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The Effectiveness of Online Learning With Synchronous and Asynchronous Models On Students' Learning Achievement With TOPSIS Method
(Case Study: Asy Syakirin Islamic Middle School, Tangerang City)

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Abstract. The COVID-19 pandemic that occurred in early March 2020 caused learning at the Asy Syakirin Islamic Middle School, Pinang District, Tangerang City to be shifted to distance learning, a learning system that does not take place in one room and there is no direct face-to-face interaction between teachers and students. Teachers have a choice of learning models that can help distance learning, namely through the synchronous learning model and the asynchronous learning model. The purpose of this research is to determine how effective the two distance learning models are and is to find out which model is more effectively used during distance learning through the Synchronous and Asynchronous models. A TOPSIS method is a concept that the best alternative not only has the shortest distance from the positive ideal solution but also has the longest distance from the negative ideal solution and the method was applied. The research covered analysis based on the results of questionnaires and interviews with research subjects. The research was supported by Class VII students at one of the Islamic Middle Schools in Pinang District, Tangerang City, namely Asy Syakirin Islamic Middle School. From the descriptive analysis, the average value of the Synchronous group's learning outcomes is 60.14% higher when compared to the Asynchronous group's learning outcomes. Both he Asychronous and Synchronous models with the TOPSIS Alternative S1 Method of analysis are the closest solutions for Learning Media models in the network with the Synchronous and Asynchronous methods. Thus, both the Asychronous and Synchronous models with the TOPSIS Alternative S1 Method of analysis are the closest solutions for Learning Media models in the network with the Synchronous and Asynchronous methods.
Keywords: Distance Learning, Synchronous, Asynchronous, TOPSIS, Learning Media

INTRODUCTION

With the increase in the spread of Covid-19 in Indonesia, the government implemented a policy to reduce activities outside the home, so the Ministry of Education and Culture

issued a new regulation that the learning process, which was originally carried out face-to-face at school, can now only be done at home remotely/online (Setiawan , 2020). This is done to fulfill the right of students to get educational services without space and time limitations. The online learning process results in social interaction between teachers and students that is not optimal and the teaching given by the teacher is not fully understood and practiced by students (Ratu et al., 2020). Therefore, teachers are required to create learning methods that can increase the effectiveness of the learning process during a pandemic (Oktavian & Aldya, 2020). Online learning models can be carried out by utilizing video conferencing and using e-learning media or are referred to as the Asynchronous Model and the Synchronous Model (Fahmi, 2020). With the implementation of the Asynchronous Model, material and assignments can be provided through e-learning media (Didin et al., 2020). Whereas with the implementation of the Synchronous model teachers and students can continue to practice even in remote conditions through Google Meet platforms (Narayana, 2016). The application of this model is expected to support the learning process and facilitate the delivery of subject matter.

Asysyakirin Islamic Middle School is one of the junior high schools on Jl. KH. Hasyim Ashari KM.7 Rt.04/02 Pinang, Tangerang City, Banten Province. Similar to junior high schools in general in Indonesia, the school education period at this school is taken within three academic years, starting from Class VII to Class IX. Established on September 17, 1987, Asy Syakirin Islamic Middle School is one of the oldest schools in the region and experienced in the world of junior high school education. Experience the same impact during a pandemic by implementing online or online learning with Synchronous and Asynchronous models. Online learning has problems (Anugrahana, 2020, p. 286) in the form of several children who do not have cellphones, internet connections, are hampered in sending assignments due to signal difficulties, parents work all day outside the home so parents can only accompany them at night, some people old people who do not understand technology. This makes it difficult for parents to accompany and facilitate children. Cases like this are very hindering and teachers have to repeat notifications, limited cellphone features, signal problems and internet quota. The main obstacle is that technically not all parents have Android cellphone facilities. In addition, many students experience boredom and boredom studying online, so they sometimes answer questions at random. The concentration and motivation of children studying at home and at school will of course be different, photos of assignments sent to WhatsApp are also sometimes unclear, making it difficult for teachers to correct, students are honest in evaluating because they cannot meet face to face with tutors or friends. During online learning, children can also experience burnout, so a solution is needed. (Damayanti et al., 2020, p. 1). Covid 19 has had a significant impact on learning in Indonesia. (Abidah et al., 2020, p. 47) There have been many complaints from parents about distance learning. However, this has resulted in Indonesia as a whole adopting self-directed learning. However, important notes are needed to maximize it, namely the fulfillment of adequate facilities and infrastructure in the family environment. The teacher in this case also acts as a learning manager so that learning can be directed according to basic competencies and learning objectives that must be achieved (Sabaniah et al., 2021, p. 1)

