

Elementary school students' learning difficulties on distance learning during COVID-19: the psychological approach

Aquami¹, Miftahul Husni¹, Dian Andesta Bujuri¹, Nyayu Khodijah¹, Kusumasari Kartika Hima Darmayanti², Amilda¹, Masnun Baiti¹, Erlina Anggraini³, Marjon C. Malacapay⁴

¹Faculty of Education and Teacher Training, Universitas Islam Negeri Raden Fatah Palembang, Palembang, Indonesia

²Faculty of Islamic Psychology, Universitas Islam Negeri Raden Fatah Palembang, Palembang, Indonesia

³School of Psychology, Northeast Normal University, Changcun, China

⁴College of Teacher Education, Central Philippines State University, Kabankalan, Philippines

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ABSTRACT

During the COVID-19 period, pupils in primary schools have encountered various learning challenges. In Indonesia, this occurs in every primary school. This study intends to lighten the psychological aspect of distance learning challenges. This study employs a mixed-method methodology by integrating qualitative research, a case study technique, and quantitative description (n=414). Researchers looked at three primary school models in South Sumatra and Special Region of Yogyakarta: Model A, which used technology-based online learning; Model B, which integrated online and offline learning; and Model C, which only used WhatsApp group-based offline learning. Focus group discussions, observations, documentation, and interviews with teachers, parents, and students were all undertaken by the researchers. They also distributed open-ended and closed-ended questionnaires via Google Form. The interactive Miles, Huberman, and Saldana's models were used to analyze data. The findings demonstrated that children in all three school models encountered similar learning challenges. Still, in Model C, the complexity of those challenges was more significant than in Model A and Model B. Learning challenges included issues with comprehending topics, struggling to solve the problems with completing tasks, and working with self-study. The lack of essential psychological needs, such as the ability to interact and actualize oneself, as well as the boredom or monotony of students when pursuing distance learning, are some of the causes of learning challenges. The findings of this study have consequences for teachers and psychologists, who should pay attention to children's fundamental needs to improve learning motivation and academic progress in primary school pupils.

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Corresponding Author:

Aquami

Faculty of Education and Teacher Training, Universitas Islam Negeri Raden Fatah Palembang

Kemuning, Palembang, South Sumatra 30126, Indonesia

Email: aquami_uin@radenfatah.ac.id

1. INTRODUCTION

Implementing the distance learning system during the COVID-19 period has created learning difficulties for teacher as difficulty conveying the material, and for students as understand the material and complete the assignment including in elementary schools [1], [2]. In Indonesia, the learning system, which was initially carried out in the classroom during the pandemic, must be implemented with a distance learning system [3]. As Circular No. 4 of 2020 emphasizes that learning during the COVID-19 pandemic takes place

online. However, this distance learning system causes students to experience learning difficulties. A Research was found that the impact of learning was the inhibition of the learning process, which resulted in learning difficulties experienced, especially elementary school students [4]. On the other hand, The United Nations Children's Fund writes that distance learning is far from ideal and causes difficulties during the learning process for people with middle to lower economic levels and difficulty accessing the internet [5]. This fact is evidence that the distance learning system causes new problems, namely learning difficulties experienced by students in elementary schools nationally.

In response to the spread of the COVID-19 pandemic, several schools implemented online distance learning, which was implemented in three types. The three types are online learning in its entirety, partial online learning, and not both [6]. Thus, this study focuses on three categories of schools, namely implementing online learning based on technology media (Model A), schools that combine online and offline learning (Model B), and schools only implementing WhatsApp group-based and offline learning (Model C).

So far, much research has been done regarding the problems of distance learning. First a study on distance education and the social literacy of elementary school students during the COVID-19 pandemic [7]. Second, philosophy for children and mindfulness during COVID-19: Results from a randomized cluster trial and impact on mental health in elementary school students [8]. Third, mental health and its correlates among children and adolescents during COVID-19 school closure: The importance of parent-child discussion [9]. Fourth, experiences in distance education and practical use of ICT during the COVID-19 epidemic of Slovenian primary school music teachers with different professional experiences [3]. Fifth, a study on students who have difficulty in distance learning and parents who are burdened with assisting students during home learning because they cannot use technology in the learning process [10].

