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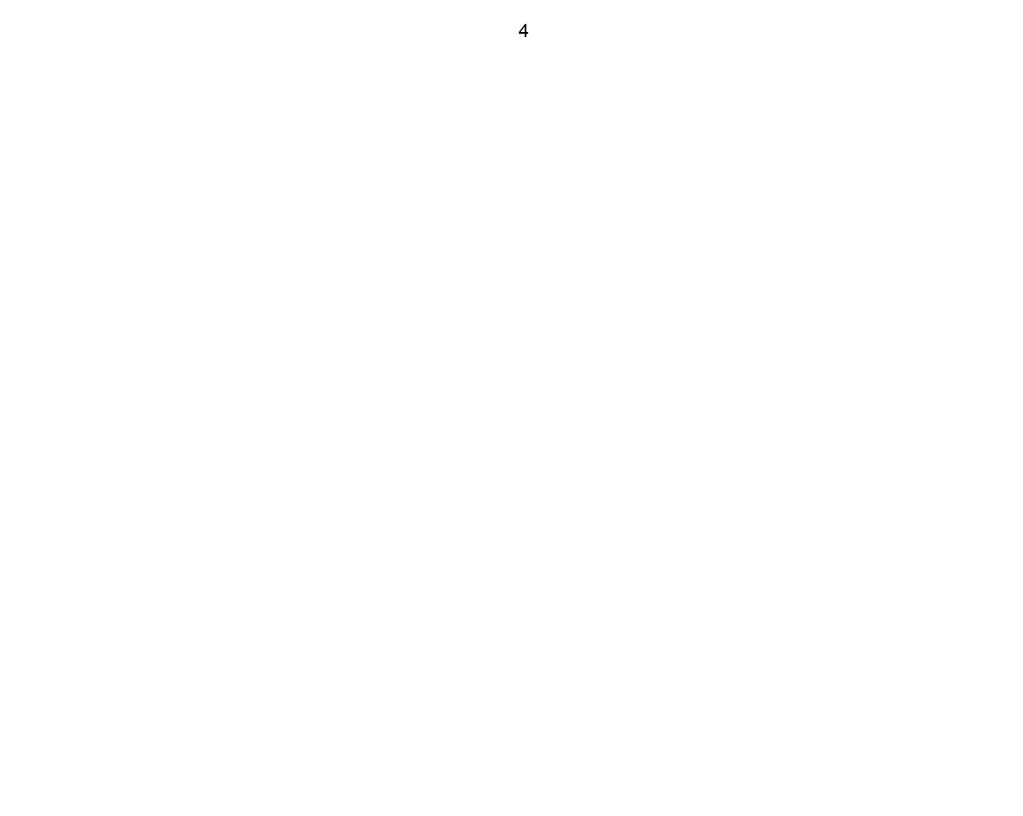**Pegem Journal of Education and Instruction**

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An investigation on the learning barriers of boarding school students

In terms of different dimensions of the curriculum implementation

Abstract

This study aims to analyze in-depth and comprehensively the learning barriers of students in an Islamic Boarding School in terms of different dimensions of the curriculum implementation, such as the religion, national education, and technology-based practices. In the study, qualitative method with case study approach was adopted. The participants were composed of how many/boarding school students who were selected using purposive sampling technique. The data were collected via an observation, interviews, and documentation methods. The obtained data were analyzed through problem identification, literature search, determining objectives, data collection, data analysis, and reporting. The results have revealed that the students' learning barriers in the application of the religion, national education, and technology-based curriculum are, respectively, (a) memorizing the Koran both from within students and from external factors, (b) more emphasis on learning mathematics including low learning motivation, low problem solving and communication skills, notation writing errors, which can be grouped into ontogenic, dictatorial, and epistemological learning barriers, and (c) the lack of facilities and infrastructure, lack of support from the management of Islamic boarding schools, low trust, and attitudes towards ICT. In conclusion, several learning barriers have been detected in every application stage of the curriculum.

Key words: Learning barriers, religion curriculum, national education curriculum, technology-based curriculum, Islamic boarding school.

Introduction

Islamic boarding schools (*pondok pesantren* or *pesantren*, in Indonesian) which are institutionalized in the community, especially in rural areas, are one of the oldest Islamic educational institutions in Indonesia (Hanafi et al., 2021). Initially, Islamic boarding schools were traditional schools that explore Islamic religious sciences as a way of life (*tafaqquh fi al-din*) by emphasizing the importance of morals in society (Mahmassani, 2020). It is estimated that these schools emerged in Indonesia 300 to 400 years ago and reached almost all levels of Muslim society, especially in Java. An Islamic boarding school is a unique educational institution (Muntholib et al., 2018) not only because of its very long existence but also because of the culture, methods, and networks applied. This school is led by an elder called *kyai*. To regulate the life of the Islamic boarding school, *kyai* appoints a senior student called *lurah pondok* (chief of dormitory) to manage his juniors in a *salaf* (traditional) school to improve their good relationship with the *kyai* and God (Amirah et al., 2020; Muntholib et al., 2018; Wirawan, 2019).

Nowadays, Islamic boarding schools in organizing their education and teaching systems can be classified into three forms. First, Islamic boarding school is a non-classical Islamic education and teaching institution, and the students usually live in the dormitory within the Islamic boarding school. Second, Islamic boarding school is an Islamic education and teaching institution whose students are not provided with accommodation but live scattered around the surrounding village, and the method of Islamic education and teaching is the *weton* system, i.e., the students come flock at any given time. Third, a modern Islamic boarding school is a combined institution between the boarding school system and Islamic boarding school that provides education and teaching of the Islamic religion with the *bandungan*, *sorogan*, or *wetonan* system and must meet the criteria for formal and non-formal education (Abitolkha et al., 2020; Amirah et al., 2020; Arifin & Zaini, 2020; Latif & Hafid, 2021; Mahmassani, 2021).

From the institutional perspective, the types of Islamic boarding schools are divided into four, namely, (1) type A where the students study and live in a boarding school environment with traditional teaching (*wetonan* or *sorogan* system); (2) type B which provides classical and application teaching by *kyai* at certain times where the students live in the dormitory;
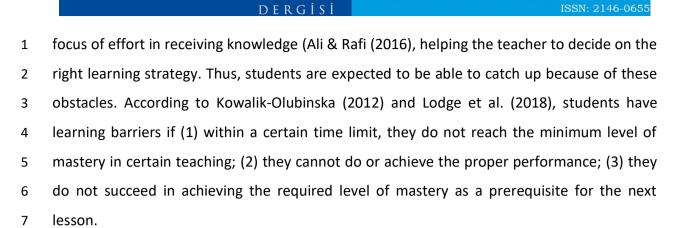
(3) type C, only dormitories while the students study outside (at madrasa/Islamic school or other public schools) and the kyai only supervises and guides the students; (4) type D which organizes a boarding school system as well as a madrasa system. The Islamic boarding school in this study is a type D Islamic boarding school (Abitolkha et al., 2020; Arifin & Zaini, 2020; Latif & Hafid, 2021).

In formal educational institutions, the curriculum is one of the main parts used as a barometer to determine the teaching content, direct the educational process, and measure the success and quality of educational outcomes. However, in the context of education in Islamic boarding schools before the Indonesian independence, the curriculum was never used because the teaching materials were integrated with the practice of teaching spiritual guidance and life skills to the students. In its development today, Islamic boarding schools with strong types and styles of formal education carry out the process of achieving instructional goals using the curriculum (Amirah et al., 2020; As'ad et al., 2020).

