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Teacher Professionalism, Teacher Monitoring in Learning from Home, Parental Participation, and Android-Assisted Learning as Predictors of Students Achievement in COVID-19 Pandemic

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Abstract. During the COVID-19 pandemic, the Indonesian government implements open and distance learning (ODL) for K-12 until December 2020. Home learning is demanded to have similar quality to learning at school. One indicator of the quality of learning is students achievement. Based on a systems approach, this study sought to find predictors of students' achievement through ODL in which teacher professionalism (input), android-assisted learning, learning monitoring by the teacher, and parental participation (process) were the predictors of students' learning outcomes (output). The data sources of this study were obtained from 102 teachers of 487 members of Slameto facebook accounts; data netted with a questionnaire of 24 items that were valid and reliable. To analyze the data, the researchers used the Step Wise Model Regression technique assisted by SPSS for Windows version 25. The results showed that teacher professionalism was the main determinant of students' achievement with a contribution of 31.30% (model 1); when it was accompanied by monitoring of learning by the teacher, it increased to 37.90% (model 2), and when it was accompanied by parental participation, it gained 43.60% contribution (model 3). This study emphasizes the need for a management model based on parental participation in improving the quality of learning from home (ODL).

Keywords: Parental Participation, Students Achievement, Covid-19

1. Introduction

During COVID-19, Indonesian Government implements open and distance learning-based on ICT for K-12 until December 2020. Technology is an important component of human – culture agency that provides 'tools' of technology, techniques, and procedures in which along with them various groups and communities learn about, give responses, take actions, and manage their experiences in the world [1]. The use of information technology and communication (ITC) has significant potential in providing access to, and improving the quality of, education [2]. Ref. [2] reports that the use of IT may improve knowledge of teachers and enhance knowledge of subjects, enable more efficient teaching planning and preparation, develop the existing teacher pedagogical practices which at the end increases teacher professionalism. ICT-based learning that is well prepared and implemented by professional teachers gives many positive evidences. How can it do so?

Monitoring distance learning by using Android mobile phone [3] is a solution to the application of ICT-based distance learning that may improve learning outcomes where the monitoring is done [4] through WhatsApp group (WAG).

The fact is that in this COVID-19 pandemic era, the application of home learning (open and distance learning) takes place without any systematically planned preparation – from either teachers, curriculum, media and means, or parents, while ICT-based home learning is demanded to have similar quality to learning at school. Therefore, learning supervision holds strategic roles. What kind of supervision model that may improve quality of ICT-based home learning? The determinant to answer the question is students' learning outcomes. Therefore, the aim of this research was to find out the determinants of students' learning outcomes during ICT-based home learning. Along with the system approach, which of these variables, teacher professionalism (input), android mobile phone usage in teaching and learning, students' home learning monitoring, and parental participation (process), (which one of it) becomes the determinant of success of student achievement (output)?

In educational context, home learning is called as open and distance learning or O/DL. There are many definitions of distance learning since it has been popular for almost 30 years. In this study, distance learning, open learning, and classroom learning are seen more overlapping. Changes in the classroom practice, wider access to high technology communication system, increase in media availability, awareness of need/problem, and completion rate in relatively unstructured education have caused different reduction that is recognizable among classes, distance learning and education. Specifically, "open/independent" learning can be implemented in face to face or in distance, in group or individually. This one is similar to "distance learning" where students and school are separated physically, "open" or delivered at the same speed as it is in the classroom, and can be in form of group or individual [5].

"Distance learning" refers to forms of organized learning that are based on physical separation between students and involves educational personnel in their learning organization. This separation may be valid for the whole learning process or only in certain stages or elements only. Through this learning, students may be visible, but more importantly it is aimed at perfecting or strengthening the dominant distance interaction. The unavoidable conclusion is that distance learning often serves tightly controlled learning to meet the qualification, content and interaction; distance learning facilities can also be brought by open learning for every party who concerns autonomy development/ student independency and independent approach for education; application of the last distance learning seems very interesting and promising [6]. Furthermore, [7] state that distance learning consists of all arrangements of teaching through telecommunication media, either printed or electronic, for all parties that are involved in the planned learning at different places or time with the teachers [8].