From those studies, it appears that there is an aspect that has not been studied comprehensively, namely learning difficulties from the student psychological aspect. At the same time, the psychological aspect is one of the factors in the context of students' learning difficulties in distance learning. The purpose of this paper is to complement the unexplored aspects of previous studies that ignore the psychological aspects and the role of parents in the learning difficulties of students in distance learning during the COVID-19 period. In particular, this study comprehensively maps out the aspects that are the factors that cause students' learning difficulties in distance learning during the COVID-19 period, especially in the psychological aspect and the role of parents apart from the aspect of learning facilities or media. Understanding the psychological conditions of students is an important aspect to be understood comprehensively to overcome the learning difficulties of students in distance learning during the COVID-19 period.

2. RESEARCH METHOD

2.1. Research design

The research method used in this study is a mixed-method research method [11] by combining a qualitative approach with a case study approach [12] and quantitative descriptive [13]. This case study research is used to examine the phenomenon of students' learning difficulties in distance learning in elementary schools and the factors that cause learning difficulties experienced by students. During the research process, researchers use anonymity to minimize social desirability, which aims to control confounding variables.

2.2. Research participants

The research subjects were selected through a sampling technique in the form of purposive sampling, which consisted of teachers (n=12) with an age range of 23-45 years, parents (n=201) with an age range of 25-50 years, and elementary school students in South Sumatra (n=110) and Special Region of Yogyakarta (n=91) with an age range of 8-11 years. There is no specific procedure for determining the sample size for interviews, because qualitative research requires quality information, focus, and not too much repetition [14]. Emphasized that 10-20 participants are sufficient to conduct an inquiry [15]. However, this research uses the entire population to be studied [16]. Elementary schools that are used as research objects include three school models in the two areas, namely: i) Research in schools with adequate facilities from the aspect of technology media that implements an online learning system based on technology media; ii) In schools whose technological facilities are at a moderate level by implementing online learning based on technology media that is not entirely or individually interspersed with task-based offline learning; iii) Schools whose technological media facilities are inadequate and only apply WhatsApp group and offline learning.

2.3. Research procedures

Participants in this study were asked if they would be open to participating through interviews and filling out the Google Form [17]. The fact that the study subjects provided informed consent suggested that

they voluntarily participated in the investigation. Data collected from research participants include information from structured and in-depth interviews (e.g., “what are the learning difficulties experienced by students during the distance/online learning process”) (n=12 teachers), focus group discussions (FGD) (n=12), participant observation (n=213), documentation (n students=201, n teacher=12), and questionnaires in the form of open and closed questions via Google Form (i.e., 23 open and closed questions) (e.g., Did you experience confusion in understanding the material).

To determine the level of learning difficulties and confusion in understanding the material experienced by students, the researcher used an instrument developed by the researcher (e.g., “did you have difficulty understanding the learning material during the distance learning process/online/online”; “what are the learning difficulties experienced by students during the distance/online learning process”; and “how often did you have difficulty understanding learning material during the distance/online/online learning process”). This instrument is a Likert scale with a 3-point range (never=1, often=3), with $D=0.989$ (above 0.40) and coefficient Cronbach’s $\alpha=0.994$ (above 0.70).

2.4. Data analysis

In this study, the data qualitative analysis used is an interactive model analysis. This interactive data analysis model continuously connects or integrates between data analysis components until the data is stable and comprehensive. Data analysis of this interactive model consists of three, namely data condensation (data condensation), data presentation (data display), and conclusion (drawing and verifying conclusions). Meanwhile, the data validity test was carried out using the data credibility test, transferability test, dependability test, and confirmability test [18]. The quantitative data analysis conducted to count the percentage value and the average regarding student learning difficulties. This study used Jamovi and IBM SPSS 24th version to analyze the data quantitatively. The data obtained from the results of interviews with respondents were juxtaposed and confirmed with data obtained from observations, and the answer documents were recorded on a Google Form. Meanwhile, the quantitative data obtained will be analyzed descriptively to determine the percentage of learning difficulties and confusion in understanding the material experienced by students.

