

# International Journal of Evaluation and Research in Education (IJERE)

p-ISSN: 2252-8822, e-ISSN: 2620-5440

CiteScore 2023  
**2.7**

SNIP 2023  
**0.780**

SJR 2023  
**0.355**

**Q2** CiteScore Quartile  
in Education



International Journal of Evaluation and Research in Education (IJERE), p-ISSN: 2252-8822, e-ISSN: 2620-5440 is an interdisciplinary publication of original research and writing on education which publishes papers to international audiences of educational researchers. This journal aims to provide a forum for scholarly understanding of the field of education and plays an important role in promoting the process that accumulated knowledge, values, and skills are transmitted from one generation to another; and to make methods and contents of evaluation and research in education available to teachers, administrators and research workers. The journal encompasses a variety of topics, including child development, curriculum, reading comprehension, philosophies of education and educational approaches, etc. IJERE has been indexed by SCOPUS, and ScimagoJR.

Beginning with issue 1 of volume 13 (2024), this journal will be published as a bimonthly journal (6 issues/year). The journal is published by Institute of Advanced Engineering and Science (IAES) in collaboration with Intelktual Pustaka Media Utama (IPMU).

## The role of teachers and parents to improve children's motivational learning in pandemic situation

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### Article Info

#### Article history:

Received Jul 22, 2021

Revised Jun 7, 2022

Accepted Jun 30, 2022

#### Keywords:

Distance learning

Home learning

Motivation

### ABSTRACT

This study analyzed the teachers' and parents' synergy in motivating children to take online learning at home during the COVID-19 pandemic in Indonesia. The research instrument consisted of 13 survey questions distributed via Google Form and succeeded in capturing 139 samples of parents of preschool and elementary school students spread across 17 provinces in Indonesia. Factor analysis and structural equation modeling (SEM) were conducted to analyze the instrument's validity and test hypotheses. The factor analysis results showed that the 13 instruments used showed an excellent correlation to confirm each variable's structure. The SEM analysis results showed that in the online learning system applied to preschool and elementary school children, parents play a significant role in the children's motivation to take online learning at home. Parents were also a positive and significant mediator variable in the teacher's role in increasing children's learning motivation. These results indicated that parents' and teachers' motivating children to carry out online learning at home during the COVID-19 pandemic in Indonesia must be established and continuously improved. The contribution was a reference for those who intend to develop an appropriate online learning system framework for preschool and elementary school children.

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## 1. INTRODUCTION

The COVID-19 pandemic is a multidimensional problem facing the world, which impacts various sectors, including the education sector. The pandemic emergency period that hit various countries in the world requires that the learning system be replaced with online learning so that the learning process continues [1]. 2020 was the year when education experienced the most significant disruption in history, which at its peak forced nearly 1.6 billion students in more than 190 countries out of their classrooms [2].

Indonesia has implemented a policy of online learning at home since March 2020. After implementing the policy, few students have experienced boredom, making it difficult to concentrate on learning [3]. This is due to the absence of an online learning system that can increase student learning motivation, because even though the lack of student motivation will be an inhibiting factor in online learning [4], [5]. Student motivation is closely related to student learning success [6]. Students who have more motivation will be motivated to do challenging activities, be actively involved, enjoy the learning process, and show increased learning outcomes, persistence, and creativity [7]. Motivation can influence students in terms of what is learned, how to learn, and when to learn [8]. Furthermore, high motivation students will foster a person's tendency to learn for life [9]. Therefore, students' motivation is considered as an important

factor for success in an online learning environment [10], [11]. In view of the importance of learning motivation for the success of students' learning, in online learning systems, this aspect of learning motivation requires serious attention from all parties related to the learning process.

In the online learning system, the question arises as to who is the most responsible party for keeping students' motivation. From the perspective of teachers, as educators, teachers have a responsibility to continually maintain students' motivation, especially teachers who have the teaching capacity to do so. On the other hand, teachers in online learning systems face obstacles to interact directly with students due to the limited literature on teachers' efforts to maintain student learning in online learning systems. Then, from the parents' perspective, as the party that interacts directly with students every day, parents have full control to organize and create a learning environment that can keep the motivation to learn at home. However, on the other hand, parents have a limited understanding of theory and practice to keep students' motivation. It is at this point that the researchers believe that research is necessary to establish a conceptual model of the relationship between the role of teachers and parents in the online learning system to keep the learning motivation of students. The results of this research are expected to provide a new paradigm, especially for teachers and parents, of how they should establish relationships in online learning systems to maintain motivation to study at home. Additionally, the results of this study are expected to provide references for schools and the Ministry of Education to develop guidelines on how teachers and parents should work together to create online learning activities that can keep students' motivation.

