

## UTILIZATION OF DISCORD APPLICATION AS AN ONLINE LEARNING MEDIUM IN SUBJECTS

Nenden Munawaroh<sup>1</sup>, Salma Mutia Iswadi<sup>2</sup>, Asep Tutun Usman<sup>3</sup>,  
University of Garut, Indonesia

Email: nendenmunawaroh@uniga.ac.id, salma.mutia4@gmail.com, aseptutun@uniga.ac.id.

**Abstract** This research was motivated by the closure of the Education unit due to Covid-19, which made students conduct online learning. This is the first time this has happened in Indonesia, so educators find it difficult to find the right and effective media in utilizing technology. Therefore, this study aims to utilize the Discord application media as an online learning medium. The research method using the R&D model method used by the researcher is the development of a 4-D model. The 4-D model consists of 4 stages: Define, Design, Develop and Disseminate. This research was conducted in class X SMAN 14 Garut involving 3 classes with a total of 75 students. Data was collected in this stunning of interviews, observations, validation sheets and s,studentudent learning outcomes ability tests. Based on the processed data, it was found that this Discord media is useful and feasible to be used as an online learning media and can increase the effectiveness of learning in students having an average score of 78 with good interpretation. Suggestions for further researchers must have a Discord Nitro accountto further increase the effectiveness of learning in students.

**Keywords:** *Distance Learning; Media Learning; Discord; PAI*

### A. INTRODUCTION

Since the spread of the pandemic caused by the Coronavirus in Indonesia, the government has made various efforts to prevent its spread. One of them is through the circular letter of the Ministry of Education and Culture of the Directorate of Higher Education Number 2 of 2020 and Number 3 of 2020 concerning The prevention of the Spread of Corona Virus Disease (Covid-19) in Schools. The principle of education policy during the Covid-19 period is to prioritize the health and safety of students, educators, education staff, family, lies, and the community in general. Therefore, Indonesia and several other countries closed activities that caused crowds, making the government and educational institutions hold alternatives to the educational process for students and educators so that the learning process does not stop.

Through the circular letter above, the Ministry of Education and Culture gave instructions to the education unit to organize distance learning by advising students to study from their respective homes. Distance learning or online learning or what is often referred to as e-learning is a form of utilizing technology in supporting the distance learning process (Dimiyati, 2017). Covid-19 made a trial of the implementation of online education which was carried out en masse (Sun, Tang, and Zuo, 2020).

Online learning that is carried out *virtual classroom* is an experience of learning in a synchronous or asynchronous environment using various tools (such as laptops or smartphones) with internet access (Zhu & Liu, 2020). Various platforms are used to help facilitate the learning

process which functions as a medium for delivering material, assessments, or to collect assignments. These platforms include Zoom Cloud Meeting, Google Classroom, Google Meet, Google Form, or LMS (*learning management system*).

The application of this learning is proof of the industrial revolution 4.0 which is characterized by unlimited access to technology. Therefore, for generation z and *alpha* in the industrial era 4.0, learning is required to be integrated into the learning characteristics of this 21st century. In the 21st century, schools are required to be able to prepare students to have competencies such as the ability to think critically, think creatively, solve problems, and collaborate. Nowadays the use of computers and the internet is a technology that allows it to be the key to digital literacy.

Based on preliminary studies, the lack of digital literacy skills from educators so it is rare for an educator to use other android applications to carry out learning (Afandi, et al.: 2020). From the results of an interview with Wakasek Curriculum at SMAN 14 Garut, it is said that students and educators here use *Google Classroom* media in carrying out online learning, the reason is that it is more accessible and almost all students and educators have the application. However, he also often complains about the learning media used in schools because of the unmonitored learning of students who follow the learning from beginning to end.

*Google Classroom* also often does not have a direct notification to the student's *smartphone* when the educator has submitted material or assignments on his page so the learning time is not effective. In addition, pages in *google classroom* should be reloaded as often as possible just to see the responses of other educators or learners, not to update the page automatically and there is no *like* button or indicator that shows the number of audiences who have read or liked the material shared in class (Ridho Fiqriawan: 2019).

One of the applications that can be used is the Discord application. Discord is an application on Android that *gamers* often use to communicate. In addition, reporting from the official website of Discord, this application made changes to its application to help educators. With the closure of educational units in various countries around the world, more and more of them are turning to Discord to ensure their learners are not left behind and can continue learning. However, based on interviews with PAI teachers in the field, they have not taken advantage of this Discord application because this application is not so familiar in the world of education that they do not know. Though Discord has complete features to support the online learning process that creates effective learning.

An excellent feature that Discord has that can be used for learning is the feature of creating a channel or a special space. This space can be used to upload learning materials, attendance lists, discussions between groups in one class or discussions in one class as a whole, different classrooms or batches on the same subject, and other spaces (Efriani, et al: 2020). This division of space or *channel* will be able to make learning very effective. In addition, Discord has a feature to conduct *video conferences* and *voice* chats carried out by more than 50 people.