3. RESULTS AND DISCUSSION

3.1. The challenges of home learning for students using an online system

The home learning system using several online learning support applications such as Zoom meeting, Google Meet, and video conference are frequently disrupted and unsatisfactory because of the limited internet access. Some schools in Indonesia frequently deal with these issues, including Budi Mulia primary school in Yogyakarta and Al Fahd Palembang Islamic primary schools. Consequently, the students easily get distracted and bored while engaging in online learning. Most students in those school’s experience learning difficulties, they often lose focus while studying and become overburdened. The subjects and assignments are frequently challenging for the students to comprehend and complete, particularly mathematics. Students’ writing abilities are also not even high. Additionally, students in grade 2 sometimes feel difficult to concentrate while doing online learning at home since they actually require individualized attention and direct supervision from the teachers.

Generally, most students in grade 2 are able to read properly and correctly, but some students in those two schools encounter delays in reading and counting abilities. Students in grade 4 of both schools also encounter certain problems, such as difficulty understanding the courses and to accomplish their assignments, especially courses that need counting skills. However, the challenges of students in grade 2 are more complicated than those of students in grade 4.

3.2. The challenges of integrating of online and offline learning methods for primary students

Blended learning system, which is the combination of offline and online learning, that was implemented by Wonolelo primary school in Yogyakarta and Cendikia Faiha Palembang Islamic primary school is frequently hindered by network, limited internet quota, and even some students do not have mobile phones or laptops. Some students extremely struggle to follow the learning program because of the aforementioned conditions. As what Mrs. Wy as a senior teacher in Wonolelo primary school said:

“Students in grade 2 are very difficult to follow online-based learning since they have limited digital resources and they also struggle to complete their assignments because their reading, writing and counting abilities are inadequate. Since the first year of school the students have to engage with online-based learning, while most of the courses require additional direct attention and supervision to make them get full understanding.”

In line with the previous statement, Mrs. AHF as a senior teacher of grade 2 in Cendikia Faiha Palembang Islamic primary school also stated that:

“Making students grasp the lesson is really challenging, Sir! Because they are less proficient in reading, writing, and counting. While most of the courses need full teachers’ direction and supervision. The students in upper grade experience learning difficulties as well but not as complex as students in lower grade. I experience difficulties while teaching certain courses, particularly mathematics. Due to the students’ inability to pay full attention when I am explaining, consequently we require longer time than when we studied together in class as before the pandemic. I also have a problem trying to differentiate which one gets full understanding and which one does not.”

The teachers in both schools admitted and stated that online learning presents extra difficulties for students, particularly for students in grade 1 and 2 who have less abilities in reading, writing, and counting. The students struggle to understand the courses and complete the assignments, particularly mathematics and other subjects that require counting skills. Compared to upper grade students, students in grade 1 and 2 suffer a greater number and complexity of learning obstacles. Due to the fact that students of higher grades had more experience learning in class together with peers and teachers before the outbreak of COVID-19 pandemic around the world.

3.3. The learning difficulties of primary students using blended learning system both online-based learning (using WhatsApp group) and offline-based learning

During the outbreak of COVID-19, Muhammadiyah Bojong and MI Azizan Palembang primary schools implemented a blended learning system both online (using WhatsApp group) and offline-based learning. However, they are unable to effectively use WhatsApp groups since some of the students do not have smartphones and even the internet connection is unstable. As the teachers stated:

“Since the outbreak of COVID-19, we have begun using online learning applications such as Google Form, Zoom meeting, WhatsApp group, and video teleconferences interchangeably. However, because the vast majority of parents are farmers and have limited internet access, we also provide offline learning (giving the books containing the material and assignments to the students). The students should come to our school to take the books and be required to complete all the assignments at home then return it after 2 or 3 days.”