Another problem that arises is that not everyone has the same device. And everyone has different abilities. The application of technology can encourage teachers to make media according to the characteristics of children (Huda, 2020, p. 124). However, limited utilization and inadequate connection can be obstacles. (Suzanne, 2019, p. 123). Limitations are experienced by teachers in various regions, one of which is in Banjarnegara. These limitations are in the form of network limitations and assessment difficulties. (Rigianti, 2020, p. 300). This increase in effectiveness testing was carried out because low cost and no need for researcher mobility were the main reasons academics and researchers used online survey facilities. Without having to meet the respondent, the researcher is able to collect

data from various locations. Simply through the dissemination of online survey links through online message networks such as email, WhatsApp and other media, the instrument can be distributed massively. In the midst of the euphoria of using online surveys, it seems that it is necessary to critically discuss the effectiveness of research using online survey facilities. There are various methods that are often used by decision makers to determine a solution in a decision making system. The various methods of decision support systems include: Technique for Order Performance by Similarity to Ideal Solution (TOPSIS) methods, Analytic Hierarchy Process (AHP), Simple Additive Weighting (SAW), Weighted Product (WP) and many more other methods. The reason why the researcher chose the TOPSIS method in this study is because the concept is simple and easy to understand, the computation is efficient and has the ability to measure the relative performance of alternative decision alternatives. The advantages of the TOPSIS method used by researchers in this study are a) the concept is simple and easy to understand, this simplicity is seen from the process flow of the TOPSIS method which is not so complicated. Because it uses indicator criteria and alternative variables as helpers to determine decisions; b) the computation is efficient, the computation calculation is more efficient and fast; c) be able to be used as an alternative performance measure and also an alternative decision in a simple form of computational output and d) it can be used as a faster decision-making method.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT
Distance Learning Mode in A Network

Distance learning is a learning system that does not take place in one room and there is no direct face-to-face interaction between teachers and students (Munir, 2009). In an era of increasingly rapid development of technology, communication and information, distance learning during this pandemic can be carried out using various platforms, both in the form of learning management systems and in the form of video conferencing. The learning management systems that are widely used include Google Classroom and E-learning portals owned by schools or colleges. Meanwhile, video conferencing applications that are widely used during distance learning include the Zoom application, Google Meet, and Visco Webex. Apart from these applications, WhatsApp is also an alternative in implementing distance learning. However, not a few teachers and students have difficulty using these applications due to limited distance learning support facilities, especially technology support and internet networks. The Benefits of Distance Learning Models in Networks will certainly be beneficial which will have a positive impact on both institutions, teachers and students. These benefits will benefit each party.

In the implementation of PJJ (Distance Learning Model) during the Covid-19 pandemic, challenges and obstacles were not only limited to technological support facilities and internet networks. Other obstacles to the implementation of PJJ during the Covid-19 pandemic were related to the readiness of human resources, unclear government directives, and the absence of an appropriate PJJ curriculum (Arifa, F, N, 2020). The readiness of human resources is an important part of the successful implementation of distance learning, this readiness relates to the ability of teachers and students to use and manage all technological systems used in the distance learning process. The ability to use and manage technology, information and communication systems is often called technological, information and communication literacy (Maphosa, C., and Bhebhe, S, 2019). Meanwhile, technology, information and communication (ICT) literacy is an important factor in distance learning during the Covid-19 pandemic. Competence and literacy in using computers and surfing in cyberspace are the basic skills needed in the implementation of PJJ (Triwibowo, W, 2020) states that competence and ICT literacy levels affect the effectiveness and efficiency of the teaching and learning process. Meanwhile, ICT literacy, which is more specific in the use of digital media, states that ICT literacy is influenced by the level of generation and age of