At this Islamic boarding school, several curricula are used, namely the *salaf* (religion) curriculum, the Indonesian education service curriculum, and a technology-based curriculum. The *salaf* Islamic boarding school curriculum is the result of adapting the Islamic education curriculum sponsored by the Ministry of Religion in schools (madrasa) with the Islamic boarding school curriculum compiled by *kyai* or Islamic boarding school scholars (Kjeldsen, 2019; von Brömssen et al., 2020). Furthermore, the curriculum of the Indonesian education office that is applied in formal teaching at this Islamic boarding school is the 2013 curriculum which integrates subjects in each lesson (Nuraeni et al., 2020). Then, the technology-based curriculum referred to in this study is a curriculum compiled by the owner of the Islamic boarding school foundation. This curriculum aims to take advantage of advances in information and communication technology for the learning process and serves as a tool, instead of the main subject, so that technology can help humans in solving various problems in the real world, which is currently the foundation in the world of work. Thus, students have basic knowledge as the main provision to enter the world of work (Abdullah, 2016; Ghavifekr & Rosdy, 2015; Mellati & Khademi, 2018).

Learning barriers are difficulties experienced by students in participating in learning and achieving optimal learning outcomes. Learning barriers are obstacles that slow down the

focus of effort in receiving knowledge (Ali & Rafi (2016), helping the teacher to decide on the right learning strategy. Thus, students are expected to be able to catch up because of these obstacles. According to Kowalik-Olubinska (2012) and Lodge et al. (2018), students have learning barriers if (1) within a certain time limit, they do not reach the minimum level of mastery in certain teaching; (2) they cannot do or achieve the proper performance; (3) they do not succeed in achieving the required level of mastery as a prerequisite for the next lesson.

Factors that cause students' learning difficulties are students' attitudes toward learning, students' learning motivation, students' learning concentration, how they process teaching materials, students' ability to store learning outcomes, the process of students in exploring stored learning outcomes, students' abilities for achievement and performance, self-confidence, student intelligence and success, student study habits, and student aspirations. Meanwhile, the influencing external factors include (1) teachers as coaches of students, (2) learning facilities and infrastructure, (3) assessment policy, (4) the social environment of students at school, and (5) school curriculum (Ali & Rafi, 2016; Becker et al., 2013; Lodge et al., 2018; Sánchez et al., 2019).

On the other hand, 3 factors cause learning barriers, namely dictatorial barriers (due to teacher teaching), ontogeny barriers (mental readiness to learn), and epistemological barriers. To conduct the activity of diagnosing learning barriers, several stages of activity must be taken. These stages include (1) identifying students who may have learning disabilities, (2) localizing learning barriers, (3) determining the factors that cause learning barriers, (4) estimating alternative assistance, (5) determining possible ways to overcome the barriers, and (6) follow-up (Ali & Rafi, 2016; Hidalgo Vicario & Rodríguez Hernández, 2013; Kowalik-Olubinska, 2012).

Based on the above background, it is necessary to conduct an in-depth analysis of the learning barriers of students in the Islamic boarding school that applies a combined curriculum. Therefore, this study aims to analyze in-depth and thoroughly the learning barriers of students that arise in every curriculum application, namely religion, national education, and the technology-based curriculum.

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Method

Research Design

This study used the qualitative method. Qualitative research is often referred to as a naturalistic research method because it is carried out in natural conditions (Nuraeni et al., 2020). The researcher directly looks for data at the research location to be studied. This study aims to gain a general understanding of social reality using case study approach (Baxter & Jack, 2015). Case study is an in-depth study of an individual, a group, an organization, or a program of activities over some time (Chowdhury & Shil, 2021). Case study data were obtained from observations, interviews, and documentation studies from schools. This method was chosen to obtain an intensive data description and analysis of student learning barriers in Islamic boarding schools that used a combined curriculum.

Sample and Sampling Technique

The research samples were how many students and how many teachers at Islamic boarding schools where/ when. The research samples were selected using purposive sampling technique. Purposive sampling is a technique of sampling data sources with certain considerations; for example, the person is considered to know best about what we expect (Tongco, 2007). This study used the purposive sampling technique because the researcher feels that the samples taken know the most about the problem to be studied.

Data Collection Technique

The data collection techniques used in this study were observation, interviews, and documentation. Observations are carried out to obtain data or materials and news since the incident in a structured manner and based on research needs that have been formulated (Spradley, 1980). This technique was used to see and directly observe the situation in the field so that the researcher got a broader picture and more data about the learning barriers

of students in Islamic boarding schools. Furthermore, the researcher conducted interviews as a technique of collecting data or materials while presenting questions to the informants and writing or recording their answers. This interview was carried out directly or openly with data sources (Spradley, 1979).

The next is the documentation technique. Documentation is a data collection technique that is not directly or indirectly conveyed to the research subject, but with documents. Documents are records of past events. Documents can be in the form of writing or notes, pictures, or monumental (historic) works. Documents in the form of writing include diaries, life histories, stories, biographies, regulations, and policies. Documents in the form of images are like photos, live images, and sketches. Documents in the form of works include artwork that can be in the form of images, sculptures, and films (Bowen, 2009). In this study, the documents analyzed were writings, diaries, stories, regulations, policies, photos, and some pictures provided by the teacher to support the data presented.

Data Analysis Technique

Creswell (2009) presents the stages of qualitative research. First, it begins with identifying the problem as the research target. The second is the discussion or literature review. The third is determining the purpose of the research. In this section, the researcher identifies the main purpose of the research. The fourth is data collection. Data collection also concerns the selection and determination of potential participants. The fifth is data analysis and interpretation. The available data, which is usually in the form of text, is analyzed. The last stage is reporting. The research report positions the reader as a person involved in the situation.

Findings and Discussion

Students' Learning Barriers in The Application of the Religious Curriculum

According to the results of interviews with several teachers at Islamic boarding schools, it can be concluded that the obstacles or problems in memorizing the Koran are divided into two parts. First, the problems sometimes come from the memorizer, including (1) being unable to feel the pleasure of the Koran when reading, (2) being too lazy, (3) being easily

1   discouraged, (4) weakened zeal and desire, and (5) memorizing the Koran because of the

2   coercion of others. Second, the problems arise from outside the memorizer, including (1)

3   being unable to manage time effectively, (2) similarities between one verse and another,

4   trapping, confusing, and making doubts, (3) not often repeating verses that are being or

5   have been memorized, and (4) the absence of a mentor or teacher when memorizing the

6   Koran.

7   On the other hand, some students stated that they had difficulties in learning the Koran,

8   A student said,

9   "I am not fluent in reading the Koran, so I have problems memorizing it. Sometimes, I cannot

10   manage my time because I must memorize the Koran and do assignments for formal

11   subjects at school."

12   Differently, another student said,

13   ", I have difficulty memorizing the Koran because there are many similar verses. Therefore,

14   sometimes I can move from one surah to another without realizing it. Apart from that, to be

15   honest, I feel less repetition and reporting that is not intense. I often feel like I am fluent and

16   really memorized it, but it turns out that when I reported it, I forgot."

17   There are several factors that hinder a memorizer to memorize the Koran, including (a) not

18   mastering *makhorijul* letters and *tajwid*, (b) impatience, (c) having no intention, (d) not

19   avoiding and staying away from immorality, (e) less praying, (f) not believing and being

20   pious, and (g) often changing mushafal-Qur'an (Dewi, 2020; Orba Manullang et al., 2021;

21   Shukri et al., 2020). Some experts state the strategy of memorizing the Koran. First, the

22   multiple repetition strategy used to achieve a proficient level of memorization is not enough

23   to memorize one process. This perception is wrong and may lead to disappointment after

24   facing a different reality. The Prophet himself has stated in the hadith as we quoted earlier

25   that the verses of the Koran are more agile than a camel and easier to escape than a loose

26   camel (Abdillah & Al-baqi, 2019; Babussalam, 2018; Rusdiana et al., 2021).