In both schools, the online-based learning system created several new problems for students and teachers. The teachers encounter challenges while explaining the courses and assigning homework to the students. On the other hand, the students also struggle to understand the courses without direct interaction with the teachers, as a result students frequently take longer time to complete and submit their homework.

Based on the research findings, children in grade 2 and 4 in both schools had a variety of learning difficulties, including difficulties understanding the courses, struggle with independent study and accomplish the assignments. The challenges are more complicated for students in grade 2 since they have less abilities and experiences than students in grade 4. A teacher of grade 2 in Muhammadiyah Bojong primary school, Mrs. Eka said:

“Students in grade 2 are very struggling to learn from home with the limited digital resources and internet access. Moreover, some students have less reading, writing, and counting abilities. ZAM and GRN are two students that exhibit those lowered skills. They are unable to read properly because they are very sensitive and lack confidence. Additionally, the students must study from home since their first year of school while actually they need direct teaching and guidance from the teachers to fully understand the courses. In order to address those challenges, the school offers 1-2 hours each week of offline teaching at school.”

Mrs. ELY, a teacher of grade 2 in Azizan Palembang Islamic Primary School, also stated that:

“It’s quite challenging to make students understand the subjects because most of them lack basic reading, writing and counting skills. In our school, there are twelve students who are still unable to read: Mw, AF, AS, AR, AB, KH, HB, SL, GL, ZA, KK, and RI.”

The aforementioned evidence indicates that using an online learning system in several schools with restricted internet connectivity and limited electronic devices is ineffective. As the data described in Table 1,

the majority of students struggle to study and absorb the knowledge, particularly for students in grade 1 and 2. While students in Budi Mulia Yogyakarta primary school and Al Fahd Palembang Islamic primary school, which have better facilities and reliable internet connectivity receive better understanding in learning process than students at schools that use offline approach (learning at home and taking the material and assignment books from the teachers in school) such as in Muhammadiyah Bojong primary school and Azizan Palembang Islamic school. The difficulties differences among those systems are presented in the Table 1.

Table 1. The percentage of students that have difficulty understanding the courses and have learning difficulties

School		Learning difficulties			Confession understanding material		
		Often	Sometimes	Never	Often	Sometimes	Never
Budi Mulia primary school	2 nd Class	29.4%	70.6%	-	29.4%	64.7%	5.9%
	4 th Class	21.4%	78.6%	-	21.4%	78.6%	-
Al Fahd Palembang Islamic primary school	2 nd Class	23.5%	52.9%	23.5%	29.4%	41.2%	29.4%
	4 th Class	50%	41.7%	8.3%	66.7%	33.3%	-
Wonolelo primary school	2 nd Class	45.5%	40.9%	13.6%	36.4%	54.5%	9.1%
	4 th Class	30%	55%	15%	35%	55%	10%
Cendikia Faiha Islamic primary school	2 nd Class	23.5%	52.9%	23.5%	29.4%	47.1%	23.5%
	4 th Class	29.4%	64.7%	5.9%	29.4%	64.7%	5.9%
Muhammadiyah Bojong primary school	2 nd Class	70%	12.5%	12.5%	75%	12.5%	12.5%
	4 th Class	70%	10%	20%	70%	10%	20%
Azizan Palembang Islamic school	2 nd Class	70%	30%	-	65%	35%	-
	4 th Class	70.4%	22.2%	7.4%	70.4%	22.2%	7.4%

Long-distance learning methods used by some primary schools in Indonesia, which included online, offline, and blended methods (both of online and offline), caused several issues for the students as difficulty on understanding the material, confusion understanding the material, difficulty on problem-solving, difficulty on learning independently, difficulty on finishing assignment, passive during learning process, and bored during learning process. This study revealed that students in Azizan Islamic school and Muhammadiyah Bojong primary school, which used online methods, experienced the most complex learning challenges. Most of the students' scores are lower than the standard score. Moreover, several students are even unable to read, write, and count. Based on the data, twelve of twenty students in Azizan Islamic primary school are unable to read.