technology users, the younger generation is easier to manage technology than the older generation. In the context of the ongoing implementation of PJJ, the difference in generations and ages between teachers and students can become an obstacle to the smooth implementation of PJJ. Therefore.

RESEARCH METHODS
Research Design and Techniques

In this phase, the researcher identified the needs for analysis related to the decision support system using the TOPSIS method. Not only that, this phase can also determine the boundaries for the analysis made, constraints and alternative recommendations for problems. In this phase, researchers interact directly with parties involved in the process of the running system, especially in terms of the learning process. This phase consists of 2 stages, namely:

Data collection and information requirements, namely the stage of collecting data from observations and interviews to make it easier to identify the system, including regarding:

Profile

Profile is a brief description of a person, organization, institution or region. The following is the definition of a profile according to some experts:
1. Sri Mulyani, Profile is a side view, outline, or biography of a person or group of people of the same age.
2. Victoria Neufeld, Profile is a graph, diagram, or writing that describes a situation that refers to the data of someone or something.
3. Hasan Alwi, Profile is a view of someone.

Based on the opinions of some of these experts, it can be concluded that a profile is a brief description of a certain object of study.

Data regarding learning that takes place online

Data regarding learning outcomes that take place online with 100 student respondents at the Asy Syakirin Islamic Middle School, shows that there are three digital platforms that are often used, namely WhatsApp, Google Facilities (Google Classroom, Google Form, and Google Meet). The first digital platform is WhatsApp. This is because using WhatsApp is simpler and easier to use. Teachers can send various things such as materials, evaluation questions, and explanations via video or voice notes. WhatsApp is also able to facilitate two-way learning through video call services. Through this service students and teachers can meet face to face in the process of delivering material and delivering assignments even with a limited number of students.

Questionnaire analysis planning data

To obtain planning through questionnaire analysis, the researcher compiled several questions to be submitted as material to explore and obtain information from students (students), teachers and parents. The following are questions that researchers ask parents:

1. How many students and teachers are at Asy Syakirin Islamic Middle School?
2. Explain the impact of the Covid-19 Pandemic for parents on the teaching and learning process at home?
3. How do parents respond to the learning process being undertaken by the Covid-19 Pandemic?
4. Since when was the learning method that was followed by students during the pandemic - Covid 19 (e-learning) applied?
5. Was the learning process undertaken during the Covid-19 Pandemic effective in achieving the expectations of parents?

The following are the questions that researchers ask teachers:

1. How is the online learning process at Asy Syakirin Pinang Islamic Middle School, Tangerang?
2. What methods do you use in the online learning process?
3. Do you experience problems in the online learning process?
4. What do you think about the responses given by the students regarding the delivery of the material or assignments given?
5. Can the Synchronous Learning and Asynchronous Learning methods make it easier for you and your parents to teach?

The following are the questions that researchers ask for students:

1. How did students respond when they first learned that the government was advocating for students to study at home?
2. What are the conveniences and constraints students experience in the online learning process?
3. Do students feel comfortable with using online learning during the Covid - 19 Pandemic?

Identification of systems to solve problems in data management systems,

1. Identification of problems with online learning.
   The stage where the analyst analyzes and identifies any problems encountered using ongoing learning.
2. Identification of school goals
   Identify what goals to be achieved with the results of the analysis to be examined to resolve or overcome the problems that exist in learning in the network.
3. Identification of the need for learning outcomes.
   The stage of identifying what needs are needed for recommendation decisions by analyzing functional requirements such as input requirements, process requirements and desired output requirements in the form of information about learning in the network, either in synchronous or asynchronous mode.