Based on this, this study aims to utilize the Discord application as a learning medium when learning online in PAI subjects. This research is also one of the solutions to prepare learning media for distance learning and is expected to be able to grow the abilities, knowledge, and potential of students as well as learning in the classroom.

## **B. METHODS**

The method used in the research is research and development. The model used by the researcher is the development of the 4-D model. 4-D model is a learning device development model developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel (Ariyawantari, et al: 2015). The 4-D model consists of 4 stages, namely: *Define*, *Design*, *Develop* and *Disseminate*. The selection of this model is based on the fact that it aims to produce a learning media product through the Discord application that can be used as an online learning media in schools between students and educators.

## 1. Define

Activities at this stage are carried out to establish and define the terms of development. In general, in this definition, development needs analysis activities are carried out, product development requirements that are by user needs, and research and development models (R & D models) that are suitable for use to develop products. Analysis can be done through literature studies or preliminary research. In the context of developing learning media in the form of media, the defining stage is carried out by: (a) Curriculum analysis, (b) Analysis of student character, (c) Material analysis, and (d) formulating learning objectives.

## 2. Design

This stage is to prepare a prototype of the learning application media. Thiagarajan (1974: 7) in the journal Sitti Aisyah (2018) divided the design stage into four activities, namely: constructing a criterion-referenced test, media selection, format selection, and initial design. The activities carried out at this stage include: (a) Making media designs (Storyboard) and (b) Preparing questions and answers.

## 3. Develop

Thiagarajan (1974: 8) in the journal Dewantara et al, (2020) divides the development stage into two activities, namely: expert appraisal and developmental testing. An expert appraisal is a technique for validating or assessing the feasibility of a product design.

## 4. Determinate

Thiagarajan (1974: 9) in the journal Sitti Aisyah (2018) divided the dissemination stage into three activities, namely: validation testing, packaging, diffusion, and adoption. At the validation testing stage, the revised product at the development stage is then implemented on the real target. At the time of implementation, measurements of the achievement of goals are carried out. This measurement is carried out to find out the effectiveness of the developed product. After the product is implemented, the developer needs to look at the results of achieving the goals.

Then in this disseminate stage, disseminate discord application media. In this study, only limited dissemination was carried out, namely by disseminating and promoting the final product of the discord application media on a limited basis to PAI teachers at SMAN 14 Garut.

### *Development Research Flow*



## ***Types and Techniques of Data Analysis***

### **Data Source and Type**

No.	Source	Kind	Information
1	Interview	Qualitative	Transcript of the interview from the interview instrument
2	Documentation	Qualitative	RPP, absent
3	Observation	Qualitative	Observation notes from the observation sheet
4	Experts/Practitioners	Quantitative	Likert scale of Discord application media validation
5	Student Effectiveness	Quantitative	Learning outcomes from knowledge evaluation

The data from the collected assessment sheets will be processed based on the type of data obtained from the instruments used. The data obtained from this study is divided into two, namely quantitative data and qualitative data. The data obtained from the results of interviews, observations, and documentation, will be processed qualitatively descriptively. As for the validation sheet, the learning outcome ability test will be processed quantitatively descriptively to get conclusions.

### **C. RESULTS AND DISCUSSION**

Development and Research were carried out in class X MIPA 2, 3, and 6 SMA Negeri 14 Garut. The research resulted in an Interactive Learning Media product using Discord. The product is packaged in the form of an application given to students that can be used to study in the classroom or study independently with the help of the internet network. This development and research use the Research & Development (R&D) Method and uses the 4D Development Model. The flow of developing a 4-D model, namely the *stages* of defining, *design developing*, and *disseminating*. The following is an explanation of the stages of developing the Discord application media.

#### **1. Define Stage Results**

The *defined* stage is the stage of analysis and identification of problems to obtain various information related to the product to be developed.

##### **a. Curriculum Analysis**

The results of the curriculum analysis conducted by researchers showed that SMAN 14 Garut used the 2013 Curriculum. In Permendikbud Number 58 of 2014, it is explained that there are 4 Basic Competencies (KD) related to the material of the set of 2 Core Competencies (KI). The Core Competencies in question are KI 3 and 4. KI 3 on "Understanding knowledge (factual, conceptual, and procedural) based on its curiosity about science, technology, art, culture regarding visible phenomena and events." And KI 4 about "Trying, processing and studying in the concrete realm (using, parsing, stringing, modifying, and making) and the abstract realm is related to the development of what he learned in school independently and was able to use methods by scientific rules.