27   The second technique is the memorization technique by switching to the next verse before

28   memorizing well. In general, a person's tendency to memorize is to finish quickly or to

29   memorize as much as possible quickly. This causes the memorization not constant or

30   unstable because, among the verses of the Koran, there are easy and difficult ones to

memorize. As a result of this trend, many verses will be skipped. Therefore, in memorizing the Koran, carefulness and accuracy are needed in observing the sentences in a verse to be memorized (Nik et al., 2019; Orba Manullang et al., 2021; Shukri et al., 2020).

Third, students must understand the meaning of memorized verses. Understanding the meaning, story, and *asbabul nuzul* contained in the verse memorized is an incredibly supportive element in accelerating the process of memorizing the Koran. Understanding will give more meaning if it is supported by an understanding of the meaning of sentences, grammar, and sentence structure in a verse. Thus, the memorizers who master the Arabic language and understand its structure will understand it better than those who do not (Nik et al., 2019; Orba Manullang et al., 2021; Rusdiana et al., 2021; Shukri et al., 2020).

Students' Learning Barriers in The Application of the National Education Curriculum

The obstacles to student learning in the national education curriculum are shown from observation and interview data. The results of observations indicate that there are several problems in the teaching and learning process by implementing the educational curriculum in Islamic boarding schools, especially in mathematics, including (a) the ability of students, especially in solving mathematical problems that still requires special attention, (b) the motivation of students to solve problem solving problems that is still lacking, (c) students who are more oriented towards solving problems that can be solved by routine procedures and pay less attention to that the competencies required are problem solving abilities, (d) students who are not used to solving problems indicating the lack of opportunity to practice in the teaching and learning process in the classroom, (e) most of the students who have not been able to communicate their ideas using mathematical symbols, tables, and graphs, (f) procedural (algorithm) errors in the problem solving process, and (g) a tendency for errors to occur in notation or steps in problem solving.

To improve the ability of students in solving problems, special strategies are needed. The students must be brave enough to accept the unknown and be happy to find out. Every student in the group must be encouraged to make questions. They are allowed to choose problems from several problems given. They must be encouraged to take risks or look for alternatives (Akhter & Akhter, 2018; Febriyanti et al., 2021; Mulwa, 2015). On the other

hand, from the teacher's point of view, there needs to be self-improvement to improve mathematical problem-solving abilities. Teachers should be aware of positive attitudes and ways to promote problem-solving abilities. They must dare to seek and develop students' skills in solving problems. They must look for interesting problems that often arise spontaneously. They need to clarify the learning situation by asking questions to encourage students' answers and presentations. They must be willing to allow the solution of a problem according to the students' perception even though it may have a different direction from what was planned. The problems do not always have to be solved by students. Problems can be raised at the beginning of the presentation of new material (Akhter & Akhter, 2018; Febriyanti et al., 2021; Mulwa, 2015; Pia, 2015).

Furthermore, a student added,

"In my opinion, there are some obstacles and difficulties when learning mathematics. I am sleepy because there are many activities in Islamic boarding schools. Learning mathematics is boring because it is too serious. The material is difficult to understand. Mathematical formulas are complicated to memorize. There is less time for learning mathematics. Mathematics material contains too many numbers and letters. I have a lack of confidence in solving math problems and difficulties in working on questions that do not match the example. These make me lazy to study mathematics and finally less serious when studying mathematics, either in class or in the dormitory."

The teacher has high motivation in teaching mathematics but the teacher states that there are several difficulties in teaching mathematics such as fewer hours of lessons compared to the hours of mathematics lessons in non-Islamic boarding schools while the mathematics curriculum is the same as in other high schools. The observed hours of mathematics lessons in several Islamic boarding schools are 2 to 3 hours of lessons. The books used are also the same as those used in senior high schools or books compiled by Islamic boarding schools whose material is also the same as in senior high schools. Then, the teachers are also still having difficulty determining the appropriate mathematics learning method for the students that can relate mathematics material to their needs and increase their motivation in learning mathematics.

This is in line with the opinion of Sahat et al. (2018) and Hendrayana et al. (2019), dan Kusno (2022) that the motivations of teachers in teaching mathematics in Islamic boarding schools are (a) they want to teach the same math as taught in senior high schools with the hope that students can learn not only religion but also science, (b) mathematics can be connected with any field of study including the religious field, (c) match can assist Islamic boarding schools, and (d) students can be devoted to religion and society. According to (Lodge et al., 2018), the barriers to learning mathematics can be divided into three, namely ontogenic, dictatorial, and epistemological barriers. There are three types of ontogenic learning barriers, namely psychological, instrumental, and conceptual. The psychological ontogenic barrier faced by students is the decreased motivation and interest in mathematics during learning even though, at first, they realized that mathematics was important for them, especially to prepare themselves as a cadre of scholars. According to them, mathematics is needed to deal with problems in everyday life related to their future roles after graduating from Islamic boarding schools as scholars and when entering higher education (Febriyanti et al., 2021; Mulwa, 2015).

This psychological ontogenic barrier is caused by instrumental ontogenic barriers; for example, according to them, the material in mathematics is difficult to understand, mathematical formulas are complicated to memorize, they have a lack of confidence in solving math problems, and they find difficulties in working on questions that do not match the examples. This psychological ontogenic barrier is caused by conceptual ontogenic barriers; for example, according to them, learning mathematics is boring because it is too serious, and the mathematics material contains too many numbers and letters. This decrease makes their motivation and interest in learning mathematics (Akhter & Akhter, 2018; Pia, 2015).

Didactic barriers are caused by the sequence and stages of the curriculum including its presentation in the classroom. Didactic barriers occur due to the nature of teaching and teachers. The mathematics curriculum in several Islamic boarding schools, based on our observations, is the same as the high school mathematics curriculum even though the mathematics learning hours in Islamic boarding schools are less than those in senior high schools. This is one of the obstacles in the mathematics learning process in Islamic boarding

schools as expressed by students that the time for learning mathematics is less while the material is a lot. This obstacle also has an impact on the presentation and teaching of mathematics by teachers in the classroom because they are required to teach a lot of material in limited lesson hours, so they cannot maximize the mathematics learning process and accommodate the improvement of students' abilities related to their needs as a cadre of scholars, including in improving their analogical reasoning and abilities (Hendrayana et al., 2019; Kusno, 2022; Mulwa, 2015).

Epistemological barriers in learning mathematics in Islamic boarding schools are also related to the didactic barrier, namely the curriculum and teacher presentation which raises a context limitation in the mathematics learning process. The limitation is related to the mathematics books used by teachers that are the same as those used in senior high schools. Although, for example, some use books published by one of the Islamic boarding schools, the content is still the same but simpler (Febriyanti et al., 2021; Kusno, 2022).

Students' Learning Barriers in The Application of Technology Curriculum

Learning barriers in implementing a curriculum that emphasizes information and communication technology (ICT) in Islamic boarding school learning are explained through observation and interview data. The main obstacle in using ICT in learning faced by teachers in Islamic boarding schools is the limited supporting facilities and infrastructure. The teacher stated,

"We lack facilities and infrastructure such as computers, laptops, and LCD projectors. An insufficient number of computers, lack of high-quality hardware, appropriate software education, access to ICT resources, insufficient peripherals, several software copies, and lack of simultaneous internet access are the major barriers to ICT implementation in the boarding school."

