
ANXIETY ANALYSIS OF STUDENTS TAKING DISTANCE LEARNING IN MATHEMATICS LEARNING IN JUNIOR HIGH SCHOOLS^(*)

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Abstrak: Kecemasan matematika merupakan kondisi psikologis siswa dalam kegiatan proses belajar matematika. Penelitian ini bertujuan untuk mendeskripsikan tentang kecemasan belajar siswa dalam pembelajaran jarak jauh pada pembelajaran matematika. Metode yang digunakan dalam penelitian ini adalah metode kajian pustaka terhadap buku-buku dan literatur sebagai data. Selain itu penelitian ini diperkuat dengan pengambilan data yang diperoleh melalui penyebaran kuesioner yang terdiri dari 17 butir pernyataan agar dapat mengetahui interpretasi kecemasan belajar matematika yang dialami oleh siswa dalam pembelajaran jarak jauh. Kuesioner diberikan kepada siswa di SMPTK Pelita Hati Denpasar Tahun Pelajaran 2021/2022 sebanyak 27 responden. Hasil penelitian ini menunjukkan bahwa siswa mengalami kecemasan belajar pada pembelajaran matematika secara daring. Bentuk kecemasan saat mengikuti pembelajaran jarak jauh pada pembelajaran matematika yang muncul dari siswa berupa perasaan takut, khawatir, tidak percaya diri, gelisah, jantung berdetak lebih cepat bahkan sampai mencoba menghindari pembelajaran.

Kata kunci : *Kecemasan belajar, Pembelajaran jarak jauh, Pembelajaran matematika*

Abstract: Mathematics anxiety is a psychological condition of students in the learning process of mathematics. This study aims to describe students' learning anxiety in distance learning in mathematics learning. The method used in this study is a literature review method of books and literature as data. The method used in this study is a literature review method of books and literature as data. In addition, this research was strengthened by collecting data obtained through distributing questionnaires consisting of 17 statements in order to determine the interpretation of mathematics learning anxiety experienced by students in distance learning. Questionnaires were given to students at SMPTK Pelita Hati Denpasar in the 2021/2022 academic year as many as 27 respondents. The results of this study indicate that students experience learning anxiety in online mathematics learning. Forms of anxiety when participating in distance learning in mathematics learning that arise from students in the form of feelings of fear, worry, lack of confidence, anxiety, faster heart beats and even trying to avoid learning.

Keywords: *Learning anxiety, Distance learning, Mathematics learning*

INTRODUCTION

Covid-19 (Coronavirus Disease) which began to spread in the world since the end of 2019, including in Indonesia, had a fatal impact, causing death. This prompted the Indonesian government to issue several appeals to the community, such as an appeal to work from home (WFH). In relation to this, the Minister of Education and Culture issued Circular Letter Number 36962/MPK.A/HK/2020 on one of the points saying that all learning activities, both schools and universities, use online methods as an effort to prevent the development and spread of Covid-19. Based on the circular, all learning activities are carried out online, including mathematics. The implementation of learning with e-learning is also echoed by Nadiem Makarim (as Minister of Education and Culture) as an independent learning. Online learning is a learning that is carried out remotely through the internet and other supporting tools (Putria, 2020). Online learning in normal situations can have a positive influence on student learning motivation because online learning is a new learning system so that curiosity and enthusiasm for learning in online classes grows (Ibrahim & Suardiman, 2014). However, online learning during the COVID-19 pandemic actually caused anxiety for some students (Oktawirawan, 2020). According to Arifah (Dwi Ananda & Apsari, 2020) there are two things that often becomes problems in online mathematics learning in Indonesia, namely the unavailability of learning tools and limited internet access. In addition, content in online learning is often only explained theoretically so that there is little opportunity for students to practice and learn effectively (Dhawan, 2020). An environment that is not conducive so that an unstable internet connection is something that students often complain about when participating in online learning (Irawan et al., 2020). If anxiety continues and there is no solution, it is feared that students will not be able to control themselves (Suardana & Simarmata, 2013).

Anxiety is a psychological problem that is often encountered in learning activities, especially in learning mathematics which is then known as mathematics anxiety (Saputra, 2014). The abstract nature of mathematics, full of numbers and formulas, makes mathematics often seen as a difficult and scary subject (Ekawati, 2015). Mathematics anxiety is seen as a student's response to situations in mathematics learning when feeling depressed which can then trigger feelings of discomfort that are shown both physically and psychologically. Mathematical anxiety makes students unfocused and difficult to accept and understand what the teacher says regarding mathematical concepts (Fadilah, 2020). Based on the explanation above, students' learning anxiety towards mathematics in online learning will be discussed further in this study. The purpose of this study is to describe students' anxiety in distance learning, especially in learning mathematics.