From the four points of Basic Competencies, indicators of student competency achievement are formulated. These achievement indicators will later be used as a basis for developing learning media through the Discord application. The formulation of the competency achievement indicator is listed in the following table:

Table 4.1. Formulation of Competency Achievement Indicators

No.	Basic Competencies	Achievement Indicators
1.7	Believing that studying is a command of Allah and His Messenger.	<ul style="list-style-type: none"> <li>• Believing that studying is a command of Allah and His Messenger.</li> </ul>
2.7	Have an attitude of scientific spirit as an implementation of understanding Q.S. at-Taubah / 9: 122 and related Hadith.	<ul style="list-style-type: none"> <li>• Have an attitude of scientific spirit as an implementation of understanding Q.S. at-Taubah / 9: 122 and related Hadith.</li> </ul>
3.7	Analyze the spirit of studying, applying, and conveying it to others.	<ul style="list-style-type: none"> <li>• Analyze the spirit of studying, applying, and conveying it to others.</li> </ul>
4.7	Presents the relationship between the obligation to study, and the obligation to defend religion according to the commands of Q.S. at-Taubah/9: 122 Adan Hadith related.	<ul style="list-style-type: none"> <li>• Explaining the meaning of the content of Q.S. at-Taubah/9:122 about the joy of seeking knowledge and the beauty of sharing knowledge using ICT</li> <li>• Demonstrate the memorization of Q.S. at-Taubah/9:122 about the joys of seeking knowledge and the beauty of sharing knowledge by applying various types of reading tones well and smoothly</li> <li>• Presents the relationship between the obligation to study, and the obligation to</li> </ul>

		defend religion according to the commands of Q.S. at-Taubah/9: 122 and related Hadith.
--	--	--

b. Formulating Learning Objectives

The formulation of learning objectives or indicators of learning outcomes achievement is made based on the basic competencies listed on the syllabus. Basic competencies can be decomposed into several materials. The material presented in the module must be adapted to the learning objectives. The description of the learning objectives of PAI and Ethics can be seen in the table below:

Table 4.2 Learning Objectives of Chapter X PAI and Ethics

No.	Learning Objectives
1.	Analyzing the scientific spirit.
2.	Presents the relationship between the obligation to study, and the obligation to defend religion according to the orders of Q.S at-Taubah/9/122 and related hadiths.
3.	Analyze the position of the Qur'an, hadith, and ijthad as sources of Islamic law.
4.	Presents the relationship between the obligation to study, and the obligation to defend religion according to the orders of Q.S at-Taubah/9/122 and related hadiths

c. Learner Characteristics Analysis

Student analysis follows the characteristics of students by the design of online learning media development. The subjects of the study were students of class X MIPA 2, 3, and 6 at SMAN 14 Garut. Based on the results of interviews with teachers of PAI subjects, teachers said that student learning outcomes have not been maximized. This is shown from the ineffecbyness during the online process. Many students do not get quota subsidies, networks that are difficult to find, and there are even students who do not have mobile phones. So that there is a lack of enthusiasm for students to learn online in this PAI subject because the method applied is also only the lecture and question and answer methods. So the learning that occurred at that time was not two-way, but only one-way. The teacher also said that the media used during online learning are *Whatsapp groups* and *Google Classrooms*. The two applications have not been said to be efficient because they require other supporting applications that require a very large cellphone memory capacity to create effective online learning.

d. Material Analysis

The material analysis examines thoroughly the learning material to be delivered by the curriculum analysis that has been previously discussed. then the linkage of this material is

assembled in the RPP and presented in the form of a powerpoint display through the learning media of the Discord application.

The material presented was about the Joy of Seeking Knowledge and the Beauty of Sharing Knowledge. The chapter discusses; 1) Understanding the meaning of studying and its virtues, 2) Verses from the Qur'an about science, and 3) Hadith about seeking knowledge and its virtues.

## 2. Design Stage Results

At the compounding stage, a draft of the product concept to be developed is carried out. The design made is a Discord media concept tailored to the needs of educators and students. This design stage is carried out with the following steps:

### a. Media Design Creation

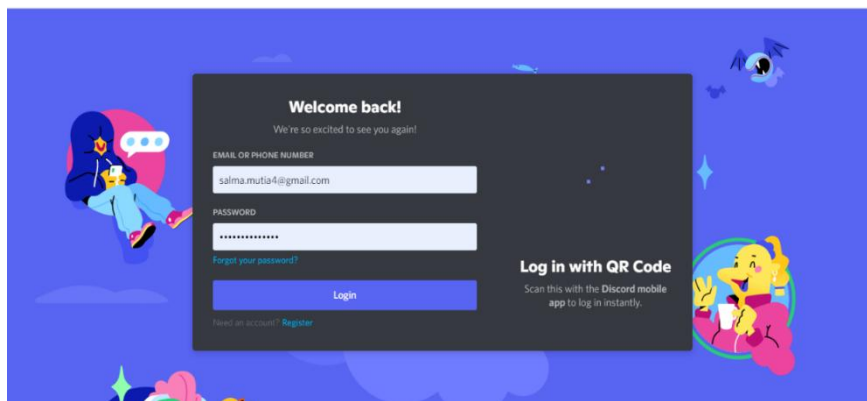
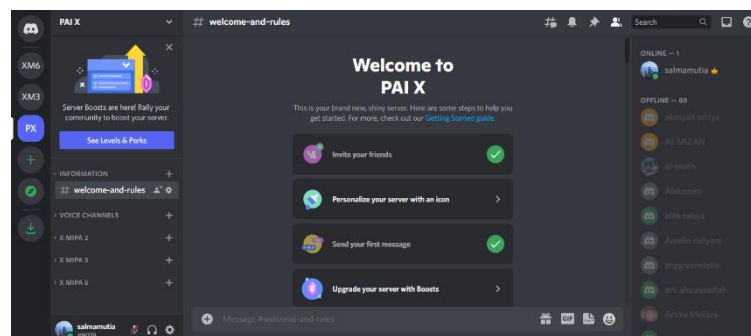


