friends and can understand more directly with the teacher's explanation.
Offline learning at school because of covid conditions like this which is required to study online for breaking the covid transmission.
Offline learning. Because online makes eyes tired and you can't discuss directly with teachers and friends

The responses of students who like online PBL can be seen in Figure 2 below.

8. Mana yang lebih kamu suka, belajar proyek secara online (daring) atau belajar tatap muka di sekolah? Apa alasannya?

99 responses

Daring karena pandemi belom berakhir

Online,,,alasannya lebih fokus kepada pelajaran

Saya suka daring dan kadang kesulitan

Lebih milih daring karena agar bisa terpaut oleh orang tua

Dua dua ny , karena kalo online bisa istirahat yg cukup kalo offline senang bertemu dngn teman teman dan guru

Figure 2. Screenshot of Student's Answer Results on project-based learning statements

Teacher's question:

8. Which one do you prefer, online project learning or offline learning? Explain.

Students' comments:

Online learning because the pandemic hasn't ended yet.
Online learning,,, the reason is more focused on lessons.
I prefer online learning but sometimes it has difficulties.
I prefer to learn online because I can be accompanied by their parents.

Both, because in online learning I can get enough rest, but in offline learning, it is nice to meet friends and teachers.

Some of the reasons why students prefer offline project-based learning, among others, is because in offline learning they can meet friends and teachers, have a better understanding of the material presented by the teacher directly. They also think it is more fun, more effective and more understandable. In addition, there are also students who argue that at home there are no good and effective mentors at school, besides online learning can make their eyes tired quickly and require an Internet network.

Meanwhile, students who agree with the implementation of online project-based learning argue that presently they prefer to study online for the common interest of breaking the covid-19 transmission line because the pandemic has not finished, they could focus more on lessons, could get enough rest, and could always be with their parents.

This student response shows that there are still some of them who like online PBL. Consequently, in the future it is necessary to develop PBL that is more adaptive to the requirements of students. Additionally, based on the students' responses above, it can be stated that students do not meet the requirements of not liking PBL online, but more because that they are tired of learning from home for too long and they cannot meet their peers for almost a year.

Furthermore, the statement "I prefer to do project activities alone in a group". The student response to this statement was 89% of the them disagreed with the above statement, meaning that students preferred PBL in groups and only 11% said they agreed, which means that they liked PBL individually. Screenshot of student responses who prefer to work in groups obtained through Google Form can be seen in Figure 3 below.

Figure 3. Screenshot of Student's Answer Results who choose to do individual project activities

Teacher's question:

9. Which one do you prefer, doing a project individually or doing it in groups? Explain.

Students' comments:

In groups. Because we can ask each other for answers that are exactly the same, we also can ask for opinions, and we can play afterwards.

Doing a project with friends in groups.

Doing a project with friends in groups because it's more fun.

Doing a project with friends in groups.

Doing a project with friends in groups because we can share knowledge and we are able to discuss.

Doing a project with friends in groups because we can complete the answer together.

Based on Figure 3, it can be seen that the reasons for students who choose group project-based learning activities are they are able to have a discussion with their peers, to complete assignments faster and more fun, to help each other, to maintain their bonding with friends, to get more varied ideas, to tighten their friendship, and to play with friends.

The screenshot of the response of students who prefer to work individually can be seen in Figure 4 below.

Figure 4. Screenshot of Student's Answer Results who choose to do individual project activities

Individual project because it's more comfortable.

Individual project because it's independent.

Individual project because it's less troublesome.

Individual project because I can be more focused.

Individual project because we don't want to have disagreements.

Furthermore, based on Figure 4 above, it is known that the reason for students who choose to do project-based activities individually is because they can focus more on doing the assigned task, if the group is worried about not getting along with one group mates, they are more freely to express ideas and thoughts, to practice independently, and the most important thing is to be able to avoid the crowd. The response of students who prefer to study in groups to study individually is a positive finding because through group work students can develop better learning skills and experiences (Soetanto & MacDonald, 2017). In group learning, students are placed as learning subjects who have various characters and the potential for success. Thus, students do not hesitate to ask their peers about the difficulties they face (Solfema & Wahid, 2018). So that group learning provides students with various benefits (Hassanien, 2006). The benefits of studying in groups for students are they can produce higher and greater productivity, have a more caring attitude, a mutual support, and a high commitment; and a better psychological health, a positive social competence, and high self-esteem (Laal & Ghodsi, 2012).