TOPSIS Analysis

TOPSIS is an acronym for Technique for Order Preference by Similarity of Ideal Solution. TOPSIS is a multicriteria decision-making method. TOPSIS is also commonly used to rank several existing alternatives. The flowchart of the TOPSIS method can be seen in the following chart.
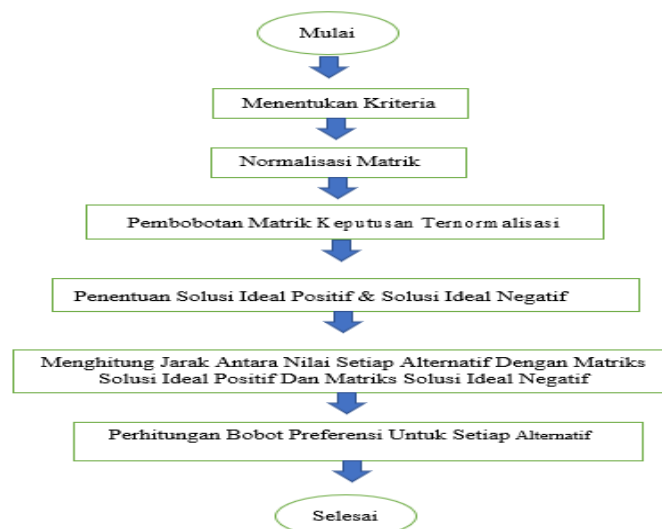
Source : Data Search 2022
Figure 1 TOPSIS Method Flowchart

At the beginning of the TOPSIS process, the first thing to do is to enter schools that match the criteria that have been entered by the user. Then carry out the processes that occur in the TOPSIS method, namely normalizing the decision matrix, normalizing the decision matrix weighting, calculating the positive and negative ideal solution values, calculating the distance between the values of each alternative with the positive ideal solution matrix and negative ideal solution matrix, and calculating preference values . After all the processes in the TOPSIS method have been carried out, 5 recommendations for alternative learning appear.

Normalized decision matrix

To develop a normalized decision matrix, the rij element is resulted from normalizing the Decision Matrix R with the Euclidean Length of a vector method and the following formula was applied. TOPSIS requires the performance rating of each alternative Ai on each criterion Cj which is normalized by the formula: rij, the comparison results are normalized into a scale for each alternative on each criterion. with i=1,2,....m; and j=1,2,....na.

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{i=1}^{m} x_{ij}^2}} \quad (1)$$

To create a weighted normalized decision matrix that produces a Matrix (Y) with its elements:

$$y_{ij} = w_j r_{ij}, \quad (2)$$

with i = 1,2.... m: j = 1,2,..., n
Yij is the normalized weight rating for each alternative on each criterion.
Wj is a weighted value indicating the relative importance of each criterion
rij is the normalized weight rating for each alternative on each criterion.

Positive ideal and negative ideal solution matrix
To determine the positive ideal solution matrix (A +) and the negative ideal solution matrix (A -) as:

$$A^+ = (y1^+, y2^+, \ldots y^{n+}) \quad (3)$$
$$A^- = (y1^-, y2^-, \ldots y^{n-}) \quad (4)$$

Dengan

$$yj+ = \begin{cases} Max\ yij\ ,Jika\ j=keuntungan \\ Min\ yij\ ,jika\ j=biaya \end{cases}$$

$$yj- = \begin{cases} Min\ yij\ ,Jika\ j=keuntungan \\ Max\ yij\ ,jika\ j=biaya \end{cases}$$

Jika kriteria bersifat benefit (makin besar makin baik) maka y_{j+}= max y_{ij} dan min y_{ij}
Jika kriteria bersifat cost (makin kecil makin baik) maka y_{j-}= max y_{ij} dan min y_{ij}

because the value given to each alternative in each criterion is a match value (the largest value is the best) then all the criteria given are assumed to be profit criteria.