Since ideas behind the concept of distance learning and open learning provide relevant and beneficial consideration both theoretically or education practice, describing clearly the concepts of both learning seems useful [6]. Up to this recent time, the theory and practice of distance learning have developed through three generations [9].

First generation model of distance learning can be very personalized in the practice, but the majority of it tends to mass market approach, where the structure remains high and high level of student autonomy is needed without any regular dialogue exchanges.

Dialogue stands out in the second generation of social – constructivist distance learning pedagogy [10] because social interaction between teachers and students and knowledge co-construction is the focus point. Therefore, a synchronous communication or asynchronous communication between teachers and students and types of communication media become very important. Dialogue level in the learning is inversely proportional with the structure and autonomy [8].

New technology that enables connections among people, content, and digital/smart object wherever it is, has created new generation pedagogy, that [10] call as Connectivism, the third generation. Connectivism drives TD ideas, structure, autonomy, and dialogue to be redefined. In Connectivism context, people may argue that learning is to gain ability to find the needed information through network connection and to apply it at the right time in the right place. Furthermore, it highlights content co-creation, reflects it, is meaningful and reflects content distribution [10].

1.1. Teacher Professionalism

One of the criteria for professionalism is that a professional practitioner needs high individual autonomy and evaluation independency for efficient practices [11]. Even though [12] concludes that "teacher professionalism" is meant as a professional work field with sociology, ideology, and education dimension aimed to reach the highest standard in teacher profession based on professional coaching, knowledge, skill, and value, for the research importance, it needs to be developed into a more operational definition. [13] states that professionalism is more related to improving service quality than status. Professionalism focuses on the questions about what qualification and capacity that are received, and what competency that is needed for the success implementation of a work [14]. New understanding about teacher professionalism provides a professional room and condition for teachers to be responsible in the practice.

1.2. The Use of Android Mobile Phone

Changes in learning model from offline to online because of COVID-19 requires an important role of smartphone with its various operation system. Even, this android-based device is decisive. Android is one of open source mobile operation systems developed by Google Corporation. One reason why android becomes popular is because its effectiveness and efficiency level that are better than other systems. Now, android-based learning system is also called e-learning [15], and it is suitable to use for home learning in the COVID-19 pandemic era.

Improving student's interest in learning math by developing smartphone in a form of android application as a learning medium is also done by [16]. The result is that the participants are very enthusiastic that they try the learning media that have been developed. Moreover, the application of *geogebra* software in android mobile phone creates fun learning and improves student achievement [17]. From this research, it is

known that there is a positive response from the students and skill process improvement which at the end increase students' learning outcomes.

Ref. [18] conducted a research on the use of social media *WhatsApp* to improve student's communication ability in learning by giving the material "the effect of heat on substance changes". The analysis results show that the students are able to communicate through *WhatsApp* in the process of understanding "the effect of heat on substance changes". The temporary conclusion is that the use of android mobile phone in learning affects students' positive response, improves their communication ability, skill process, and achievement.

1.3. Home Learning Monitoring by Teachers

Based on the recent research approach, [19] offer their model/tool (for the researchers and developers of online collaborative system) to help e-learning teachers and students deal with ongoing online learning activities (both in group or individual level) with the effective and efficient ways for teachers to do online monitoring and review collaborative learning system. The resulted model consists of four series of simulation action, including show me, train me, test me, and let me do something.

Related to the importance of online learning monitoring, [20] propose a sociolinguistic dialogue model that is proven successful. Besides, it is also useful to understand how learning develops and how cognitive process is built in online discussion.

This monitoring is aimed to provide in time support for students (and teachers) because both of them should know activities, while the teachers should know students' performance (in group or individually) when the learning process is carried out. Therefore, monitoring process becomes a means for (groups of) students and teachers to take proper actions according to student's performance (in group and individual). One platform that may be used by teachers is WhatsApp Group (WAG).