Figure 4.1 Initial View of Discord on the Web

The first step to using this Discord application should start with *a register* (for new users) and *login* (for those who are already users or who already have a Discord account). Students of X MIPA 2, 3, and 6 can easily *register* on this application without any obstacles. Although there are still around 6 students from each class who have difficulty registering because the email is no longer active and does not get a verification number through their mobile phone number.



In this study, researchers took 3 classes as research samples. Therefore, the researcher created a *server* called "PAI X". All class X students can enter and attend the *server* via text or short message in the server room.

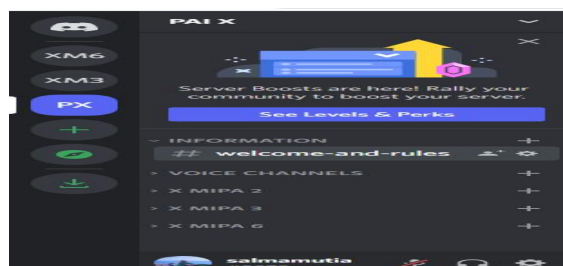


Figure 4.3 Multiple Channels on a PAI X Server

Each *server* can consist of several *channels* that will later function to create efficient and interactive learning. *Chanel* in the picture above the researcher named "welcome and rules" for the creation of a learning contract that will be mutually agreed upon in each class. Students from each class can participate in discussions to establish their learning contract. It can be representatives of each class, it can also be all of them. Educators can set that in the setting on *the channel*.

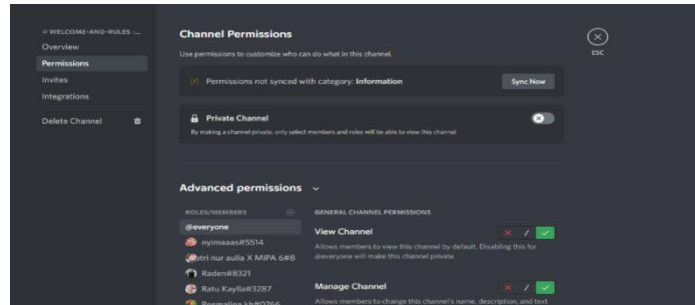


Figure 4.4 Settings on Chanel

The settings on *Chanel* can be seen in figure 4.4 There as educators can set goals with students for effective learning, educators can limit participants to the channel. The features that can be limited are as figured in 4.5 below.

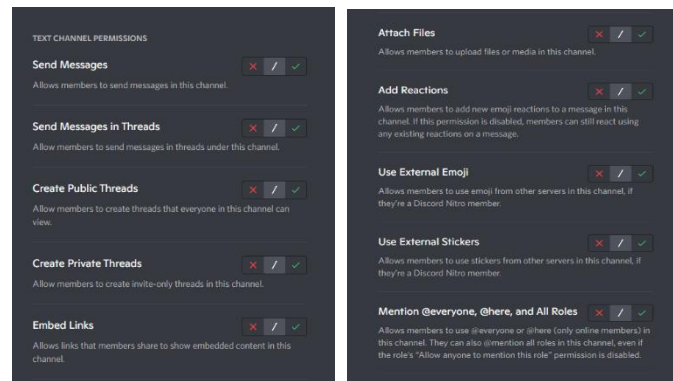


Figure 4.5 Features that can be limited to Chanel

Restrict sending regular messages, thread messages, create threads, create custom threads (in private), embed links, attach files, use external emojis, use external stickers, and mention the names of other participants.

These restrictions can be used by educators in learning activities to create effective learning and also discipline on time. For example, if the channel is used for assignment collection, educators can take advantage of existing features (restrictions/permissions) for students who neglect their duties or responsibilities.

Here researchers separate the classes by utilizing the channel feature in the Discord application. Although the material taught is the same, it is better to be separated so as not to interfere with other classes that are not the schedule.



Figure 4.6 Threads features on a Server



The picture above is a display of the learning contract that has been set by the investigator and this learning contract can be read by all students who join this *server*. Researchers use these threads-based features to create learning contracts, so they can be embedded and not drowned out by the latest chatter from learners.

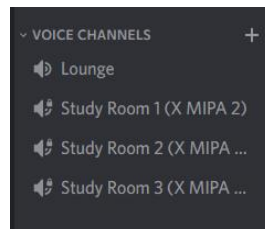


Figure 4.7 Chanel features on Chanel Voice

*Voice channels* are a feature to interact between educators and learners through voice or video media. Researchers have tried to use this feature in every class and the sound sounds very clear, not intermittent even though the network is less stable because it uses the same network in one class. The padlock icon in each *room* indicates if there are special participants who can enter there.