The value range of each alternative

To determine the distance between the values of each alternative with the positive ideal solution matrix and the negative ideal solution matrix

$$S_i^+ = \sqrt{\sum_{j=1}^{n} (y_i^+ - y_{ij})^2} \quad ;$$

S_i^+ adalah jarak antara nilai setiap alternatif dengan matiks solusi ideal positif

$$S_i^- = \sqrt{\sum_{j=1}^{n} (y_{ij} - y_i^-)^2} \quad ;$$

S_i^- adalah Jarak antara nilai setiap alternatif dengan matiks solusi ideal negatif

Preference value

To determine the preference value for each alternative (Ai) is formulated as follows:

$$A_i = \frac{S_i^-}{S_i^- + S_i^+} \quad ; \quad i = 1,2,....,m$$

Nilai A_i yang lebih besar menunjukkan bahwa alternatif A_i lebih dipilih.

RESULTS AND DISCUSSION

Research data

Data obtained from observations and interviews to find out the needs of the application system that will be built on a visit on December 15, 2021. Then distributed questionnaires on May 18, 2022 to as many as 100 respondents. The data consists of learning processes and learning recommendations.

Table 1. Student Learning Outcomes (n=100)

Score Intervals (English Map)	Learning Completeness Category	Percentage (%)
70 < x < 100	*complete*	60,14
0 < x < 70	*Not Completed*	39,86

Source: Data Research 2022

The results of the analysis of the scores from the students' answers to the questionnaire obtained the learning achievement data presented in Table 1. Most of the students received Online Learning in the "Complete category" because in terms of achievement the Score Interval fulfilled ≥60% of students. While the remaining 39.86% of the learning achievement of students did not reach the KKM so that they entered the incomplete category. Thus, it can be concluded that the learning outcomes of class VII students in English subjects have achieved completeness.

Step-stepper form TOPSIS analysis calculations

The followings are the steps for calculating the TOPSIS score using the formula:

Table 2. Determination of Indicators

2. Penentuan Solusi	
S1	Kesesuaian Waktu dengan Whatsapp Chat
S2	Keefektifan Waktu dengan Whatsapp Chat
S3	Kelancaran Komunikasi dengan Whatsapp Chat
S4	Pemahaman saat komunikasi dengan Whatsapp Chat
S5	Baik dalam pengeloaan pembelajaran dengan Whatsapp Chat
S6	Kesusuaian materi dengan tugas dengan Whatsapp Chat
S7	Respon siswa dengan Whatsapp Chat
S8	Mudah dalam bertanya dengan Whatsapp Chat
S9	Ketertiban pembelajaran dengan Whatsapp Chat
S10	Kelancaran interaksi dengan Whatsapp Chat
S11	Kehadiran dengan Whatsapp Chat
S12	Pemahaman pembelajaran dengan Whatsapp Chat
S13	Tugas dan hasil dari pembelajaran dengan Whatsapp Chat
S14	Kesesuaian Waktu dengan Google Meet
S15	Keefektifan Waktu dengan Google Meet
S16	Kelancaran Komunikasi dengan Google Meet
S17	Pemahaman saat komunikasi dengan Google Meet
S18	Baik dalam pengeloaan pembelajaran dengan Google Meet
S19	Kesusuaian materi dengan tugas dengan Google Meet
S20	Respon siswa dengan Google Meet
S21	Mudah dalam bertanya dengan Google Meet
S22	Ketertiban pembelajaran dengan Google Meet
S23	Kelancaran interaksi dengan Google Meet
S24	Kehadiran dengan Google Meet
S25	Pemahaman pembelajaran dengan Google Meet
S26	Tugas dan hasil dari pembelajaran dengan Google Meet

Source: Data Research 2022

Determining indicators and giving weights is a process in the early stages of research. From the results of a literature review and also interviews with stalkholders, 6 criteria were found which became indicators in this study with weights adjusted to the wishes of the stalkholders.