1.4. Parental Participation

Interest and involvement of parents in their children learning are admitted widely to have significant effects towards to the extent to which the children realize their full potential. Students whose parents are involved actively in their learning process tend to have less behavior problems, gain better academic achievement and graduate from their high school smoothly compared to students whose parents are not involved in their learning process. Parents' interest in school means that the parents know deeper about school activities and classroom as well as are able to coordinate their efforts with the teachers. In relation to this, the principal and school committee should be very aware of the need to keep an open relation with parents, involve them through bulletins, provide information about education initiatives, collect their opinions about the main problems if it is necessary, and actively support parents' association and teachers meeting [21]. Results from various researches show that the increase in parental involvement at school positively influences cognitive and social function of the children [22]. Parental involvement is viewed as an important strategy to improve education quality [23]. Based on an empirical research, [24] distinguishes six kinds of parental involvement that reflects various types of

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cooperative relationship between school and parents. One of them that is closely related to home learning in the COVID-19 era is "Learning at Home" as an activity that is aimed to support, help, and monitor learning activities and development of children who study at home (for example provide help when there is difficulty at homework).

1.5. Model/Frame of the Research

Table 1. Factors that influence learning outcomes as education quality indicators*)

Dimensions	Aspects	Variables
Context	Policy	Education laws and regulations, school variation status whether it is public/private, located in slums/urban/village areas
	Culture	Society learning culture, religious principles, such as Buddhist: good behavior, good knowledge, and good teaching.
	ICT	Availability of network and its accessibility, virtual community context.
Input	School	Facilities and infrastructures, curriculum, laboratory, library, basic facilities available at school, qualification of teacher and educational personnel, interest and satisfaction of the teachers, ratio of students-teachers.
	Student	Students characteristics since the initial stage, socioeconomic status, development on physical, emotion, and intelligence aspects, ownership of ICT device, preparedness of independent learning, learning goals/material mastery, attitude towards education, and learning satisfaction.
	Parent	Household level characteristic, support of ICT device, parents' education, job, socioeconomic status.
	Society	Environmental factor, such as good friends, society condition, aspiration, education of the surrounding community.
	Physical Environment	Quality of physical-natural environment and transportation.
Process	Teaching – learning process	High quality and effectiveness, independent learning, read books and do homework, learning method factors: (1) positive teaching (2) planning with students (3) informing the learning goals.
	Teachers and Students	Teachers' behavior at class to fasten students' learning, learning method factor of the students, such as attending the class regularly, teaching method that is adopted by the teachers in curriculum transaction.
	Curriculum	Relevance and co-curricular activities that are held at school.
	Teaching materials and media	Teaching-learning materials available at school, maintenance of school records; ICT utilization: application usage, easiness and learning access (online).
	Evaluation	ICT-based evaluation, procedure, and evaluation quality, feedback mechanism, enrichment and/or remedial.
	Role of family and counseling	Guidance, cooperation of school – society, environment of teaching-learning at home, and guidance and counseling, and other teachers' guidance.
	Management / Supervision	Learning planning, monitoring/supervision. Role of the school principal and quality of school management and learning. Supervision and qualification/professionalism of the teachers.
Out Put	Academic	Evaluation score, test score, certificates
	Non - academic	Skills: creativity, innovation, cooperation, mastery. Attitude: religion, motivation, appreciation, passion, optimistic, curiosity.

*) {25], [26], [27], [28], [29], [30], [31], [32].

By analyzing the education system, context, input, and process that affects the learning outcome (education effectivity), the researchers obtained some factors as listed in the

following table. The description in the table is very useful as a basis to conduct a comprehensive analysis and to find the correct alternative solution.

Among those factors, especially in O/DL, the factors that can be managed by educational manager are the input and process factors. In this research, teacher professionalism was chosen as the input, while for the process covered home learning monitoring by teachers, the use of ICT (application usage of android-based mobile phone), and parental participation.