Furthermore, the teacher stated the lack of other facilities,

"There are other shortcomings, such as the lack of availability of networks, electricity, and other supporting facilities, which include the availability of computers, laptops, and LCD projectors, which is a constraint for the lack of equipment. Actually, there are also network

problems that can be included in the category of lack of support from the management of the Islamic boarding school."

The next obstacle that influences teachers to use ICT in learning is the availability of internet networks and signals. The next obstacle is the availability of electricity. The limited technical knowledge of teachers about ICT is the next obstacle to classroom learning. Then, fear and consideration of the negative impact of using tools in the form of mobile phones and laptops in Islamic boarding schools become an obstacle for teachers to use ICT in classroom learning. In consideration of the fear of misuse of ICT tools, Islamic boarding schools issued a policy forbidding teachers to bring mobile phones to schools. The smallest obstacle that hinders teachers from using ICT is related to data management.

In addition to these shortcomings, the teacher also stated,
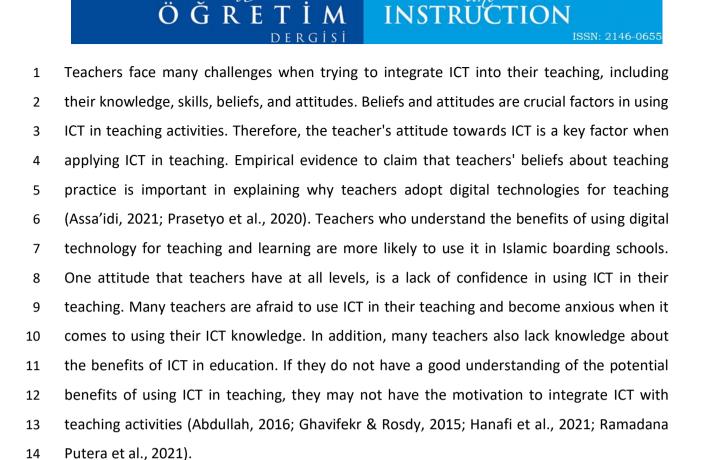
"We still feel lacking in other aspects like learning time, ICT training, opportunities for self-development, and so on. We do not have enough time to plan great tech lesson plans or explore various aspects of the world wide web (www) or software. We need more time to design projects that include the use of recent technologies than to prepare lessons for teaching traditionally with books and worksheets."

Teachers in Islamic boarding schools often feel a lot of pressure from the Islamic boarding school leaders to use ICT in their teaching. For successful integration of ICT in teaching, the head of the Islamic boarding school should provide adequate support to the teachers. First, ICT needs to be integrated into the curriculum, and teachers must have a good plan for using ICT in teaching. Second, the leaders of the Islamic boarding school need to have an unobstructed vision and mission to integrate technology and have a plan to make it happen and invest in ICT for classroom learning. Third, the government needs to invest in educational infrastructure that encourages the use of ICT. In addition, Islamic boarding schools should provide a budget for internet facilities at Islamic boarding schools. If it is associated with the literacy movement program for Islamic boarding schools, the indicator that Islamic boarding schools have run digital literacy programs is the availability of the internet (Assa'idi, 2021; Pasi et al., 2020; Prasetyo et al., 2020; Ramadana Putera et al., 2021).

1 Teachers face many challenges when trying to integrate ICT into their teaching, including

2 their knowledge, skills, beliefs, and attitudes. Beliefs and attitudes are crucial factors in using

3 ICT in teaching activities. Therefore, the teacher's attitude towards ICT is a key factor when

4 applying ICT in teaching. Empirical evidence to claim that teachers' beliefs about teaching

5 practice is important in explaining why teachers adopt digital technologies for teaching

6 (Assa'idi, 2021; Prasetyo et al., 2020). Teachers who understand the benefits of using digital

7 technology for teaching and learning are more likely to use it in Islamic boarding schools.

8 One attitude that teachers have at all levels, is a lack of confidence in using ICT in their

9 teaching. Many teachers are afraid to use ICT in their teaching and become anxious when it

10 comes to using their ICT knowledge. In addition, many teachers also lack knowledge about

11 the benefits of ICT in education. If they do not have a good understanding of the potential

12 benefits of using ICT in teaching, they may not have the motivation to integrate ICT with

13 teaching activities (Abdullah, 2016; Ghavifekr & Rosdy, 2015; Hanafi et al., 2021; Ramadana

14 Putera et al., 2021).

15

16 **Conclusions and Recommendations**

17 Based on the finding and discussion above, there are barriers to student learning in the

18 implementation of each curriculum in Islamic boarding schools. The students' learning

19 barrier in the application of the religious curriculum is in memorizing the Koran that comes

20 from within and outside the students. This barrier is caused by (1) the internal aspects that

21 include not enjoying reading the Koran, being easily discouraged, laziness, weakened spirit,

22 and coercion from others, and (2) the external aspects that include not being able to manage

23 time, similar verses, not often repeating verses, and no guidance. Furthermore, the barriers

24 to student learning in the application of the national education curriculum are (1) low

25 learning motivation, (2) low mathematical problem solving and communication skills, and (3)

26 writing errors in mathematical notation, symbols, and steps. It was also found that there

27 were three barriers to learning mathematics, namely ontogenic (difficulty understanding the

28 material, formulas, and lack of confidence in solving problems), dictatorial, (fewer hours of

29 learning mathematics in Islamic boarding schools), and epistemological (limited and not

30 interactive presentation and teaching of mathematics). The students' learning barriers in the

1 application of the technology curriculum are the lack of facilities and infrastructure, lack of

2 support from the management of Islamic boarding schools, low trust, and attitudes towards

3 ICT.

4 There are some recommendations to minimize learning barriers faced by students in the

5 religious curriculum. School residents, including teachers and students, should be committed

6 to being disciplined towards conducting their obligations, e.g., students should memorize

7 short surahs. Teachers should further improve the discipline of their students in conducting

8 their obligations to memorize short surahs. They can apply strict punishments to provide a

9 deterrent effect on students who violate the regulations of the Islamic boarding school to be

10 more disciplined in obeying existing regulations such as the *tahfidz qur'an* program ahead of

11 the mid-term test. There are some aspects to be considered in overcoming the barriers to

12 student learning in the educational curriculum. First, the teacher designs the learning that is

13 started by reading the holy verses of the Koran and Hadith related to the mathematics

14 learning material to be taught and providing an overview of the benefits of studying the

15 material in everyday life, especially for students to become a cadre of scholars. Second, the

16 learning materials and objectives are also related to the knowledge of Islam. Third,

17 mathematics learning is started with the introduction of problems that are appropriate to

18 the situation (*muqtadhal hal*) of the Islamic boarding school. To deal with students' learning

19 barriers in the technology curriculum, ICT should be integrated into the curriculum, and

20 teachers should have a clear plan for using ICT in teaching. The leaders of the Islamic

21 boarding school should also have an unobstructed vision and mission to integrate

22 technology, have a plan to make it happen, and invest in ICT for classroom learning. The

23 government needs to invest in education infrastructure that encourages the use of ICT.

24

25 **Limitations**

26 The limitation or weakness in this research lies in the research process, the researcher

27 realizes that in a study there must be a lack and a lot of weakness. One of them is from the

28 interview session, sometimes the answers given by the informants do not match the

29 questions that the researcher gives, sometimes the researchers also give questions that are

30 almost the same but have different meanings. informants answered with the same answer.

To solve this problem, the researcher finally repeated the question and explained the purpose of the researcher's question. Furthermore, the subject of this research is quite limited because it only covers one school. The facts stated in this study are a special case and cannot be generalized to schools with different or the same curriculum models. So it requires further study with a broader research subject.