Online learning is distance education which has the main characteristic of separation between teachers and students [12] and is delivered via the internet [13]. When the traditional learning system turned into online learning during the COVID-19 pandemic, teachers were required to have the ability to adapt to new learning environments. If previously the teacher was accustomed to face-to-face and interacting directly with students, during online learning teacher and student interactions took place in a virtual classroom.

Teachers' role in online learning is not much different from teachers' role in traditional learning, such as making learning plans, facilitating learning activities, compiling teaching materials, and carrying out evaluations. However, teachers need to adjust to aspects of the learning environment where the learning space occurs in a virtual space. Some of the roles of teachers that must be considered in online learning include: adapting learning to virtual classrooms, facilitating communication through online synchronous methods, conducting assessments through online systems, and developing 'content and structure' for online learning [14]. As the traditional learning system changed to online learning during the COVID-19 pandemic, teachers are required to have the ability to adapt to new learning environments. If humans are considered one of the most critical factors to make the system run more smoothly in an information management system theory, then similar to this, the teacher's role is also significant so that the online learning system can run as expected. However, to carry out this critical role, teachers need to learn about how online learning can be done to understand how the role changes must be carried out from traditional learning to online learning.

In traditional learning, parental involvement has an essential meaning for children's education and is critical for student learning success [15]. However, when learning changes from traditional to online learning, perhaps parental involvement will differ [16]. In traditional learning, most of the student learning time is carried out in school with the teacher's guidance, while in online learning, students will spend more time studying at home with their parents. Of course, this will impact increasing the role of parents. Based on this, some parents responded positively to this as they felt more involved in their children's learning activities, while other parents considered this an additional burden for them [17].

Several studies have reported that parents' role has shown a significant contribution to student achievement in online learning [18], as well as on student involvement and learning motivation [19], [20]. The adolescent community of engagement (ACE), which is specifically designed to study online learning environments at the youth level, reported that parents have a responsibility in the online learning environment, including facilitating learning, helping students organize learning environments and learning schedules to participate and be involved in educating students [18], as well as maintaining relationships and interactions with students and motivating students [21]. Some of the roles played by teachers in traditional learning change to the responsibility of parents when it becomes online learning. Parents who previously may have only been responsible for monitoring learning activities at school and assisting learning activities are only possible if they have homework. In online learning, parents are responsible for managing the learning environment, learning schedules, and taking an active role as educators.

Students tend to study alone in a familiar home environment in this learning activity, making it possible to create a monotonous and saturated environment. To achieve success in the online learning process, several factors influence motivation, one of these factors [22]–[24]. Low motivation is one of the highest factors that cause students to be unable to complete online learning [25].

Theoretically, motivation is initiation, direction, intensity, persistence, and behavior that leads to a goal [26]. Motivation is also an internal condition that generates, directs, and maintains behavior [27]. The motivation embedded in someone will encourage the process of giving encouragement, direction, and

persistence in behavior [28]. Motivation makes a person move, puts someone in a specific direction [29], and acts towards the desired direction both physically and mentally [30].

One indication that someone is motivated by something is how he is involved [10]. Engagement is broadly conceptualized as a person's participation, focus, participation, and persistence on a task [31], [32]. Other indicators that show motivation reflected in engagement are the behavior shown by students, the intensity of students in learning, the direction of attitudes when learning, and the persistence or persistence of students in learning [33]. Based on several motivational indicators shown in the aspect of the involvement, in this study, the indicators of student motivation to take part in online learning are measuring the extent to which they are involved in learning based on: i) Focus on learning; ii) Learning frequency; iii) Participation in learning; iv) Persistence in assignments; and v) Learning directions.

## 2. RESEARCH METHOD

This was a survey research with a cross-sectional design, where the researcher collects data at a particular time [34]. In this study, the aspects being measured are the survey instruments for teachers' and parents' role in online learning and student motivation at home. The survey results will be analyzed using the structural equation model (SEM). The research model proposed in research that shows the hypothesized relationship between variables is shown in Figure 1.