The data on students who prefer to do PBL as a group does show a very large number, namely 89%, and only 11% who choose themselves. However,

among the reasons for students who chose PBL to be done individually, it should be excluded that PBL individually could train independence, could express ideas spontaneously, worry about disagreements with group friends if it was done in a group, and be able to keep health protocols by social distancing. Regarding to individual learning, Palfreyman & Smiths (Masouleh & Jooneghani, 2012) believe that individual learning is one of the human rights and students must be responsible for their own learning to make use of

the available resources, especially outside the classroom. Accordingly, it requires a balanced combination between PBL in groups and individually, especially when conditions return to normal in the future.

Increasing Higher Level Thinking Skills in Social Studies Learning
Data Description of Students' High Level Thinking Skills

In order to see the increase in students' HOTS, it is shown in Table 2 below.

Table 2 Acquisiion of Pretest, Posttest, and N-Gain Values for
High-Order Thinking Skills

MI	Experiment Class			Control Class		
	Pretest	Postest	N-Gain	Pretest	Postest	
MI 02 South Tangerang City	60, 10	80,06	0,5	59, 16	75,51	0,4
MI Al Mursyidiyyah	62,8	80,21	0,5	62,9	73,35	0,3
MI Al I'tishaam	60,32	79,18	0,5	59	75,68	0,4

Based on Table 2 above, it can be seen that the pretest average value of students' high-level thinking in social studies learning in the experimental class at MI 02 South Tangerang City is 60.10, MI Al Mursyidiyyah is 62.8, and MI Al I'tishaam is 60, 32, from the ideal value of 100. Meanwhile, the pretest average value of the control class at MI 02 South Tangerang City is 59.16, MI Al Mursyidiyyah is 62.9, and MI Al I'tishaam is 59 from the ideal value of 100.

The average pretest data of all these classes shows that prior to the implementation of Social Science (IPS) learning with the Project Based Learning Model, all students in the two classes sampled in this study have equal HOTS. The comparison of the average pretest score of HOTS in the experimental class and the control class in each madrasah is shown in Figure 1 below.
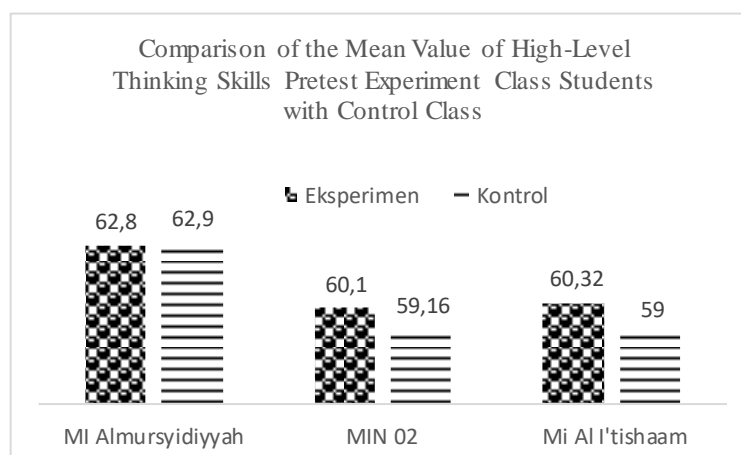

Figure 1 Comparison of the Mean Value of Higher Order Thinking Skills Pretest
Experiment Class Students with Control Class