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[PEGEGOG] Editor Decision

From	Pegem Eğitim ve Öğretim Dergisi <editor@pegegog.net>	
To	Furtasan Ali Yusuf <fay@binabangsa.ac.id>	
Date	2022-10-03 19:15	

📄 B-revision.docx (~199 KB)

Dear Furtasan Ali Yusuf (Author):

We have reached a decision regarding your submission to Pegem Journal of Education and Instruction, "An investigation on the learning barriers of boarding school students In terms of different dimensions of the curriculum implementation".

Our decision is: **Revisions Required**

Reviewer B:
Recommendation: Revisions Required

----

1) Does the title reflect the content of the study?

> Yes, but needs minor revision.

Please, write your suggestions about the **Title**, if any, into the following field.

> Needs to be general

2) Does the abstract summarize the essential information in the study?

> Yes, but needs minor revision.

Please, write your suggestions about the **Abstract**, if any, into the following field.

> Number of participants, location and year should be given.

3) Does the introduction section adequately explain the problems the study address and the framework of the study? Are the importance and the contribution/implications of the study clearly stated?

> Yes, acceptable.

Please, write your suggestions about the **Introduction**, if any, into the following field.

4) Are research questions and/or hypotheses in line with the focus of the study?

> Yes, acceptable.

Please, write your suggestions about the **Research Questions** or H**ypotheses** , if any, into the following field.

5) Are the method and technique(s) employed appropriate for the study?

> Yes, but needs minor revision.

Please, write your suggestions about the **Method** or **Technique**, if any, into the following field.

> See the file attached.

6) Is the sample or the participants pertinent to the study?

> Yes, but needs minor revision.

Please, write your suggestions about the **Sample** or **Participants**, if any, into the following field.

> See attached file

7) Are the data collection instruments employed appropriate for the study?

> Yes, but needs minor revision.

Please, write your suggestions about the **Data Collection Instruments**, if any, into the following field.

8) Are the data analyses employed appropriate for the study?

Yes, acceptable.

Please, write your suggestions about the **Data Analyses** , if any, into the following field.

9) Are the presented results in accord with the research questions and/or the hypotheses?

Yes, acceptable.

Please, write your suggestions about the **Results**, if any, into the following field.

10) Does the discussion section address adequately both results and research questions/hypotheses?

Yes, acceptable.

Please, write your suggestion about the Discussions, if any, into the following field.

11) Is the conclusion logically supported by the obtained results?

Yes, acceptable.

Please, write your suggestions about the **Conclusion**, if any, into the following field.

12) Is limitations and suggestions section sufficient and pertinents to the scope of the study?

Yes, acceptable.

Please, write your suggestions about the **Limitation** and/or **Suggestion**, if any, into the following field.

13) Are the references used relevant and up-to-date?

Yes, acceptable.

Please, write your suggestions about the **References**, if any, into the following field.

14) Are the paper's quality, structure and grammar excellent and perfectly crafted?

Yes, but needs minor revision.

Please, write your suggestions about the **study's quality, structure and grammar**, if any, into the following field.

15) Is the paper content original?

Yes, acceptable.

Please state your suggestions about the revisions in detail (For Author(s)):

The revisions are marked in red.

_____

For Frequently Asked Questions

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Pegem Journal of Education and Instruction

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An investigation on the learning barriers of boarding school students

In terms of different dimensions of the curriculum implementation

Abstract

This study aims to analyze in-depth and comprehensively the learning barriers of students in an Islamic Boarding School in terms of different dimensions of the curriculum implementation, such as the religion, national education, and technology-based practices. In the study, qualitative method with case study approach was adopted. The participants were composed of 120 students, 15 parents, 8 teacher and 1 principal who were selected using purposive sampling technique. The data were collected via an observation, interviews, and documentation methods. The obtained data were analyzed through problem identification, literature search, determining objectives, data collection, data analysis, and reporting. The results have revealed that the students' learning barriers in the application of the religion, national education, and technology-based curriculum are, respectively, (a) memorizing the Koran both from within students and from external factors, (b) more emphasis on learning mathematics including low learning motivation, low problem solving and communication skills, notation writing errors, which can be grouped into ontogenic, dictatorial, and epistemological learning barriers, and (c) the lack of facilities and infrastructure, lack of support from the management of Islamic boarding schools, low trust, and attitudes towards ICT. In conclusion, several learning barriers have been detected in every application stage of the curriculum.

Key words: *Learning barriers, religion curriculum, national education curriculum, technology-based curriculum, Islamic boarding school.*
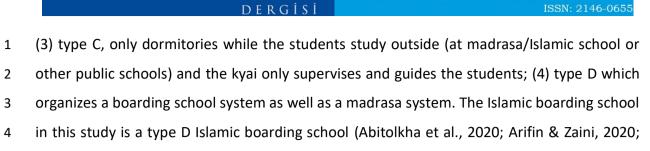
Introduction

Islamic boarding schools (*pondok pesantren* or *pesantren*, in Indonesian) which are institutionalized in the community, especially in rural areas, are one of the oldest Islamic educational institutions in Indonesia (Hanafi et al., 2021). Initially, Islamic boarding schools were traditional schools that explore Islamic religious sciences as a way of life (*tafaqquh fi al-din*) by emphasizing the importance of morals in society (Mahmassani, 2020). It is estimated that these schools emerged in Indonesia 300 to 400 years ago and reached almost all levels of Muslim society, especially in Java. An Islamic boarding school is a unique educational institution (Muntholib et al., 2018) not only because of its very long existence but also because of the culture, methods, and networks applied. This school is led by an elder called *kyai*. To regulate the life of the Islamic boarding school, *kyai* appoints a senior student called *lurah pondok* (chief of dormitory) to manage his juniors in a *salaf* (traditional) school to improve their good relationship with the *kyai* and God (Amirah et al., 2020; Muntholib et al., 2018; Wirawan, 2019).

Nowadays, Islamic boarding schools in organizing their education and teaching systems can be classified into three forms. First, Islamic boarding school is a non-classical Islamic education and teaching institution, and the students usually live in the dormitory within the Islamic boarding school. Second, Islamic boarding school is an Islamic education and teaching institution whose students are not provided with accommodation but live scattered around the surrounding village, and the method of Islamic education and teaching is the *weton* system, i.e., the students come flock at any given time. Third, a modern Islamic boarding school is a combined institution between the boarding school system and Islamic boarding school that provides education and teaching of the Islamic religion with the *bandungan*, *sorogan*, or *wetonan* system and must meet the criteria for formal and non-formal education (Abitolkha et al., 2020; Amirah et al., 2020; Arifin & Zaini, 2020; Latif & Hafid, 2021; Mahmassani, 2021).

From the institutional perspective, the types of Islamic boarding schools are divided into four, namely, (1) type A where the students study and live in a boarding school environment with traditional teaching (*wetonan* or *sorogan* system); (2) type B which provides classical and application teaching by *kyai* at certain times where the students live in the dormitory;

(3) type C, only dormitories while the students study outside (at madrasa/Islamic school or other public schools) and the kyai only supervises and guides the students; (4) type D which organizes a boarding school system as well as a madrasa system. The Islamic boarding school in this study is a type D Islamic boarding school (Abitolkha et al., 2020; Arifin & Zaini, 2020; Latif & Hafid, 2021).

In formal educational institutions, the curriculum is one of the main parts used as a barometer to determine the teaching content, direct the educational process, and measure the success and quality of educational outcomes. However, in the context of education in Islamic boarding schools before the Indonesian independence, the curriculum was never used because the teaching materials were integrated with the practice of teaching spiritual guidance and life skills to the students. In its development today, Islamic boarding schools with strong types and styles of formal education carry out the process of achieving instructional goals using the curriculum (Amirah et al., 2020; As'ad et al., 2020).