Additionally, this evidence demonstrates that students in lower and upper grades differ significantly from one another. Students in grade 4 are more confident and comfortable using the online learning method since they have more experience in learning, such as reading, writing, and counting as the fundamental skills of self-study. While the students in grade 2 are dealing with additional difficulties because they have less classroom interaction with peers and teachers since their first year of school.

School age children mostly are very active and frequently prefer outdoor activities. Feelings of joy and happiness are really needed for students at the elementary school level [19]. The fulfillment of this pleasure results in students enjoying the learning process [20]. The pleasure obtained has an impact on students' high motivation and interest in learning [21].

Thus, schools should provide a playground so that students may have fun and go on adventures with their peers. When the students get disinterested in the learning process, their motivation to learn also declines and it will cause lower achievement [22]. Therefore, students need greater attention, accompaniment, and direct guidance from the teachers and parents. The students' ability to concentrate is also decreasing, moreover for students who are learning online. Those issues are the causes of the students in grade 2 getting easily overwhelmed and disengaged throughout the learning process, and it causes self-study difficulties.

Even though Budi Mulia primary school and Al Fahd Islamic primary school have implemented several online-learning methods, the students still experience several learning issues while engaging in long-distance learning. Every student prefers to study in the classroom together with teachers and peers. It indicates that students' interest and learning motivation are significantly higher when they study in class than home learning.

The first factor is the psychological condition of students. Online learning causes students' psychological conditions to be disrupted, even stressful [23]. In this case, students' learning difficulties are highly related to their basic needs. According to research findings in the three different types of school, most students frequently feel bored and burn out while involved in a long-distance learning process. The lack of enthusiasm and disinterest to study among students definitely has an impact on their level of boredom, which in turn affects automatically on students' learning difficulties, confusion in understanding the courses, and problem-solving issues.

One crucial aspect of the long-distance learning process that must be fulfilled is students' basic needs. The students' psychological states become unbalanced and unpleasant when their requirements are not addressed, making it difficult for them to follow the learning process effectively [24]. Moreover, when they have to study independently and accomplish all whole assignments. Due to lack of self-actualization activities, the students become passive while studying. Even the teachers struggle to create practice-based learning to prevent students from becoming disinterested and bored in their studies, this effort is insufficient because it is not commonly used.

The psychological problems are often encountered by students during the current distance learning period. On the other hand, learning can be carried out effectively because teachers can be involved, motivate, and pay attention to students in class. In this case, as depicted in Figure 1, there is a correlation between the psychological aspect (basic need) and students' learning interests, and teacher and parent are the main parties to provide these students' basic needs. The research describes the relationship between these facts in Figure 1.

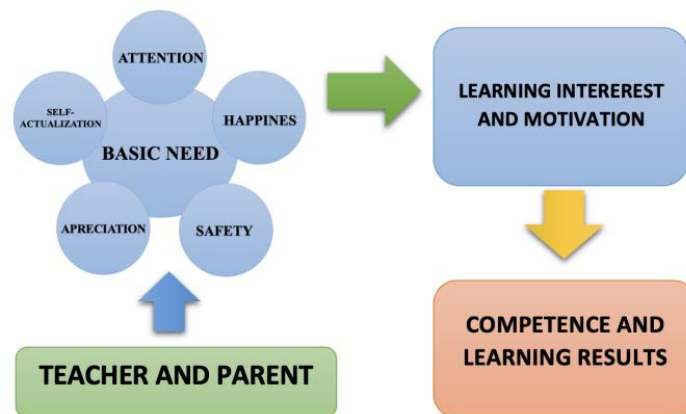


Figure 1. The correlation between students' basic needs and interests, motivation, competition, and result

The aforementioned facts confirm that it is necessary for the teaching and learning process to consider students' basic needs for learning, such as a sense of joy and satisfaction, comfort, self-actualization, and self-appreciation. When students are in the highest hierarchy (self-actualized), they can focus on themselves during the learning process. On the other hand, basic needs can affect the quality of students' learning processes [25].