Three hypotheses will be tested through SEM analysis to obtain a fit model regarding the factor of teachers' roles and the role of parents in motivating students to carry out learning at home online. The three hypotheses are: i) The teacher's role positively and significantly affects student learning motivation in online learning at home (H1); ii) The role of parents has a positive and significant effect on student motivation in online learning at home (H2); iii) The teacher's role has a positive and significant effect on student motivation in online learning at home, with parents acting as an intervening variable (H3).

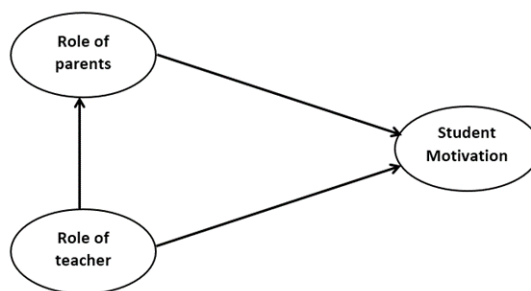


Figure 1. Student motivation model of online learning at home

### 2.1. Participant

As long as the home learning policy was implemented for all education levels starting from March 2020, we distributed survey instruments. Until June 2020, we succeeded in capturing 179 samples of parents from preschool to elementary school levels, spread across 17 provinces in Indonesia which Universitas Muhammadiyah Prof. Dr. HAMKA, Jakarta, Indonesia, has approved for collecting the data in the questionnaire. However, only 139 samples were used to consider that this study was only suitable for parents who were at home accompanying their children's learning activities. So that some samples of parents who work outside the home are not included in the study sample. The sample consisted of 23 men (17%) and 116 women (83%) with a work background as civil servants (7.19%), lecturers (22.30%), teachers (16.55%), housewives (38.13%), private employees (12.23%) and self-employed (3.60%).

### 2.2. Measurement

In this study, an instrument in the form of a survey questionnaire was used. This survey instrument was used to explore quantitative data on three variables: the role of the teacher (ROT), the role of parents (ROP), and student learning motivation (SLM). The three variables are then broken down into 13 survey instruments using a Likert scale of 1-5. The indicators for each of the 13 instrument items as shown in Table 1. In this study, SmartPLS 3.0 software was used to perform Partial Least Squares (PLS) Structural Equation Modeling-Variance Based (SEM-VB) analysis in order to test the proposed research model [35]. SEM is a statistical method in this study because SEM can perform analysis simultaneously and provide accurate predictions [36]–[38].

Table 1. Research variable indicators

Variable	Item Code	Item Indicator	Sources
Role of Teacher (ROT)	ROT1	Personalizing learning	[1]
	ROT2	Developing the online course content	
	ROT3	Assessing, grading, and promoting	
	ROT4	Communication	
Role of Parent (ROP)	ROP1	Nurturing and mentoring students	[2]
	ROP2	Organizing students' learning schedule	
	ROP3	Nurturing relationships and interactions	
	ROP4	Monitoring student engagement	
Student Learning Motivation (SLM)	SLM1	Focus on learning	[3]–[5], [39]
	SLM2	Frequency of learning	
	SLM3	Participation in learning	
	SLM4	Persistence on a task	
	SLM5	Direction to learning	

### 3. RESULTS AND DISCUSSION

#### 3.1. Results

##### 3.1.1. Descriptive statistics

The data displayed in this descriptive statistic include the maximum and minimum scores, average, standard error, kurtosis, and skewness, as shown in Table 2. The table shows that that all survey instrument items usually are distributed. This can be seen from the Kurtosis value, which is in the range -7 to 7, and the Skewness value is in the range -2 to 2 [40].

Table 2. Descriptive statistics

Variable	Item Code	Item	Min	Max	Mean	Stdev	Kurt.	Skew.
Role of Teacher (ROT)	ROT1	Personalizing learning	1	5	4.093	1.121	0.041	-1.016
	ROT2	Developing the online course content	1	5	4.000	1.115	-0.449	-0.782
	ROT3	Assessing, grading, and promoting	1	5	4.021	1.204	0.007	-1.035
	ROT4	Communication	1	5	4.021	1.273	0.188	-1.153
Role of Parent (ROP)	ROP1	Nurturing and mentoring students	2	6	5.657	0.669	4.311	-1.835
	ROP2	Organizing students' learning schedule	2	7	6.069	0.888	4.032	-1.661
	ROP3	Nurturing relationships and interactions	1	7	5.198	1.241	0.688	-0.912
	ROP4	Monitoring student engagement	1	6	4.323	0.926	-0.019	-0.501
Student Learning Motivation (SLM)	SLM1	Focus on learning	1	5	4.221	0.957	0.488	-1.053
	SLM2	Frequency of learning	1	5	4.286	0.912	0.778	-1.114
	SLM4	Participation in learning	1	5	4.043	0.827	0.278	-0.617
	SLM5	Persistence on a task	2	5	4.200	0.795	-0.082	-0.722
	SLM6	Direction to learning	1	5	3.643	1.089	-0.219	-0.489