At this Islamic boarding school, several curricula are used, namely the *salaf* (religion) curriculum, the Indonesian education service curriculum, and a technology-based curriculum. The *salaf* Islamic boarding school curriculum is the result of adapting the Islamic education curriculum sponsored by the Ministry of Religion in schools (madrasa) with the Islamic boarding school curriculum compiled by *kyai* or Islamic boarding school scholars (Kjeldsen, 2019; von Brömssen et al., 2020). Furthermore, the curriculum of the Indonesian education office that is applied in formal teaching at this Islamic boarding school is the 2013 curriculum which integrates subjects in each lesson (Nuraeni et al., 2020). Then, the technology-based curriculum referred to in this study is a curriculum compiled by the owner of the Islamic boarding school foundation. This curriculum aims to take advantage of advances in information and communication technology for the learning process and serves as a tool, instead of the main subject, so that technology can help humans in solving various problems in the real world, which is currently the foundation in the world of work. Thus, students have basic knowledge as the main provision to enter the world of work (Abdullah, 2016; Ghavifekr & Rosdy, 2015; Mellati & Khademi, 2018).

Learning barriers are difficulties experienced by students in participating in learning and achieving optimal learning outcomes. Learning barriers are obstacles that slow down the

1 focus of effort in receiving knowledge (Ali & Rafi (2016), helping the teacher to decide on the

2 right learning strategy. Thus, students are expected to be able to catch up because of these

3 obstacles. According to Kowalik-Olubinska (2012) and Lodge et al. (2018), students have

4 learning barriers if (1) within a certain time limit, they do not reach the minimum level of

5 mastery in certain teaching; (2) they cannot do or achieve the proper performance; (3) they

6 do not succeed in achieving the required level of mastery as a prerequisite for the next

7 lesson.

8 Factors that cause students' learning difficulties are students' attitudes toward learning,

9 students' learning motivation, students' learning concentration, how they process teaching

10 materials, students' ability to store learning outcomes, the process of students in exploring

11 stored learning outcomes, students' abilities for achievement and performance, self-

12 confidence, student intelligence and success, student study habits, and student aspirations.

13 Meanwhile, the influencing external factors include (1) teachers as coaches of students, (2)

14 learning facilities and infrastructure, (3) assessment policy, (4) the social environment of

15 students at school, and (5) school curriculum (Ali & Rafi, 2016; Becker et al., 2013; Lodge et

16 al., 2018; Sánchez et al., 2019).

17 On the other hand, 3 factors cause learning barriers, namely dictatorial barriers (due to

18 teacher teaching), ontogeny barriers (mental readiness to learn), and epistemological

19 barriers. To conduct the activity of diagnosing learning barriers, several stages of activity

20 must be taken. These stages include (1) identifying students who may have learning

21 disabilities, (2) localizing learning barriers, (3) determining the factors that cause learning

22 barriers, (4) estimating alternative assistance, (5) determining possible ways to overcome

23 the barriers, and (6) follow-up (Ali & Rafi, 2016; Hidalgo Vicario & Rodríguez Hernández,

24 2013; Kowalik-Olubinska, 2012).

25 Based on the above background, it is necessary to conduct an in-depth analysis of the

26 learning barriers of students in the Islamic boarding school that applies a combined

27 curriculum. Therefore, this study aims to analyze in-depth and thoroughly the learning

28 barriers of students that arise in every curriculum application, namely religion, national

29 education, and the technology-based curriculum.

30

Method

Research Design

This study used the qualitative method. Qualitative research is often referred to as a naturalistic research method because it is carried out in natural conditions (Nuraeni et al., 2020). The researcher directly looks for data at the research location to be studied. This study aims to gain a general understanding of social reality using case study approach (Baxter & Jack, 2015). Case study is an in-depth study of an individual, a group, an organization, or a program of activities over some time (Chowdhury & Shil, 2021). Case study data were obtained from observations, interviews, and documentation studies from schools. This method was chosen to obtain an intensive data description and analysis of student learning barriers in Islamic boarding schools that used a combined curriculum.

Sample and Sampling Technique

The research samples were 120 students, 15 parents, 8 teacher and 1 principal at Islamic boarding schools within the research period of 3 months. The research samples were selected using purposive sampling technique. Purposive sampling is a technique of sampling data sources with certain considerations; for example, the person is considered to know best about what we expect (Tongco, 2007). This study used the purposive sampling technique because the researcher feels that the samples taken know the most about the problem to be studied.

Data Collection Technique

The data collection techniques used in this study were observation, interviews, and documentation. Observations are carried out to obtain data or materials and news since the incident in a structured manner and based on research needs that have been formulated (Spradley, 1980). This technique was used to see and directly observe the situation in the field so that the researcher got a broader picture and more data about the learning barriers of students in Islamic boarding schools. Furthermore, the researcher conducted interviews as a technique of collecting data or materials while presenting questions to the informants

1 and writing or recording their answers. This interview was carried out directly or openly with

2 data sources (Spradley, 1979).

3 The next is the documentation technique. Documentation is a data collection technique that

4 is not directly or indirectly conveyed to the research subject, but with documents.

5 Documents are records of past events. Documents can be in the form of writing or notes,

6 pictures, or monumental (historic) works. Documents in the form of writing include diaries,

7 life histories, stories, biographies, regulations, and policies. Documents in the form of images

8 are like photos, live images, and sketches. Documents in the form of works include artwork

9 that can be in the form of images, sculptures, and films (Bowen, 2009). In this study, the

10 documents analyzed were writings, diaries, stories, regulations, policies, photos, and some

11 pictures provided by the teacher to support the data presented.

12

13 **Data Analysis Technique**

14

15 Creswell (2009) presents the stages of qualitative research. First, it begins with identifying

16 the problem as the research target. The second is the discussion or literature review. The

17 third is determining the purpose of the research. In this section, the researcher identifies the

18 main purpose of the research. The fourth is data collection. Data collection also concerns the

19 selection and determination of potential participants. The fifth is data analysis and

20 interpretation. The available data, which is usually in the form of text, is analyzed. The last

21 stage is reporting. The research report positions the reader as a person involved in the

22 situation.

23

24 <center>**Findings and Discussion**</center>

25 **Students' Learning Barriers in The Application of the Religious Curriculum**

26 According to the results of interviews with several teachers at Islamic boarding schools, it

27 can be concluded that the obstacles or problems in memorizing the Koran are divided into

28 two parts. First, the problems sometimes come from the memorizer, including (1) being

29 unable to feel the pleasure of the Koran when reading, (2) being too lazy, (3) being easily

30 discouraged, (4) weakened zeal and desire, and (5) memorizing the Koran because of the

31 coercion of others. Second, the problems arise from outside the memorizer, including (1)

1   being unable to manage time effectively, (2) similarities between one verse and another,

2   trapping, confusing, and making doubts, (3) not often repeating verses that are being or

3   have been memorized, and (4) the absence of a mentor or teacher when memorizing the

4   Koran.

5   On the other hand, some students stated that they had difficulties in learning the Koran,

6   A student said,

7   "I am not fluent in reading the Koran, so I have problems memorizing it. Sometimes, I cannot

8   manage my time because I must memorize the Koran and do assignments for formal

9   subjects at school."

10 Differently, another student said,

11 ", I have difficulty memorizing the Koran because there are many similar verses. Therefore,

12 sometimes I can move from one surah to another without realizing it. Apart from that, to be

13 honest, I feel less repetition and reporting that is not intense. I often feel like I am fluent and

14 really memorized it, but it turns out that when I reported it, I forgot."