Table 2. Research Framework

Dimension	Aspect	Variable
Context	ICT	Availability of network and its accessibility, virtual community context.
Input	School	Teacher qualification (professionalism).
Process	Teaching materials & media	The use of ICT: application usage of Android based mobile phone, easiness and learning access (online).
	Family role	Role of parents (school – parents' cooperation)
	Management/ Supervision	Monitoring/supervision of learning by teacher using WAG
Output	Academic	Score test (students' learning outcomes)

As written in the above framework, this research attempted to invent a determinant model of input and output process on the output which would be beneficial for the framework of data-based home learning quality management.

2. Research Methods

Based on the above research questions, the researchers conducted an inferential quantitative research. Data were collected through questionnaires distributed online through Facebook account of the researcher, Slameto. This Facebook account was used to communicate with 484 Facebook friends who majority work teachers (population). Of 484 teachers, 102 filled and returned the questionnaires (sample). On Saturday, March 28th, 2020 the questionnaires were shared through the researcher Facebook account and spontaneously received responses from 102 teachers. There were three ways to send the answer, namely through Facebook, WhatsApp, and email. Mostly the respondents used WhatsApp application.

The ordinal data obtained through the questionnaire which consisted of 24 items were also equipped with questions to be filled in by the respondents related to the difficulty/problems faced during home learning implementation. Ordinal data are the data stated in form of category and/or scale. Meanwhile, the ordinal scale the researchers used was rating scale (Likert Scale) that consists of statement and answer of low, middle, high, and very high that are in line with variables to measure. Further, the data were collected through self-rating scale which was proven valid and reliable. Using factor analysis, these 24 items were gained the level of confidence of 65,126% of the respondent data (Cronbach Alpha) for = 0,584.

Quantitative research shows inferential relation among two or more variables that may explain the symptoms. In this study, it measured the effect of X_1 variable (Android-based mobile phone assisted learning), X_2 (monitoring of the students' home learning through

WAG), X_3 (teacher professionalism), and X_4 (parental participation) towards Y (learning outcomes) which then was used to find the determinant variable of those four independent variables. This research was conducted in the second semester of the academic year of 2019/2020. In ordinal scale of the studied variables, the researchers found one dominant level among the four categories: low, middle, high, and very high. Also, the researchers obtained a determinant that had positive effect and was significance towards student achievement. Therefore, determinant predictor regression coefficient (b1) was positive and significant. Furthermore, the researchers proposed the following statistical hypotheses as follows:

H_0: $b_1 = 0$ (there is no determinant effect on learning outcome)

H_1: $b_1 \neq 0$ (there is a determinant effect on learning outcome)

Effect of the predictors, either single or multiple can be obtained by looking at the b value of the related determinant variable. Besides, to determine importance of scale b, t-test was carried out. T significance can be seen on the value. If b is positive, and t is significant to error level of less than 0,05, hypothesis (h) will be accepted.

Data of every variable were analyzed by frequency distribution, followed by double linear regression analysis using Stepwise Model. Next, the researcher developed a relation model (causal model). The influence pattern of the independent variable (determinant) towards on students' achievement was tested using F test at the level 0,05. This calculation was done by using SPSS version 25. In model testing, the determinant coefficient from independent variable towards dependent variable was calculated. The calculation results of determinant coefficient from four independent variables in this research towards dependent variable were seen from the value of adjusted R^2 coefficient. If r significance is less or similar with 0,05 then model is significant because X_{1-4} (the selected) influences Y, as much as R^2 adjusted coefficient.