##### 3.1.2. Measurement model

Confirmatory factor analysis (CFA) was used to test the construct validity, which consists of a measure of convergent validity and discriminant validity. Convergent validity is a measure that shows the extent to which a set of construct variables 'share proportions' to form high variance [41] or in other words, convergent validity is a measure that shows that a set of indicators represents one latent variable. Meanwhile, discriminant validity is a measure that shows the extent to which a construct is very different from other constructs [42], which is shown by no high correlation between constructs [43]. The high correlation between the two constructs causes researchers to be unable to ascertain whether the hypothesized structural pathway actually occurred or simply results from statistical differences [44].

The convergent validity measure can be seen from the loading factor, average variance extracted (AVE), composite reliability (CR), and Cronbach alpha, as shown in Table 3. The table reveals that the outer loading of 13 structures are higher than the recommended value of 0.7 [45], and the other two variables with values lower than 0.7 are still acceptable because they meet the requirement of AVE value greater than 0.5. [46], [47]. Then the CR value also exceeded the required value of 0.7 [48]. Based on these results, it can be observed that all convergence validity indicators are met, because the values of load factors AVE and CR have exceeded all required parameters, so it can be concluded that all constructed items are effective for constructing each latent variable.

Table 3. Convergent validity

Variable	Item Code	Item	Outer Loading	AVE	CR	Cronbach's Alpha
Role of Teacher (ROT)	ROT1	Personalizing learning	0.837	0.551	0.831	0.732
	ROT2	Developing the online course content	0.877			
	ROT3	Assessing, grading, and promoting	0.753			
	ROT4	Communication	0.840			
Role of Parent (ROP)	ROP1	Nurturing and mentoring students	0.766	0.661	0.907	0.871
	ROP2	Organizing students' learning schedule	0.723			
	ROP3	Nurturing relationships and interactions	0.766			
	ROP4	Monitoring student engagement	0.711			
Student Learning Motivation (SLM)	SLM1	Focus on learning	0.836	0.509	0.861	0.813
	SLM2	Frequency of learning	0.673			
	SLM3	Participation in learning	0.612			
	SLM4	Persistence on a task	0.731			
	SLM5	Direction to learning	0.761			

In addition to convergent validity, another measure of structural validity is discriminative validity. Discriminant validity includes the Heterotrait-Monotrait ratio and the Fornell & Larcker criterion. The Heterotrait-Monotrait ratio is the average correlation between the Heterotrait-Heater method relative to the average correlation of the Monotrait-Heater method [46], [49]. While the Fornell & Larcker Criterion is the square root of the AVE value.

Table 4 shows the Heterotrait-Monotrait ratio in the range of values according to the required criteria, namely <0.85 [50]. While Table 5 describes the Fornell & Larcker Criterion values where the root value of the AVE value (the number listed on the thick diagonal) appears to be higher than the other numbers, which indicates that the discriminant validity requirements are fulfilled [47], [51]. Based on the results of testing on all instruments used with confirmatory factor analysis (CFA), it is found that all the required criteria for both convergent validity and discriminant validity have been fulfilled so that it can be concluded that the instrument used in the study can be used to test the proposed model hypothesis.

Table 4. Discriminant validity: Heterotrait-Monotrait ratio

	ROT	ROP	SLM
ROT	0.551		
ROP	0.497	0.661	
SLM	0.302	0.556	0.509

Table 5. Discriminant validity: Fornell &amp; Larcker criterion

	ROT	ROP	SLM
ROT	0.742		
ROP	0.415	0.813	
SLM	0.496	0.272	0.714

### 3.1.3. Testing the hypothesized models

To test the hypothesized structural model, the traditional values of beta ( $\beta$ ),  $R^2$ , and t-values can be used through the bootstrap procedure with a 5000 repeat sample [46]. Table 6 illustrates the results of structural model testing that show hypothesis testing results. Based on the test results, it was found that parents' role directly had a positive and significant effect on children's learning motivation at home online, while the role of teachers was not directly significant towards children's learning motivation at home. The teacher's role can have a positive and significant effect on children's learning motivation when mediated by the role of parents. Therefore, H1 was rejected ( $\beta=0.080$ ,  $t=1.089$ ) while H2, H3 and H4 we were accepted with ( $\beta=0.415$ ,  $t=5.020$ ), ( $\beta=0.463$ ,  $t=6.568$ ) and ( $\beta=0.192$ ,  $t=4.531$ ).