Determination of Alternative Solutions

Table 3. Determination of alternative solutions

6. Menentukan Solusi Ideal		Synchronous	Asynchronous
Positif		0,12491219	0,187368285
Negatif		0,10504544	0,15756816

Source: Data Research 2022

Determination of this solution from the questions that were changed in the form of a statement with the results of the questionnaire which was distributed to the responders of school students and then made the results of the data.

Data determination

Table 4. Determination of Data

3. Penentuan data			
	Alternatif	Synchronus	Asychronous
S1	Kesesuaian Waktu	3,519083969	3,839694656
S2	Keefektifan Waktu	3,3359375	3,557251908
S3	Kelancaran Komunikasi	3,488549618	3,419847328
S4	Pemahaman saat komunikasi	3,023076923	3,259541985
S5	Baik dalam pengeloaan pembelajaran	3,244274809	3,389312977
S6	Kesusuaian materi dengan tugas	3,415384615	3,580152672
S7	Respon siswa	3,3	3,297709924
S8	Mudah dalam bertanya	3,160305344	3,320610687
S9	Ketertiban pembelajaran	3,038167939	3,259541985
S10	Kelancaran interaksi	3,419847328	3,305343511
S11	Kehadiran	3,176923077	3,229007634
S12	Pemahaman pembelajaran	2,786259542	3,251908397
S13	Tugas dan hasil dari pembelajaran	3,415384615	3,564885496

Source: Data Research 2022

The determination of this data is to divide the results of the interview into 2 types of learning, namely synchronous and asynchronous which already has data from the questionnaire results which are averaged.

Normalized Decision Matrix

Table 5. Normalized Decision Matrix

1. Penentuan Indikator	
C1	Penggunaan waktu yang sesuai jam pembelajaran
C2	Proses komunikasi
C3	Pengelolaan pelaksanaan pembelajaran
C4	Respon peserta didik
C5	Aktifitas pembelajaran
C6	Hasil belajar siswa

Source: Data Research 2022

Data from the questionnaire results are normalized with the normalization formula of the TOPSIS analysis method.

Weighted Normalized Decision Matrix

Table 6. Weighted Normalized Decision Matrix

4. Ternomalisasi			
Pembagi		11,76162655	12,29566039
Alternatif			
S1	Kesesuaian Waktu	0,299200451	0,312280474
S2	Keefektifan Waktu	0,283628925	0,289309545
S3	Kelancaran Komunikasi	0,296604352	0,278134498
S4	Pemahaman saat komunikasi	0,257028814	0,265096943
S5	Baik dalam pengeloaan pembelajaran	0,275835557	0,275651154
S6	Kesusuaian materi dengan tugas	0,290383698	0,291172052
S7	Respon siswa	0,280573438	0,268201123
S8	Mudah dalam bertanya	0,268696284	0,270063631
S9	Ketertiban pembelajaran	0,258311886	0,265096943
S10	Kelancaran interaksi	0,290763128	0,268821959
S11	Kehadiran	0,270109161	0,2626136
S12	Pemahaman pembelajaran	0,236894066	0,264476107
S13	Tugas dan hasil dari pembelajaran	0,290383698	0,289930381

Source: Data Research 2022

After normalizing the data, it is then weighted with the initial weighting where the weighting is the result of the frequency of using the method and the interview results from the stalkholder then produces some weighting results. Matrix of Positive Ideal and Negative Ideal Solutions.

Table 7. Positive Ideal and Negative Ideal Solution Matrix

5. Bobot		0,4	0,6
S1	Kesesuaian Waktu	0,12491219	0,187368285
S2	Keefektifan Waktu	0,115723818	0,173585727
S3	Kelancaran Komunikasi	0,111253799	0,166880699
S4	Pemahaman saat komunikasi	0,106038777	0,159058166
S5	Baik dalam pengeloaan pembelajaran	0,110260462	0,165390692
S6	Kesusuaian materi dengan tugas	0,116468821	0,174703231
S7	Respon siswa	0,107280449	0,160920674
S8	Mudah dalam bertanya	0,108025452	0,162038178
S9	Ketertiban pembelajaran	0,106038777	0,159058166
S10	Kelancaran interaksi	0,107528784	0,161293175
S11	Kehadiran	0,10504544	0,15756816
S12	Pemahaman pembelajaran	0,105790443	0,158685664
S13	Tugas dan hasil dari pembelajaran	0,115972152	0,173958228