3. Results and Discussion

3.1. Sample Description

Table 3. Description of Research Sample

No	Category	Amount
1	**Sex:**	
	Man	38
	Woman	64
2	**Teaching area:**	
	Elementary School	60
	Middle School	31
	High School	11
3	**Employment status:**	
	Civil Servant	71
	Private Teacher	32
4	**Age:**	
	< 20 yrs	3
	20 - 29 yrs	15
	30 - 39 yrs	45
	30 – 49 yrs	21
	50 yrs or more	18
5	**Length of Employment:**	
	< 10 yrs	14
	10 - 19 yrs	51
	20 - 29 yrs	15
	30 - 40 yrs	22

Table 3 provides the description of the research sample. Based on the data above, it can be seen that the number of women in this research was higher than the man. Most of them are

elementary school teachers, some middle school teachers and a few of high school teachers. Two third of them are civil servants. Their age is between 30-39 years old with the length of employment of 10-19 years.

Table 4. Statistic Index of 5 Research Variable

Variable	Mean	Median	Std. Dev.	Min.	Max.
X_1 Android Mobile Phone-Assisted Learning	2.8485	3.0000	.88483	1.00	4.00
X_2 Monitoring of Home Learning Student Through WhatsApp Group	3.3137	4.0000	.94377	.00	4.00
X_3 Teacher Professionalism	3.0784	3.0000	.88649	1.00	4.00
X_4 Parental Participation	3.9314	4.0000	.25407	3.00	4.00
Y Learning Outcomes	2.8235	3.0000	.96894	1.00	4.00

Based on the data in table 4, it was found that the majority of teachers conducted Android Mobile Phone-assisted learning, performed students home learning monitoring via WAG; Even though there were many, the data tended to decline. Thus, the implementation of home learning has not yet been satisfying and needed some improvement. This tendency also happened to parental participation in students' home learning (very high), while student's achievement ranged from high to fair category. Moreover, teacher professionalism (high level) stably increased due to a support from the treatment

3.2. Results of Hypothesis Test Analysis

Hypothesis 1 states 'there is a determinant effect on learning outcomes". To check it, the researchers conducted an analysis using double linear regression technique with learning outcomes as the dependent variable, X_1 (Android Mobile Phone-assisted learning), X_2 (students' home learning monitoring through WAG), X_3 (teacher professionalism), and X_4 (parental participation) as the independent variables. In details, the analysis result is presented in table 5, 6, and 7 below.

Table 5. Model Summary of the Effect of Coefficient Determinant X_1 (Android mobile phone-assisted learning), X_2 (students' home learning monitoring through WAG), X_3 (teacher professionalism), and X_4 (parental participation) towards Y (learning outcomes)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.565[a]	.320	.313	.79454
2	.626[b]	.392	.379	.75519
3	.666[c]	.444	.426	.72599

a. Predictors: (Constant), X_3
b. Predictors: (Constant), X_3, X_2
c. Predictors: (Constant), X_3, X_2, X_4

From the SPSS output in table 5 above, the adjusted R^2 gained: 0.313 (model 1); 0.379 (model 2), and 0.426 (model 3). This meant that the determinant of student achievement was teacher professionalism (X_3) in which the variation of students' learning outcomes

during home learning was explained by teacher professionalism (X_3) for 31,30%. When it was accompanied by the monitoring of student home learning through WAG (X_2), the variation of student achievement during home learning became 37.90% (model 2). Finally, by entering variable of parental participation (X_4) it increased to 42,60%. Standard error of estimation (SEE) of each model was: 0.79454, 0.75519, and 0.72599 respectively. When the values were lower, there could be another regression model to precisely predict students' achievement. To check whether those three models were significant, the following table 6 is presented.

Table 6. F Test of the Coefficient of Determination of X_1 (Android mobile phone-assisted learning), X_2 (Students' home learning monitoring through WAG), X_3 (teacher professionalism), and X_4 (parental participation) towards Y (learning outcomes)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	28.785	1	28.785	45.597	.000[b]
	Residual	61.235	97	.631		
	Total	90.020	98			
2	Regression	35.270	2	17.635	30.922	.000[c]
	Residual	54.750	96	.570		
	Total	90.020	98			
3	Regression	39.949	3	13.316	25.265	.000[d]
	Residual	50.071	95	.527		
	Total	90.020	98			

a. Dependent Variable: Y
a. Predictors: (Constant), X_3
b. Predictors: (Constant), X_3, X_2
c. Predictors: (Constant), X_3, X_2, X_4

From ANOVA test result or F test in the table 6 above, the researchers obtained F calculation of 45.597 (Model 1), 30.922 (Model 2), dan 25.265 (Model 3) with the probability level or significance of 0,000. Since the probability level of each model was smaller than 0.05, these three regression models could be used to predict students' learning outcomes.