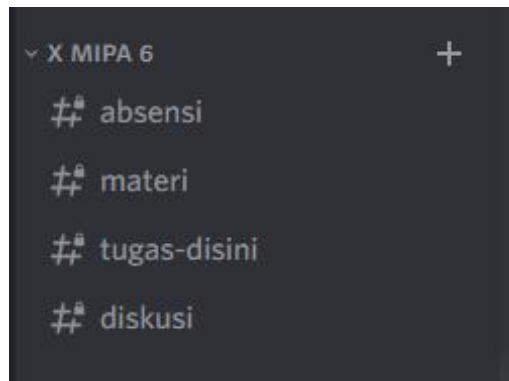


Figure 4.8 Chanel For Each Class

The picture above is one of *the class X MIPA 6* channels, inside the channel, there are several *chat rooms* separated. There are absences, materials, tasks, and discussions. Researchers deliberately separated the *chat room* by utilizing the feature on Discord which aims to make online learning in PAI subjects more effective and efficient. On the plus icon at the top right end, researchers can add a few more *chat rooms* as needed.

The padlock icon on each *chat room* indicates that only selected participants can enter the *chat room*. Because this *channel* is devoted to class X MIPA 6, other classes cannot enter the *channel* and *chat room*.

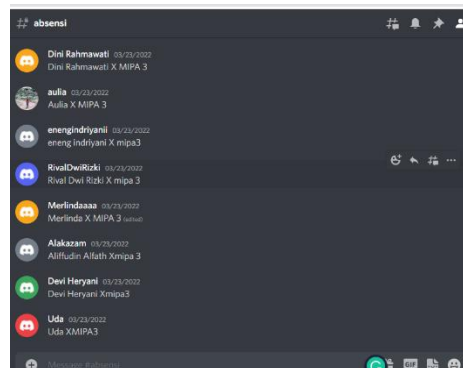


Figure 4.9 Attendance Room in Chanel

In one of *the chat rooms* on the class channel, students quickly hit and no one was piled up by other chats because this *chat room* was devoted to filling in absences. Researchers also did not take long to fill in the absences in the student attendance book.

In this *room*, researchers can also limit some participants as well as limit participants who are late filling in absenteeism. When the attendance time has expired, participants will not be able to send messages in the *room*.

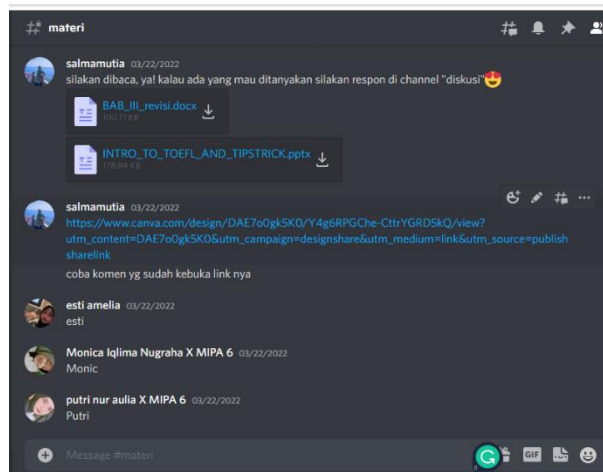


Figure 4.10 Room material on Chanel

The provision of material in *the chat room* material can be in the form of *doc*, *ppt*, image, video, and PDF files as well as *links*. Likewise, *the chat room* in "task here" and "discussion" have the same function. Since researchers have not developed this Discord to Nitro, the files sent are limited to a maximum of 20 Mb.

Although it has not yet arrived at the Nitro stage, this Discord can transfer images without being extracted, so the result will be clear according to the size of the sender's camera

The method of learning PAI online using the Discord application is lectures and questions and answers. Utilizing the features in Discord makes effective online learning also interactive.