RESEARCH METHOD

This study uses a methodological approach used in this study is a literature review method of books and literature as data. In addition, this study was strengthened by collecting data obtained through the provision of a questionnaire consisting of 17 statements consisting of 11 positive statements and 6 negative statements in order to determine the interpretation of mathematics learning anxiety experienced by students in distance learning. Data collection using a mathematical anxiety scale was carried out online using the help of google form. Data on student questionnaire answers scores were grouped using a Likert scale consisting of four answer options, namely disagree (TS), disagree (KS), agree (S), strongly agree (SS). Scoring is done by giving a score of 4, 3, 2, 1 for each positive statement. For each negative statement, a score of 1, 2, 3, and 4. The level of mathematical anxiety is categorized according to Arikunto (2009) which is listed in table 1 as follows.

Table 1. Mathematical Anxiety Questionnaire Grid

Indicator	Description	Nature of Statement	Number
Afraid of his own mind	There is a feeling of displeasure when participating in online math learning	Positive	2
	Avoid learning math online	Positive	18
	Feeling insecure when taking distance learning and answering questions	Negative	7,9
Afraid	There is fear when the teacher is appointed to answer	Negative	12
	Feeling tense when expressing answers	Negative	13
	Unable to control fear while online learning	Negative	14
Nervous	Feeling restless because of the assigned task	Positive	3
Impaired concentration and memory	Suddenly forgot when answering a question	Positive	11
	Do not understand the material when learning online	Positive	4
Worry	There is a sense of worry about the value obtained during distance learning	Positive	5
	Feeling worried when discussing with friends	Positive	6
Uncomfortable feeling	There is a feeling of discomfort when participating in distance learning	Positive	8
	Feeling pressured when answering questions	Positive	10
Sleep disorder	Can't sleep well before learning math online	Positive	15
Somatic complaints	It's easy to sweat during online math lessons	Positive	16
	The heart beats faster when asked to present the results of the answer	Positive	17

RESULTS AND DISCUSSION

1. Distance Learning

Distance education is an institution-based formal education in which students and instructors are located in separate locations, thus requiring an interactive telecommunication system to connect the two and the various resources needed in it (Dian Primasari & Zulela, 2021). Distance learning (also called distance education) is training given to participants or students who do not gather together in one place regularly to receive lessons directly from the instructor (Prawiyogi, 2020). In addition, distance education is an educational process that bridges the separation between educators and students mediated by the use of technology (Rohmah, 2020). Thus, distance learning is learning that is not done together in one place regularly to receive lessons but is mediated by the use of technology.

Distance learning in its implementation has various advantages and disadvantages. According to Mustafa (2020), some of the advantages of distance learning are as follows:

- a. The right to obtain education for students can run with special conditions such as the Covid-19 pandemic, etc.;
- b. There are facilities where educators and students can communicate easily through internet facilities without being limited by distance, place, and time;
- c. Learners can adjust their lessons by controlling their study time;
- d. Learners can study or repeat lesson materials at any time and anywhere if needed;
- e. Forcing a change in the role of passive learners to become more active and independent.

While the disadvantages of implementing distance learning include the following:

- a. Teachers need more time in preparing the delivery of the distance learning process than the face-to-face learning process;
- b. Administrative support for the distance learning process is needed to serve the number of students who may be very large;
- c. Some students feel strange learning on their own without direct interaction with the teacher or with their friends;
- d. Students who lack motivation or high initiative become a problem in the learning process; and
- e. Network access or support such as quotas are very influential in implementing online distance learning.

2. Math Anxiety

According to Joseph (in Priyanto, 2017), mathematics anxiety is defined as a feeling of anxiety that a person cannot do something efficiently in situations that involve the use of mathematics.

According to Burnham (in Mukholi, 2018), the source of anxiety will be more easily traced by examining 3 basic causes, namely: 1) self-confidence which may be threatened by doubts about outward appearance and abilities. 2) Our personal well-being may be threatened by uncertainty about the future, doubt in decision-making and material concerns. 3) Our well-being may be threatened by various unresolved conflicts. Furthermore, according to Denhere and Olaniyan & Medinat F. Salman (Oktavia, 2018), the factors that can cause mathematics anxiety are: (1) the condition of the class situation is not conducive, (2) the national mathematics exam or test, (3) weak the ability of teachers to convey the subject matter being studied, (4) mathematics has many formulas, (5) expectations from families to get good grades, (6) students cannot solve math problems. Based on the factors that cause mathematics anxiety, we can conclude that mathematics anxiety is a problem faced by students when studying mathematics.

3. Aspects of Anxiety

Navid, Rathus, & Greene (2005) (in Pratiwi, 2021), anxiety has three aspects, namely: (1) the physical aspects of anxiety include restlessness, nervousness of hands or limbs shaking; a feeling of tightness in the head, tightness in the pores of the skin of the stomach and chest, excessive sweating, sweaty palms, dizziness, dry mouth and throat, difficulty speaking, difficulty breathing, heart palpitations, or beating fast, trembling voice, fingers the fingers of the limbs become cold, feel weak, have difficulty swallowing, the throat feels constricted, the neck or back feels stiff or suffocated, the onset of stomach disorders or nausea, chills, frequent urination, flushed face, diarrhea. (2) behavioral aspects of anxiety include avoiding, sensitive, irritable, and easily shaken. (3) the cognitive aspects of anxiety include worry, feeling disturbed, fear of facing something that will happen in the future, having the belief that something terrible will happen soon without a clear explanation, being threatened by unimportant events, fear of not able to deal with problems, think negatively, think that everything is difficult and insurmountable, have mixed or confused thoughts, have difficulty concentrating, and find it difficult to focus.