Meanwhile, the average value of students' HOTS posting in the experimental class at MI 02 South Tangerang City was 80.06, MI Al Mursyidiyyah was 80.21, and MI Al I'tishaam 79.18 from the ideal value of 100. Meanwhile , the average post-test score

for the control class at MI 02 South Tangerang City is 75.51, MI Al Mursyidiyyah is 73.35, and MI Al I'tishaam is 75.68 from the ideal value of 100. posttest experimental class with the average value of the control class posts, it can be seen that the average post-

test score of the experimental class is higher than the average value of the control class posts. The comparison of the average value of the students' HOTS posting in the experimental class and the control class in each madrasah can be seen in Figure 2 below.
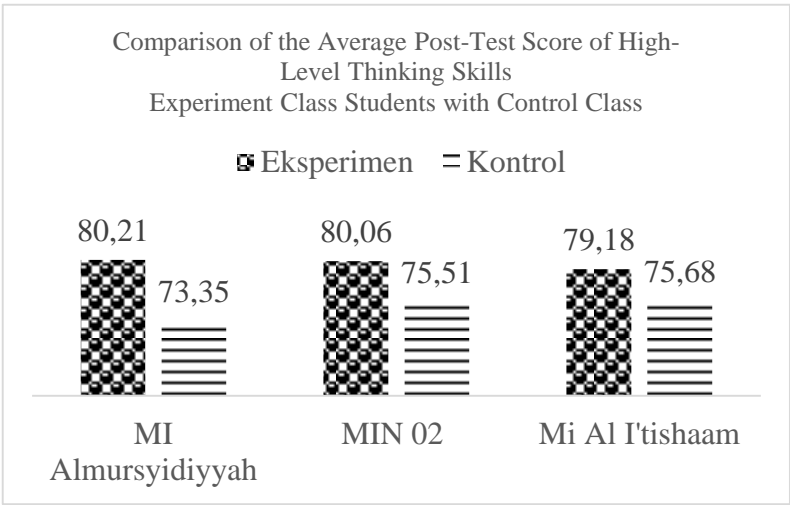

Figure 2 Comparison of the Average Post-Test Score of HOTS
Experiment Class Students with Control Class

Meanwhile, the average *N*-Gain value of HOTS of experimental class students at MIN 02 South Tangerang City was 0.5, MI Al Mursyidiyyah was 0.5, and MI Al I'tishaam was 0.5. The *N*-Gain value of the three experimental classes at different madrasahs is in the medium improvement category. Meanwhile, the average *N*-Gain value for the control class at MI 02 South Tangerang City was 0.4, MI Al Mursyidiyyah was 0.3, and MI Al I'tishaam was 0.4. The *N*-Gain value of the three control classes at different madrasahs is in the medium improvement category. However, when compared to the average value of the *N*-Gain value of the experimental class with the mean value of the control class *N*-Gain, it can be seen that the average value of the experimental class *N*-Gain is higher with the average post-test value of the control class. The comparison of the average *N*-Gain value of students' HOTS in the experimental class and the control class in each madrasah can be seen in Figure 3 below.
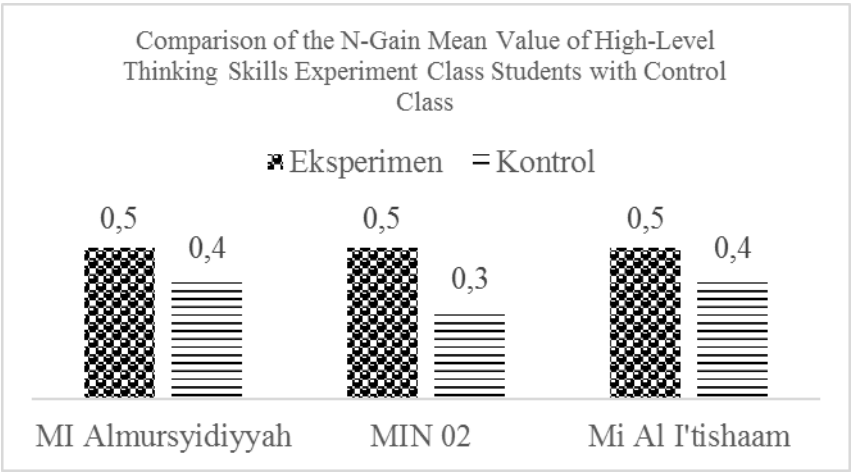

Figure 3 Comparison of the N-Gain Mean Value of High-Level Thinking Skills
Experiment Class Students with Control Class

Different Test of Students' High Level Thinking Skills

Testing the difference between HOTS of students in the experimental class and the control class was carried out by using the Independent Sample *T*-Test assisted by SPSS IBM 2020. The test results data to assess HOTS of the experimental class and the control class is shown in Table 3 below.