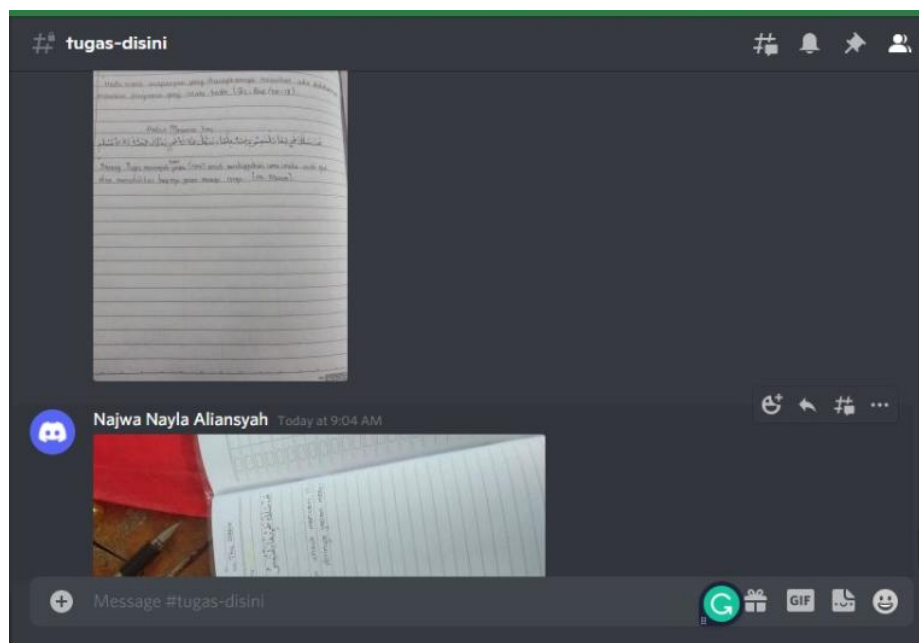


Figure 4.11 Task Room on Chanel

Collecting assignments with photo files in the *chat room* "assignments here" students can easily adapt to Discord because of its simple use and can be easily mastered like other applications. In each *room*, educators or students can give a direct assessment of the tasks collected by students this *room* by giving *reactions* and responses to *the emoticon* icon and arrows at the end of the image.

This reaction and response feature can make it easier for educators to assess or respond to assignments from learners directly. Students will immediately receive notifications on their respective cellphones or PCs.

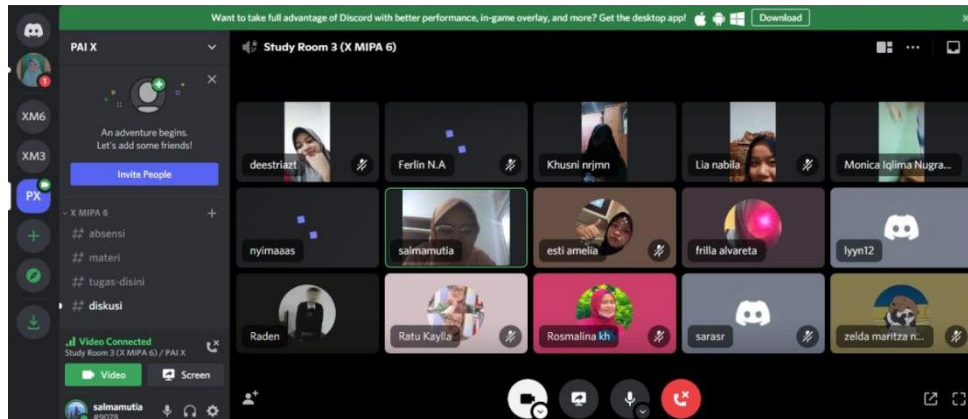


Figure 4.12 Utilization of Video Conferencing Feature in Discord

Researchers take advantage of the *video conferencing* feature that can be adjusted to the network so that the sound is not choppy and remains clear as shown in Figure 4.13 below. Just like other video conferencing applications, in this Discord application also as educators or students can share the presentation screen, to create interactive learning that produces effective learning as well. The lecture and question and answer method in PAI learning is very suitable for utilizing these features.

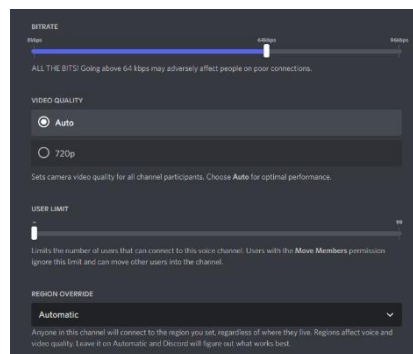


Figure 4.13 Video Conference Settings in Discord

#### b. Preparation of Questions and Answers

The book used by pins in compiling these questions and answers which became the main reference was the pain and ethics book from the Ministry of Education and Culture 2017. The preparation of these questions and answers is carried out to find out student learning outcomes, these results can be used to find out the results of learning effectiveness using the Discord application media. This is as stated by (Erna Damayanti, 2013) if the effectiveness of the teaching and learning process (learning) is strongly influenced by the factors of the learning methods and media used.

The number of questions compiled was 15 objective questions with 5 alternative answers (a, b, c, d, and e) which were tested on 75 combined students from class X MIPA 2, 3, and 6.

Questions are arranged according to a grid created by the researcher independently. Answers from students are analyzed in terms of student effectiveness in online learning using the Discord application media.

### 3. Develop Stage Results

At this stage of development produce products that have been revised based on input and advice from experts. This phase includes expert validation and development trials. It is known from the results of expert validation and trials then revisions are carried out until the product is feasible and can be used as teaching material. Assessment or validation by ahli can be determined by eligibility criteria obtained from the average score of respondents. The average value of respondents who have been calculated is then converted according to the feasibility conversion table to determine the feasibility level of learning media according to respondents.

#### a. Instrument Validation

The validation of the instruments used in this study using construct validation, to test the validity of the construct was carried out using expert judgment, namely by consulting with an instrument expert. The instrument experts, in this case, are supervisors from the Islamic Religious Education department of Garut University, media expert lecturers from the Science Education department, PAI teachers from SMAN 14 Garut, and curriculum wakasek SMAN 14 Garut.