15 There are several factors that hinder a memorizer to memorize the Koran, including (a) not

16 mastering *makhorijul* letters and *tajwid*, (b) impatience, (c) having no intention, (d) not

17 avoiding and staying away from immorality, (e) less praying, (f) not believing and being

18 pious, and (g) often changing mushafal-Qur'an (Dewi, 2020; Orba Manullang et al., 2021;

19 Shukri et al., 2020). Some experts state the strategy of memorizing the Koran. First, the

20 multiple repetition strategy used to achieve a proficient level of memorization is not enough

21 to memorize one process. This perception is wrong and may lead to disappointment after

22 facing a different reality. The Prophet himself has stated in the hadith as we quoted earlier

23 that the verses of the Koran are more agile than a camel and easier to escape than a loose

24 camel (Abdillah & Al-baqi, 2019; Babussalam, 2018; Rusdiana et al., 2021).

25 The second technique is the memorization technique by switching to the next verse before

26 memorizing well. In general, a person's tendency to memorize is to finish quickly or to

27 memorize as much as possible quickly. This causes the memorization not constant or

28 unstable because, among the verses of the Koran, there are easy and difficult ones to

29 memorize. As a result of this trend, many verses will be skipped. Therefore, in memorizing

1 the Koran, carefulness and accuracy are needed in observing the sentences in a verse to be

2 memorized (Nik et al., 2019; Orba Manullang et al., 2021; Shukri et al., 2020).

3 Third, students must understand the meaning of memorized verses. Understanding the

4 meaning, story, and *asbabul nuzul* contained in the verse memorized is an incredibly

5 supportive element in accelerating the process of memorizing the Koran. Understanding will

6 give more meaning if it is supported by an understanding of the meaning of sentences,

7 grammar, and sentence structure in a verse. Thus, the memorizers who master the Arabic

8 language and understand its structure will understand it better than those who do not (Nik

9 et al., 2019; Orba Manullang et al., 2021; Rusdiana et al., 2021; Shukri et al., 2020).

10

11 **Students' Learning Barriers in The Application of the National Education Curriculum**

12 The obstacles to student learning in the national education curriculum are shown from

13 observation and interview data. The results of observations indicate that there are several

14 problems in the teaching and learning process by implementing the educational curriculum

15 in Islamic boarding schools, especially in mathematics, including (a) the ability of students,

16 especially in solving mathematical problems that still requires special attention, (b) the

17 motivation of students to solve problem solving problems that is still lacking, (c) students

18 who are more oriented towards solving problems that can be solved by routine procedures

19 and pay less attention to that the competencies required are problem solving abilities, (d)

20 students who are not used to solving problems indicating the lack of opportunity to practice

21 in the teaching and learning process in the classroom, (e) most of the students who have not

22 been able to communicate their ideas using mathematical symbols, tables, and graphs, (f)

23 procedural (algorithm) errors in the problem solving process, and (g) a tendency for errors to

24 occur in notation or steps in problem solving.

25 To improve the ability of students in solving problems, special strategies are needed. The

26 students must be brave enough to accept the unknown and be happy to find out. Every

27 student in the group must be encouraged to make questions. They are allowed to choose

28 problems from several problems given. They must be encouraged to take risks or look for

29 alternatives (Akhter & Akhter, 2018; Febriyanti et al., 2021; Mulwa, 2015). On the other

30 hand, from the teacher's point of view, there needs to be self-improvement to improve

mathematical problem-solving abilities. Teachers should be aware of positive attitudes and ways to promote problem-solving abilities. They must dare to seek and develop students' skills in solving problems. They must look for interesting problems that often arise spontaneously. They need to clarify the learning situation by asking questions to encourage students' answers and presentations. They must be willing to allow the solution of a problem according to the students' perception even though it may have a different direction from what was planned. The problems do not always have to be solved by students. Problems can be raised at the beginning of the presentation of new material (Akhter & Akhter, 2018; Febriyanti et al., 2021; Mulwa, 2015; Pia, 2015).

Furthermore, a student added,

"In my opinion, there are some obstacles and difficulties when learning mathematics. I am sleepy because there are many activities in Islamic boarding schools. Learning mathematics is boring because it is too serious. The material is difficult to understand. Mathematical formulas are complicated to memorize. There is less time for learning mathematics. Mathematics material contains too many numbers and letters. I have a lack of confidence in solving math problems and difficulties in working on questions that do not match the example. These make me lazy to study mathematics and finally less serious when studying mathematics, either in class or in the dormitory."

The teacher has high motivation in teaching mathematics but the teacher states that there are several difficulties in teaching mathematics such as fewer hours of lessons compared to the hours of mathematics lessons in non-Islamic boarding schools while the mathematics curriculum is the same as in other high schools. The observed hours of mathematics lessons in several Islamic boarding schools are 2 to 3 hours of lessons. The books used are also the same as those used in senior high schools or books compiled by Islamic boarding schools whose material is also the same as in senior high schools. Then, the teachers are also still having difficulty determining the appropriate mathematics learning method for the students that can relate mathematics material to their needs and increase their motivation in learning mathematics.

This is in line with the opinion of Sahat et al. (2018) and Hendrayana et al. (2019), dan Kusno (2022) that the motivations of teachers in teaching mathematics in Islamic boarding schools

are (a) they want to teach the same math as taught in senior high schools with the hope that students can learn not only religion but also science, (b) mathematics can be connected with any field of study including the religious field, (c) match can assist Islamic boarding schools, and (d) students can be devoted to religion and society. According to (Lodge et al., 2018), the barriers to learning mathematics can be divided into three, namely ontogenic, dictatorial, and epistemological barriers. There are three types of ontogenic learning barriers, namely psychological, instrumental, and conceptual. The psychological ontogenic barrier faced by students is the decreased motivation and interest in mathematics during learning even though, at first, they realized that mathematics was important for them, especially to prepare themselves as a cadre of scholars. According to them, mathematics is needed to deal with problems in everyday life related to their future roles after graduating from Islamic boarding schools as scholars and when entering higher education (Febriyanti et al., 2021; Mulwa, 2015).

This psychological ontogenic barrier is caused by instrumental ontogenic barriers; for example, according to them, the material in mathematics is difficult to understand, mathematical formulas are complicated to memorize, they have a lack of confidence in solving math problems, and they find difficulties in working on questions that do not match the examples. This psychological ontogenic barrier is caused by conceptual ontogenic barriers; for example, according to them, learning mathematics is boring because it is too serious, and the mathematics material contains too many numbers and letters. This decrease makes their motivation and interest in learning mathematics (Akhter & Akhter, 2018; Pia, 2015).

Didactic barriers are caused by the sequence and stages of the curriculum including its presentation in the classroom. Didactic barriers occur due to the nature of teaching and teachers. The mathematics curriculum in several Islamic boarding schools, based on our observations, is the same as the high school mathematics curriculum even though the mathematics learning hours in Islamic boarding schools are less than those in senior high schools. This is one of the obstacles in the mathematics learning process in Islamic boarding schools as expressed by students that the time for learning mathematics is less while the material is a lot. This obstacle also has an impact on the presentation and teaching of

mathematics by teachers in the classroom because they are required to teach a lot of material in limited lesson hours, so they cannot maximize the mathematics learning process and accommodate the improvement of students' abilities related to their needs as a cadre of scholars, including in improving their analogical reasoning and abilities (Hendrayana et al., 2019; Kusno, 2022; Mulwa, 2015).

Epistemological barriers in learning mathematics in Islamic boarding schools are also related to the didactic barrier, namely the curriculum and teacher presentation which raises a context limitation in the mathematics learning process. The limitation is related to the mathematics books used by teachers that are the same as those used in senior high schools. Although, for example, some use books published by one of the Islamic boarding schools, the content is still the same but simpler (Febriyanti et al., 2021; Kusno, 2022).