Table 3 Different tests of students' HOTS with Independent Sample *T*-Test

MI	*T*-test of students' HOTS	
	Pre test	Pos test
MI 02 Kota Tangerang Selatan	0,399	0,000
MI Al Mursyidiyyah	0,940	0,000
MI Al I'tishaam	0,264	0,000

Based on table 2 above, it can be seen that the results of the t-test for HOTS on the pretest score at MI 02 South Tangerang City are 0.399, MI Al Mursyidiyyah is 0.940, and MI Al I'tishaam is 0.264. The decision is that there is no difference in the mean pretest score between the experimental class and the control class because the value obtained from the test is greater than 0.05. According to Sugiyono (2009) good pretest results are results that show equivalent results. So, it can be stated that all the classes sampled in this study meet the requirements to be sampled in this study.

The results of post-test data testing at MI 02 South Tangerang City are 0,000, MI Al Mursyidiyyah is 000, and MI Al I'tishaam is also 0,000. Because all classes show a lower number (<) than 0.05, so it can be stated that there is a significant difference in students' HOTS between the experimental class and the control class in MIN 02 Kota Tangerang Selatan, MI Al Mursyidiyyah, and MI Al I 'tishaam during the post-test after the implementation of learning using the online PBL Model.

The difference in increasing students' HOTS in social studies subjects after the implementation of learning is caused by the learning model applied in the two classes. The experimental class in the study used the online PBL model while the control group used the conventional learning model.

Specifically, the factors that greatly influence students' HOTS in social studies learning with online PBL are; The first is the essential questions that the teacher asks at the beginning of the lesson. Questions have long been used as a tool for teachers and mentors to assess students, encourage understanding, and generate critical thinking (Tofade, Elsner, & Haines, 2013). Nappi (2017) states that questions play an important role in overall learning because a careful question that utilizes various cognitive taxonomies will help teachers to develop broader questions that consider information and require students to apply, apply, and create. Vale (2013) states that science starts with questions and then searches for answers. Asking good questions is an important skill to create for trained scientists. Then, Meida, Zulaeha, & Alimah (2020) stated that teacher questions are an activity that affects students 'thinking skills in the 2013 Curriculum thematic learning. These activities can improve students' thinking skills. Second, the project implementation stage which consists of observing, interviewing, and seeking information from relevant sources to find answers and achieve the project goals they have planned. In connection with the activities in the implementation of this project, George, (2013) argued that there were great benefits from targeted inquiry activities on students in learning. In learning activities with PBL online, basic interviews are only to parents, siblings and close relatives to maintain health protocols. Activities to find information that are relevant to large topics in project activities are carried out by students with the help of parents, especially their mothers, because students are still not used to finding information through websites quickly.

This study is in accordance with Pinho-lopes & Macedo (2014), Desinta et al. (2017), Muliawan et.al. (2018), and Suherman et al. (2020) which state that PBL can improve students' HOTS. PBL emphasizes experiential learning with real-world problems that can improve student learning outcomes and encourage students to realize that they are the center of the learning process (Bell, 2010); (Efstratia, 2014); (Iwamoto et al., 2016); and (Cash, 2017).

Conclusion

Based on the results of the research, it can be described as follows:

First, 53% of students expressed their dislike of online PBL and preferred offline learning because in offline learning they can meet friends and teachers, obtain a better understanding of the material presented by the teacher directly, they think it is more fun, and more effective.

Second, 89% of students prefer to do project-based learning activities in groups because in groups the students can discuss, complete tasks faster and more fun, help each other, have a good bonding with peers, get more varied ideas, strengthen the friendship among classmates, and last but not the least is that after the learning activity is over, they can play with friends.

Third, the results of the t-test show that there is a significant difference in the improvement of students' HOTS who learn project-based learning models in social studies online in the experimental class with control class students who learn using conventional learning methods in science learning in class V *Madrasah Ibtidaiyah* City of South Tangerang. Specifically, the factors that greatly influence the improvement of students' HOTS in social studies learning with PBL are (1) the essential questions that are submitted by the teacher at the beginning of the lesson and (2) the project implementation stage which consists of observation, interviews, and seek information from relevant sources to find answers and achieve their planned goals.

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