#### b. Expert Validation

To find out the feasibility of Discord media for online learning, validation is carried out by material and media experts. This validation was carried out by three lecturers from the Faculty of Islamic Education and Teacher Training majoring in PAI and Science, and two teachers from SMAN 14 GARUT. The questionnaire used was 22 scoring items with a score range of 1-5. Assessment aspects include aspects of design, *usability*, strategy, and feasibility of the content. The assessment score that has been obtained through the questionnaire is then averaged into an assessment score with a range of 1-5. The average score results that have been obtained are then categorized as the level of eligibility. The data on the results of the assessment by material and media experts are contained in table 4.3.

Table 4.3 Media Feasibility Test By Media and Material Expert

Assessment Aspects	Expert Score					Average Total	Category
	1	2	3	4	5		
Design	4,4	5,0	4,0	4,2	4,6	4,4	Very Worthy
<i>Usability</i>	4,3	5,0	5,0	4,0	4,0	4,5	Very Worthy
Strategy	4,8	5,0	4,8	4,3	4,7	4,7	Very Worthy
Eligibility of Contents	3,8	4,8	4,5	4,3	4,1	4,3	Very Worthy
Average Score	4,3	4,9	4,6	4,2	4,4	4,5	Very Worthy

Based on table 3.2, the development of the Discord application media product that obtained a score of 4.5 was declared very feasible to use and used as an example after being assessed by an expert who had met the good score requirements.

#### c. Learning Outcomes Ability Test

Student learning outcomes in class X mia 2, 3, and 6 were measured by cognitive tests. Learning outcomes are measured after online learning is carried out through Discord media. This test is carried out to determine students' abilities and effectiveness after learning using Discord

media. The test questions given to students are questions that have been compiled by the researcher independently according to the grid.

Table 4.4 Learner Learning Ability Outcomes

No.	Class Name	Number of Students	Value
1	X MIPA 2	29 students	86,7
2	X MIPA 3	25 students	71,2
3	X MIPA 6	23 students	73,8

It is known that the average score of all students obtained a score of 78 with good interpretation according to table 2.5. Then the result of table 4. will be converted based on the effectiveness test criteria from Ardiansyah et al. (2016) in Table 2.6 as follows.

Table 2. 6 Criteria for Increasing Effectiveness

No.	Percentage	Criterion
1	76%-100%	Effective
2	51%-75%	Quite Effective
3	26%-50%	Less Effective
4	0%-25%	Ineffective

By the table above, online learning using the Discord application is declared effective.

#### 4. Disseminate Stage Results

Learning media that has gone through various stages of development and is declared suitable for use as an online learning media is then disseminated with limited trials to Class X MIPA 2, 3, and 6 at SMAN 14 Garut so that the effectiveness of learning media using Discord is known.

## D. CONCLUSION

From the results of the data processing obtained and the process of development, data analysis, and discussion related to the learning media of the Discord application at SMAN 14 Garut, the following conclusions were obtained:

1. Learning media through Discord can be used as a good alternative to online learning media. The use of Discord as a learning medium can be developed through the R&D method with a 4D design, namely *define, design, develop, and disseminate*. At the defined stage obtained
2. this is developed by using 4 stages of development procedures according to the R&D method of the 4-D development model.
3. Validity and attractiveness of Media application Discord
4. Based on the validation results with several teams of experts, the validity of Discord media according to the assessment of media experts, namely Abdul Latif, M.Pd, score obtained was 72%. While the assessment results of the material expert, namely Dr. Nenden Munawaroh, M.Pd, were 91%, Discord Media obtained a final score of 94%, and according to the learning expert, namely Sunandi, S.Pd, the score obtained was 82%. From the score, when viewed from the *kriteriavalidan* table, discord media is included in the very valid category.

5. The effectiveness of interactive learning media based on the Discord application in PAI learning Based on the analysis of the student learning ability result test, it can be concluded that there is an increase in student learning outcomes where the average student test score is 80. While the effectiveness of Discord media is based on the results of the student learning outcomes ability test, the conclusion is that students can learn effectively and interactively after using Discord learning media.

#### 1) Product Utilization Advice

- a. The Discord application should be used as a support for online learning, because the media can be applied anywhere and anytime, besides that, this Discord application is suitable to be applied to all subjects, especially PAI lessons
- b. The Discord application is highly recommended to be used in the online learning process for educators who hold several classes because its many supporting features make it easier for educators to manage classes simultaneously in one application.
- c. The Discord application provides convenience in learning, including: (1) learning is not bound by the classroom, (2) can be used for the same subject for 2 or more different classes, and (3) provides features that encourage interaction and communication among participants (members), (4) allows learning to have more than 2 lecturers or experts, (5) interaction can be done with Text Chanel, voice channels, and video conferencing.

#### 2) Suggestions for later developers

- a. The original design of the Discord application is quite complex so it is recommended for subsequent developers to make this Discord media design more attractive by frequently using this application so that it can be more colonized by the application. To make learning more interesting.
- b. You should be able to subscribe to a Discord Nitro account so that all features in the Discord application can be used optimally and make the media more effectively used in the learning process.
- c. The material in this media focuses on PAI subjects so that further developers can develop and expand according to the subjects to be delivered to students.