Naturally, in order to achieve these basic needs, one requires more support from others (parents, siblings, teachers, peers, and others) than from oneself. Considering that young children may have limited strengths and abilities. Thus, without those factors children will mentally feel unmotivated, burned out, bored, and uninterested in learning activities. Therefore, it is obvious that students would choose direct learning in class with teachers and peers over distant learning.

The involvement of parents is the second factor. The learning difficulties are a result of parents not providing enough support, direction, and attention to their children when they study at home. It is obvious that children lose their interests and even become lazy to study at home due to lack of parental attention, help, direction, and instruction. The aforementioned conditions have impacts on the students' interest and learning motivation, which will have an impact on their achievements. Even though many parents of students have excellent educational backgrounds, parents may not have enough free time to accompany their children study at home. Most parents do not have a lot of free time in the evenings or on weekends to help their children study and do the homework [26].

Students in those age groups are still in the early stages of puberty, they need more attention, affection, and appreciation. They may not want to accept responsibility for their mistakes, even when they do. And if they do, they may become irritated, furious, and even cry. Aggressive attitudes (including annoyance, disappointment, and frustration) remain frequently common, particularly in children between the ages 6 to 8 years old. Children between the ages of 9 to 10 may already show both good and bad behavior, and teenagers beyond the age of 12 have a complex organized image of themselves [27].

Students need assistance and guidance from external parties, especially the role of parents towards students at the elementary school level [28], [29]. Parents' active involvement might encourage children to maintain their motivation for learning. The more intensely parents pay attention and motivation, the higher

the learning motivation of students [30]. The support or motivation provided by parents has a positive impact on students' learning processes [31]. Thus, effective collaboration between teachers and parents will have positive effects on the distant learning process (e.g., by providing social-emotional support and helping to increase children's cognitive abilities) [32]. The third factor is students' cognitive abilities. The success of students' learning is also influenced by aspects related to cognitive ability [22]. One of the key considerations for directing the educational process is cognitive growth. The cognitive domain, often known as Bloom's taxonomy cognitive domain, is a domain associated with learning objectives in education that is oriented in thinking skills. The cognitive domain of Bloom's taxonomy has six levels: remembering, understanding, applying, analyzing, evaluating, and creating [33]. These six levels are the outcome of revisions that were done by Anderson and Krathwohl to the prior edition.

According to Piaget's theory, the thinking of young children in primary school is referred to as concrete operational thinking [34]. The meaning of concrete operational by Piaget is a condition where the children are able to use their minds to think logically about something concrete or real [35]. At this stage, logical thinking takes the role of intuitive thinking (instinct) as long as the thinking can be applied to concrete or particular situations [36]. However, the disadvantage of this stage is that the child may struggle and may even be unable to answer abstract issues correctly when presented with it verbally without tangible objects.

Even though children can recognize causal relationships and think logically yet their ability for hypothetical or abstract thinking are still limited [37]. Children can only solve their problems if the problem's objects are empirical (real) or perceptible using their five senses, not imaginary. As an illustration, when students in first grades are presented a statement about three glasses of red, black, and white. Then asked, what shades of glass would appear most luminous and clear. Since the child's cognitive ability is limited, it will be challenging for them to answer. As a result, the possibility of a child's response varying will depend on whether it is grounded in rational and logic. When the children observe the real three colored glasses in front of them, the question will be answered correctly.

According to Piaget, children in the concrete operational stage generally use inductive reasoning, beginning from observations about specific members of the class of people, animals, objects, or events, then drawing generalizations about the class as a whole [38]. For example, children in this stage will immediately step in to solve the problem when they face problems. Unlike the older children who think formally (11 years old and older), they would first think theoretically, then identify and classify, seek for answers, and last handle the problem [39], [40]. As an illustration, when younger children learn that a red guava has a sweet flavor, they may draw the incorrect conclusion that all red guava has a sweet flavor. The aforementioned theory completely contradicts how distance learning is implemented in schools, particularly those that are implemented offline learning. Distance learning does not fully present learning by providing concrete (real) examples of the material being taught. Students unavoidably learn independently when required to read abstract texts without any direct explanation from the teachers using tangible objects.