4. Questionnaire Results and Discussion

From the results of distributing questionnaires conducted at SMPTK Pelita Hati Denpasar, 27 respondents were obtained with the Figure 1.

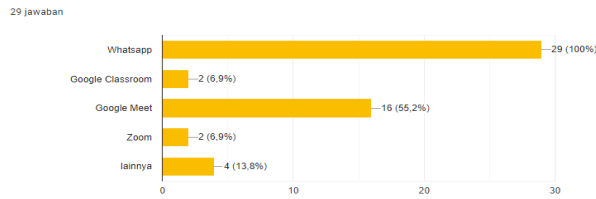


Figure 1. Several Applications For Online Distance at Questioner

The data shows that the percentage of use of several applications for online distance learning is 100%, google classroom 6.9%, Google meet 55.2%, zoom 6.9% and other applications 13.8%. The questionnaire provides 17 forms of statements to students. The statements are divided into two types, namely positive questions and negative questions. The results of students' answers can be analyzed using Likert scale guidelines. The Likert scale according to Djaali (in Suwandi, et al., 2018) is a scale that can be used to measure attitudes, opinions, and perceptions of a person or group of people regarding a symptom or phenomenon in education. The Likert scale is a psychometric scale commonly used in questionnaires, and is the most widely used scale in survey research. With the Likert scale index formula as follows:

$$index \% = \frac{total\ score}{Y} \times 100\%$$

Then the index interval used in processing the data acquisition results is as follows:

Table 2. Assessment Interval Likert Scale Index

Rating Interval	Categori
0% - 24,99%	Strongly agree
25% - 49,99%	Agree
50% - 74,99%	Disagree
75% - 100%	Don't agree

The 17 questions listed on the questionnaire and processed using the Likert scale index formula obtained the following results:

Table 3. Results of Learning Anxiety Questionnaire Processing

Positive Statement	Percentage	Conclusion
1 I'm worried that my daily score online will be worse than face-to-face	79%	Strongly agree
2 I feel nervous, because the tasks given by the teacher during online learning are more than during face-to-face learning	58%	Agree

Positive Statement		Percentage	Conclusion
3	I feel worried discussing with my classmates when learning online	57%	Agree
4	I have an uncomfortable feeling when taking online math lessons	75%	Strongly agree
5	There are many materials/mathematics that I don't understand when learning online	83%	Strongly agree
6	I feel pressured when I answer the questions asked by the teacher while participating in online learning	62%	Agree
7	I often forget suddenly when asked to answer questions from the teacher during online learning	70%	Agree
8	I can't sleep well before online math lessons	43%	Disagree
9	I sweat easily during online math lessons	37%	Disagree
10	My heart beats faster when the teacher is appointed to present the results of my answers during online learning	69%	Agree
11	I'm trying to avoid learning math online	58%	Agree
Negative Statement		Percentage	Conclusion
1	I feel happy learning math online during the Covid-19 pandemic	77%	Don't agree
2	I feel confident when I take online math lessons	80%	Don't agree
3	I am confident when I answer the questions the teacher asks when I take online lessons	60%	Disagree
4	I dare to answer the questions given by the teacher, even though I was not appointed during online learning	69%	Disagree
5	I feel relaxed and relaxed in expressing my answer when the teacher pointed at me during online learning	70%	Disagree
6	I can control my fear when I start online math lessons	56%	Disagree

Thus we can know the form of anxiety when participating in distance learning in mathematics learning that arises from students of SMPTK Pelita Hati for the 2021/2022 academic year in the form of feelings of fear, worry, lack of confidence, anxiety, heart beats faster and even tries to avoid distance learning, this causes a lot of material in learning mathematics that they do not understand. Respondents also wrote down the ways they did when dealing with anxiety, such as praying, asking the teacher, and learning to use applications for learning mathematics on the internet.

CONCLUSIONS AND SUGGESTIONS

The conclusion in this study is mathematics anxiety is a psychological condition when learning mathematics. Anxiety in learning mathematics is not only felt when learning in class but also during distance learning. This research is strengthened by research using a questionnaire to 27 respondents at

SMPTK Pelita Hati Denpasar experiencing learning anxiety in learning mathematics online. Forms of anxiety when participating in distance learning in mathematics learning that arise from students in the form of feelings of fear, worry, lack of confidence, anxiety, faster heart beats and even trying to avoid learning. The ways that students usually do to overcome learning anxiety are praying, preparing better, asking friends who understand better and using applications available on the internet to study and answer math questions given by the teacher when carrying out distance learning.

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