## REFERENCES

- Aisyah, S. (2018). *DEVELOPMENT OF A FOUR-TIER DIAGNOSTIC TEST INSTRUMENT ON MECHANICAL WAVE MATERIAL AND DOPPLER EFFECT* (Doctoral dissertation, Universitas Pendidikan Indonesia).
- Arywiantari, D., Agung, A. A. G., & Tastra, I. D. K. (2015). Development of Interactive Multimedia 4D Model on Science Learning at SMP Negeri 3 Singaraja. *Journal of Edutech Undiksha*, 3(1).
- Aziz, M. (2014). *Designing a sales and inventory accounting information system at the UIN Maliki Malang Student Cooperative* (Doctoral dissertation, Maulana Malik Ibrahim State Islamic University).
- Baba, M. A. (2018). Basics and scope of Islamic education in Indonesia. *Iqra Scientific Journal'*, 6(1).
- Budiyono, A. (2019). The Scope of Islamic Religious Education Technology in the Industrial Era 4.0. *Attaqwa: Journal of Islamic Education*, 15(1), 64-74.
- Burhanudin, I., Munawaroh, N., & Usman, A. T. (2022). The Effect of Parental Guidance in the Distance Learning Period (PJJ) on Student Learning Achievement (Research in Class XI of Ciledug Al-Musaddadiyah Garut High School). *Journal of Islamic Religious Education*, 1(1).
- Efriani, E., Dewantara, J. A., & Afandi, A. (2020). Utilization of Discord Application as An Online Learning Medium. *Journal of information technology and education*, 13(1), 61-65.

- Febrian, Heri (2019) *DEVELOPMENT OF ANDROID-BASED MOBILE LEARNING LEARNING MEDIA FOR BASIC CNC SUBJECTS AT SMK MUHAMMADIYAH 1 SALAM*. S1 thesis, Yogyakarta State University.
- Firmansyah, M. I. (2019). Islamic Religious Education: Definition, Purpose, Basis, and Function. *Taklim: Journal of Islamic Religious Education*, 17(2), 79-90.
- Maulana, A. (2019). *Use of Discord Application as An Internal Communication Medium of Crowde Company* (Doctoral dissertation). LEARNING MEDIA. N.p., MINISTRY OF RELIGION RI. Learning Media. N.p., Our Writing Foundation, 2020.
- Nasir, S. PRINCIPLES OF ISLAMIC EDUCATION: UNIVERSAL, BALANCE, SIMPLICITY, INDIVIDUAL DIFFERENCES, AND DYNAMIC.
- PAI, A. (1997). Islamic religious education. *Journal*, accessed on, 18(10), 2018.
- Implementation of Online Learning in the Covid-19 Era. (2020). (n.p.): Lutfi Gilang Publishers.
- Learning Media Development: Concepts & Applications of Learning Media Development for Educators in Schools and Communities. (2020). (n.p.): Prenada Media.
- Purbayasa, F. (2017). *DEVELOPMENT OF WEB-BASED STATIC FLUID TEACHING MATERIALS ORIENTED CRITICAL THINKING SKILLS* (Doctoral dissertation, Universitas Pendidikan Indonesia).
- Rakhmawan, A., Juansah, D. E., Nulhakim, L., Blue, L. T., Rohimah, R. B., Suryani, D. I., ... - Resti, V. D. A. (2020, November). ANALYSIS OF THE USE OF THE DISCORD APPLICATION IN ONLINE LEARNING IN THE ERA OF THE COVID-19 PANDEMIC. In *Proceedings of the FKIP National Seminar on Education* (Vol. 3, No. 1, pp. 55-59).
- Ridho, M. R., Muhaimin, M., & Harjono, H. S. (2021). THE INFLUENCE OF THE DISCORD APPLICATION IN ONLINE LEARNING ON LEARNING OUTCOMES IN COMPUTER COURSES. *Scientific Journal of Educational Development*, 14(1), 22-35.
- Siregar, I. R. (2022). Ramadan Inspiration PRINCIPLES OF EDUCATION PERSPECTIVE OF THE QURAN AND HADITH. *Al-Mu'tabar*, 2(1), 12-30.
- Tafsir, A. (2017). *Philosophy of Islamic Education*. Bandung: Juvenile Rosdakarya.
- Tjahjadi, E., Paramita, S., & Salman, D. (2021). Learning the Era of the Covid-19 Pandemic in Indonesia (Study of the Discord Application). *Connections*, 5(1), 83-89.
- Widyantara, V. (2020). The concept, use, comparison, advantages and disadvantages and implications of Google Classroom as a medium for distance learning. *Jakarta State University*, May, 1-5.
- Z. (1995). *Philosophy of Islamic education*. Indonesia: Bumi Aksara in collaboration with the Directorate General of Islamic Institutional Development, Ministry of Religion.
- Zainiyati, H. S. (2017). *Pai learning media: theory and its applications*.