Budi Mulia primary school and Al Fahd Islamic primary school are two examples of schools that use online-based learning, and their students have a better chance to receive explanations of courses through online learning applications such as Zoom meeting, Google Meet, and video conference. The students can easily understand the basic concept of all the courses from the teachers through the online-learning applications with better internet connection. This fact demonstrates that the students in the two online-based schools perform more competently and achieve higher learning outcomes than students in schools that implement the combination of online and offline-based learning or only offline-based learning.

The findings of this study showed that in order to achieve a better and more effective learning, all the factors must be met and fulfilled. However, the majority of students prefer to study together in a classroom with teachers and peers rather than have to engage with an online system. Moreover, the teachers are also able to give more attention and treat the students better [41].

4. CONCLUSION

According to study findings, a variety of factors that affects the students who are involved in long-distance learning and lead them to have learning difficulties, including, first, the lack of adequate technology facilities prevents the teachers from directly instructing and educating the students. Second, students' psychological basic needs. The relationship between teachers and students is significantly decreased because of long-distance learning, depriving students from feeling joy, affection, happiness, attention, admiration, and self-actualization. Students will easily become tired and bored when those demands are not addressed. Third, parental involvement. The data demonstrated that the majority of parents have a relatively little role in supporting and guiding their children while studying at home. Students' learning processes are frequently disregarded, which causes them to become bored and disinterested in self-study. Fourth, intelligence factor. Students with intelligence disabilities are particularly affected by the complicated learning challenges of long-distance learning.




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BIOGRAPHIES OF AUTHORS






Aquami    is an Assistant Professor and lecturer at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. His research interests are education, Islamic education, education in elementary schools, educational psychology, and learning media. He can be contacted via email: aquami_uin@radenfatah.ac.id.






Mifathul Husni    is an Assistant Professor and lecturer at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. His research interests are education, Islamic education, education in elementary schools. He can be contacted via email: mifathulhusni_uin@radenfatah.ac.id.



Dian Andesta Bujuri    is Assistant Professor and lecturer at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. Currently he serves as head of the center for property rights at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. His research interests are education, natural science education, education in elementary schools, and educational psychology. He can be contacted via email: dianandestabujuri@radenfatah.ac.id.






Nyayu Khodijah    is a professor of educational psychology. Currently she serves as Rector at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. Her research interests are education, psychology, and educational psychology. She can be contacted via email: nyayukhodijah_uin@radenfatah.ac.id.






Kusumasari Kartika Hima Darmayanti    is a researcher at the department of Islamic Psychology, Universitas Islam Negeri Raden Fatah Palembang. She is also an academic that has an interest on the field of data statistics, psychometric, educational psychology, cognition and emotion, and social cognition. For more detailed about her work, it can be discussed more on: kusumasari.kartika_uin@radenfatah.ac.id.






Amilda    is a Professor and lecturer at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. Her research interests are education, education management, educational psychology, and learning media. She can be contacted via email: amilda_uin@radenfatah.ac.id.






Masnun Baiti    is Assistant Professor and lecturer at Universitas Islam Negeri Raden Fatah Palembang, Indonesia. Her research interests are education, Islamic education, and educational psychology. She can be contacted via email: masnunbaiti@radenfatah.ac.id.



Erlina Anggraini    is a researcher and an alumnus from Northeast Normal University. She focuses her work on developmental and educational psychology. She persistently works on area of emotion stability and mental health related to education and some issues related to human's life span. Her contact is erlinacendekia@gmail.com.



Marjon C. Malacapay    is an Assistants Professor and lecturer from Central Philippines State University, Philippines. He is an enthusiast researcher on the area of educational in general. His research area of study includes instruction, pedagogy, and many more. He can be contacted at email psdrmj@cpsu.edu.ph.