Source: Data Research 2022

The results of the ideal solution matrix to determine the positive and negative values of all the solutions obtained are then used to determine the value range of each alternative solution and the Distance Value of Each Alternative can be seen in Table 8

Table 8. Distance of Value of Each Alternative

D+		D–	
S1	0	S1	0,020754797
S2	0,009378331	S2	0,01093494
S3	0,014078132	S3	0,006295083
S4	0,019674875	S4	0,000995558
S5	0,015134743	S5	0,005276214
S6	0,008603772	S6	0,011716992
S7	0,018331217	S7	0,002246249
S8	0,017528352	S8	0,002999994
S9	0,019674875	S9	0,000995558
S10	0,018063317	S10	0,002497219
S11	0,020754797	S11	0
S12	0,019944439	S12	0,000746252
S13	0,044046911	S13	0,011195347

Source: Data Research 2022

Distance is the result of the matrix used for each alternative solution in research.

Preference Value

Table 9. Reference values

Alternatif	Preferensi
S1	1
S2	0,538315094
S3	0,308988193
S4	0,048163366
S5	0,258499099
S6	0,576601932
S7	0,109160612
S8	0,146139083
S9	0,048163366
S10	0,121456919
S11	0
S12	0,036067037
S13	0,202659108

Source: Data Research 2022

The preference value is a way to see the closest and closest alternative to the one suggested and then ranked according to the largest value.

TOPSIS Score Analysis

From the calculation results it is known that:

Table 10. TOPSIS Score Analysis

Alternative	Preference	Rank
S1	1	1
S6	0.576601932	2
S2	0.538315094	3
S3	0.308988193	4
S5	0.258499099	5
S13	0.202659108	6
S8	0.146139083	7
S10	0.121456919	8
S7	0.109160612	9
S4	0.048163366	10
S9	0.048163366	11
S12	0.036067037	12
S11	0	13

Source: Data Research 2022

The S1 solution is the closest solution for learning models in the network with synchronous and asynchronous methods, followed by S6 material suitability and Masters in time effectiveness at Asy Syakirin Pinang Islamic Middle School, Tangerang City.

CONCLUSIONS

From the results of research and discussion of collecting questionnaire data which is the focus of this research, namely regarding the Effectiveness of Online Learning with the Synchronous Model, namely with Google Meet and Online Learning with the Asynchronous Model, namely with WhatsApp on Student Learning Achievement, it can be concluded that when viewed from learning English online has been effective because from the data obtained when compared with the learning achievements of class VII students in the odd semester, the acquisition of student achievement in this even semester has increased. with the Synchronous online Learning Model Category for the learning achievement of students

who reach a Score Interval of 70-100 is 60.14%. Meanwhile, regarding the online learning model used, namely Synchronous, namely with Google Meet media and Asynchronous, namely with WhatsApp media, it has really helped make it easier for teachers and students in the learning process. With the analysis of the S1 Alternative TOPSIS method of the closest solution for model learning in the network with synchronous and asynchronous methods get Rank 1 in the Time Conformity category and the Preference value is 1.

The preference value is a way to see the closest and closest alternative to the one suggested and then ranked according to the largest value. It is suggested that teachers and students should disclose that there are aspects that need to be addressed if online learning activities with Synchronous and Asynchronous models are to be continued in the following semester. The authors teacher suggest preparing more appropriate teaching materials. Students also hope that schools and the government will provide facilities to access the internet and not be a burden so that synchronous and asynchronous online learning models are more effective. Students also expressed evaluation activities in the form of tasks considered too many and burdensome with a short time. The results of research related to this matter are also in line with the results of Kurniasari's research (2020) which states that the number of assignments is a factor that causes online learning to run ineffectively.

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