Students' Learning Barriers in The Application of Technology Curriculum

Learning barriers in implementing a curriculum that emphasizes information and communication technology (ICT) in Islamic boarding school learning are explained through observation and interview data. The main obstacle in using ICT in learning faced by teachers in Islamic boarding schools is the limited supporting facilities and infrastructure. The teacher stated,

"We lack facilities and infrastructure such as computers, laptops, and LCD projectors. An insufficient number of computers, lack of high-quality hardware, appropriate software education, access to ICT resources, insufficient peripherals, several software copies, and lack of simultaneous internet access are the major barriers to ICT implementation in the boarding school."

Furthermore, the teacher stated the lack of other facilities,

"There are other shortcomings, such as the lack of availability of networks, electricity, and other supporting facilities, which include the availability of computers, laptops, and LCD projectors, which is a constraint for the lack of equipment. Actually, there are also network problems that can be included in the category of lack of support from the management of the Islamic boarding school."
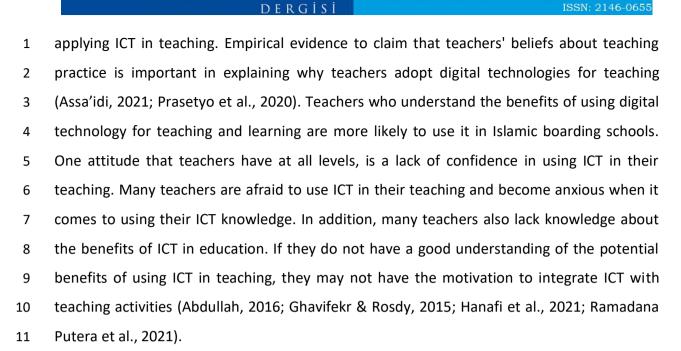
The next obstacle that influences teachers to use ICT in learning is the availability of internet networks and signals. The next obstacle is the availability of electricity. The limited technical knowledge of teachers about ICT is the next obstacle to classroom learning. Then, fear and consideration of the negative impact of using tools in the form of mobile phones and laptops in Islamic boarding schools become an obstacle for teachers to use ICT in classroom learning. In consideration of the fear of misuse of ICT tools, Islamic boarding schools issued a policy forbidding teachers to bring mobile phones to schools. The smallest obstacle that hinders teachers from using ICT is related to data management.

In addition to these shortcomings, the teacher also stated,

"We still feel lacking in other aspects like learning time, ICT training, opportunities for self-development, and so on. We do not have enough time to plan great tech lesson plans or explore various aspects of the world wide web (www) or software. We need more time to design projects that include the use of recent technologies than to prepare lessons for teaching traditionally with books and worksheets."

Teachers in Islamic boarding schools often feel a lot of pressure from the Islamic boarding school leaders to use ICT in their teaching. For successful integration of ICT in teaching, the head of the Islamic boarding school should provide adequate support to the teachers. First, ICT needs to be integrated into the curriculum, and teachers must have a good plan for using ICT in teaching. Second, the leaders of the Islamic boarding school need to have an unobstructed vision and mission to integrate technology and have a plan to make it happen and invest in ICT for classroom learning. Third, the government needs to invest in educational infrastructure that encourages the use of ICT. In addition, Islamic boarding schools should provide a budget for internet facilities at Islamic boarding schools. If it is associated with the literacy movement program for Islamic boarding schools, the indicator that Islamic boarding schools have run digital literacy programs is the availability of the internet (Assa'idi, 2021; Pasi et al., 2020; Prasetyo et al., 2020; Ramadana Putera et al., 2021).

Teachers face many challenges when trying to integrate ICT into their teaching, including their knowledge, skills, beliefs, and attitudes. Beliefs and attitudes are crucial factors in using ICT in teaching activities. Therefore, the teacher's attitude towards ICT is a key factor when

applying ICT in teaching. Empirical evidence to claim that teachers' beliefs about teaching practice is important in explaining why teachers adopt digital technologies for teaching (Assa'idi, 2021; Prasetyo et al., 2020). Teachers who understand the benefits of using digital technology for teaching and learning are more likely to use it in Islamic boarding schools. One attitude that teachers have at all levels, is a lack of confidence in using ICT in their teaching. Many teachers are afraid to use ICT in their teaching and become anxious when it comes to using their ICT knowledge. In addition, many teachers also lack knowledge about the benefits of ICT in education. If they do not have a good understanding of the potential benefits of using ICT in teaching, they may not have the motivation to integrate ICT with teaching activities (Abdullah, 2016; Ghavifekr & Rosdy, 2015; Hanafi et al., 2021; Ramadana Putera et al., 2021).

Conclusions and Recommendations

Based on the finding and discussion above, there are barriers to student learning in the implementation of each curriculum in Islamic boarding schools. The students' learning barrier in the application of the religious curriculum is in memorizing the Koran that comes from within and outside the students. This barrier is caused by (1) the internal aspects that include not enjoying reading the Koran, being easily discouraged, laziness, weakened spirit, and coercion from others, and (2) the external aspects that include not being able to manage time, similar verses, not often repeating verses, and no guidance. Furthermore, the barriers to student learning in the application of the national education curriculum are (1) low learning motivation, (2) low mathematical problem solving and communication skills, and (3) writing errors in mathematical notation, symbols, and steps. It was also found that there were three barriers to learning mathematics, namely ontogenic (difficulty understanding the material, formulas, and lack of confidence in solving problems), dictatorial, (fewer hours of learning mathematics in Islamic boarding schools), and epistemological (limited and not interactive presentation and teaching of mathematics). The students' learning barriers in the application of the technology curriculum are the lack of facilities and infrastructure, lack of support from the management of Islamic boarding schools, low trust, and attitudes towards ICT.

There are some recommendations to minimize learning barriers faced by students in the religious curriculum. School residents, including teachers and students, should be committed to being disciplined towards conducting their obligations, e.g., students should memorize short surahs. Teachers should further improve the discipline of their students in conducting their obligations to memorize short surahs. They can apply strict punishments to provide a deterrent effect on students who violate the regulations of the Islamic boarding school to be more disciplined in obeying existing regulations such as the *tahfidz qur'an* program ahead of the mid-term test. There are some aspects to be considered in overcoming the barriers to student learning in the educational curriculum. First, the teacher designs the learning that is started by reading the holy verses of the Koran and Hadith related to the mathematics learning material to be taught and providing an overview of the benefits of studying the material in everyday life, especially for students to become a cadre of scholars. Second, the learning materials and objectives are also related to the knowledge of Islam. Third, mathematics learning is started with the introduction of problems that are appropriate to the situation (*muqtadhal hal*) of the Islamic boarding school. To deal with students' learning barriers in the technology curriculum, ICT should be integrated into the curriculum, and teachers should have a clear plan for using ICT in teaching. The leaders of the Islamic boarding school should also have an unobstructed vision and mission to integrate technology, have a plan to make it happen, and invest in ICT for classroom learning. The government needs to invest in education infrastructure that encourages the use of ICT.

Limitations

The limitation or weakness in this research lies in the research process, the researcher realizes that in a study there must be a lack and a lot of weakness. One of them is from the interview session, sometimes the answers given by the informants do not match the questions that the researcher gives, sometimes the researchers also give questions that are almost the same but have different meanings. informants answered with the same answer. To solve this problem, the researcher finally repeated the question and explained the purpose of the researcher's question. Furthermore, the subject of this research is quite limited because it only covers one school. The facts stated in this study are a special case and

cannot be generalized to schools with different or the same curriculum models. So it requires further study with a broader research subject.

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