Based on the  $R^2$  value, it can be concluded that the synergy between the roles of teachers and parents affects children's learning motivation at home by twenty-six percent; this influence is included in the moderate category [52]. The magnitude of the influence of each independent variable can be seen from the value of  $f^2$ . Based on Table 7, parents' role has a more significant influence on children's learning motivation at home than teachers' role. The influence of parents (0.237) is in the medium category, while the influence of teachers (0.007) is in the small category.

Table 6. Testing of hypotheses

Hypothesis	Path	Std. Beta	Std. Error	t-value	Bias	Confidence interval		Decision
						5.00%	95.00%	
H1	ROT -> SLM	0.080	0.087	1.089	-0.009	-0.073	0.216	Not Supported
H2	ROT -> ROP	0.415	0.077	5.020	0.007	0.281	0.534	Supported
H3	ROP -> SLM	0.463	0.073	6.568	0.019	0.315	0.546	Supported
H4	ROT -> ROP -> SLM	0.192	0.042	4.531	0.010	0.121	0.251	Supported

Table 7. Effect size ( $f^2$ )

	ROP	ROT	SLM
ROP			0.237
ROT	0.208		0.007
SLM			

### 3.2. Discussion

With the home study policy implementation during the COVID-19 pandemic, students were forced to become online students, and parents took on new roles as facilitators, teachers, and trainers. Many teachers, families, and students are unprepared for this sudden shift. It brings some of the difficulties and problems of increasing parental involvement to the surface while engaging and trying to help their children in various levels and distance learning types.

This study's built a conceptual model of the synergy of the roles of teachers and parents in increasing children's learning motivation in implementing home learning policies during the COVID-19 outbreak in Indonesia. Based on the results of hypothesis testing, the three proposed hypotheses can be accepted. This gives the result that in carrying out online learning during the COVID-19 pandemic, both teachers and parents cannot play a role in maintaining children's motivation to continue to take online learning at home; both need to work together to maintain student motivation to learn at home. This is in line with several studies which show that a strong positive bond between school and home has an essential role in children's education [53], [54].

While some studies related to online learning during the COVID19 pandemic focused on intrinsic motivation of students and its relation to self-regulation [55], [56], this study focused on extrinsic motivation. This is in line with the research report that in online learning, external motivational obstacles mainly from teachers, schools, courses and the learning environment (the factor "teacher teaching method" ranks first place) have a greater impact on student learning success is better than external motivation [57].

In the future, in developing online learning systems, schools and teachers need to guide parents about carrying out online learning, especially in the technological aspect [58], because one of the aspects inhibiting parents' role in online learning is the problem-low digital self-efficacy [59]. Effective communication is also needed so that parents and teachers have a good understanding of their respective roles [60]. On the one hand, teachers will not be able to carry out effective online learning without parents' help. On the other hand, schools and teachers also do not allow parents to fend to understand their role [61]. Moreover, parents face various other problems that are non-technical, such as difficulty accessing the internet [62] and economic limitations [63]. Finally, the synergy between teachers and parents can also be lifted effectively when the synergy built is voluntary [64] and focuses on improving learning [65]–[67] through this research, a modeling structure of the synergy built between teachers and parents is obtained. Indeed, in online learning system, the teacher needs to work with parents.

### 4. CONCLUSION

This research built a conceptual model of the synergy of the roles of teachers and parents in increasing children's learning motivation in implementing home learning policies during the COVID-19 epidemic in Indonesia. From the overall results of the analysis, it can be concluded that in the online learning system from home, teachers cannot directly influence student learning motivation, while parents can play a direct role in increasing student learning motivation. The teacher's role in motivating students can occur if it is done through the intermediary of parents.

### ACKNOWLEDGEMENTS

This work was supported by Lemlitbang Universitas Muhammadiyah Prof. Dr. HAMKA (295/F.03.07/2020), Jakarta, Indonesia.






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