Table 7. T Test of Coefficient of Determination of X_1 (Android mobile phone-assisted learning), X_2 (Students' home learning monitoring through WAG), X_3 (teacher professionalism), and X_4 (parental participation) towards Y (learning outcomes)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.893	.302		2.956	.004
	X_3	.630	.093	.565	6.753	.000
2	(Constant)	-.172	.427		-.402	.688
	X_3	.681	.090	.611	7.571	.000
	X_2	.275	.081	.272	3.372	.001
3	(Constant)	-3.521	1.197		-2.943	.004
	X_3	.693	.087	.622	8.005	.000
	X_2	.266	.078	.264	3.400	.001
	X_4	.850	.285	.228	2.980	.004

a. Dependent Variable: Y

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From the output results of t statistic test presented in the table 7 above, in model 1, the independent variable of X_3 (teacher professionalism), that was analyzed using regression analysis obtained t value of 6.753 with significance level of 0.000; in model 2: X_3 (teacher professionalism) gained t value of 7.571 with significance level of 0.000, and X_2 (Students' home learning monitoring through WAG) got t value of 3.372 with significance level of 0.000, and in model 3: X_3 (teacher professionalism) got t value of 8.005 with significance level of 0.000, X_2 (Students' home learning monitoring through WAG) received t value of 3.400 with significance level of 0.000, and X_4 (parental participation) got t value of 2.980 with significance level of 0.000. The level of significance of all models was far smaller than 0.05. Therefore, it was concluded that X_3 (teacher professionalism), X_2 (Students' home learning monitoring through WAG), and X_4 (parental participation) had positive and significant effects on students' learning outcomes supported by the data.

Among the four independent variables, there found 3 models of determinant that had positive and significant effects towards students' learning outcomes, namely teacher professionalism, and students' home learning monitoring through WAG, and parental participation. Therefore, hypothesis 1 stating 'there is a determinant effect on learning outcomes' has been proven, accepted, and supported by data.

3.3. Discussion

E-learning system is an ideal example of modern learning options. It provides a reliable, comfortable and accessible learning environment. Since e-learning develops, this new learning approach needs to be monitored and evaluated to measure the efficiency so that at the end, its productivity can improve [33]. Based on the result of hypothesis test as presented above, there were three determinant models of learning outcomes, they were: teacher professionalism (model 1), students' home learning monitoring through WAG (model 2), and parental participation (model 3). In a scientific debate, two versions of teacher professionalism are described as "old professionalism" and "new professionalism". Ref. [34] develops classification that states the characteristics of new professionalism (transformative), they are: (a) inclusive membership, (b) public ethic code, (c) collaborative and collegial, (d) activist orientation, (e) flexible and progressive, (f) responsive to changes, (g) self-organized, (h) policy-active, (i) oriented to investigation, (j) knowledge building. The dominant discourse in education field shows that the "new professionalism" of teachers is connected with quality improvement, standard of teacher works, and also their public image. It seems that the focus of the definition and conceptualization to characteristic of professionalism is "job honored status", "service quality improvement", and "highest standard achievement", "self-controlled", and "professional autonomy" [12]. If it is so, then it is proper (in fact it should be) if teacher professionalism becomes the determinant of the success of students' learning outcomes during home learning in this COVID-19 pandemic era.

Why monitoring? One of the big problems in home learning is learning outcomes. In other words, monitoring creates an online efficient and effective collaborative system for

students and teacher. It is different from face to face learning where students feel that they are part of the classroom, participate in daily activities at the classroom and receive advice and attention from their friends and/teachers who monitor them. In contrast, in online learning system, students are faced with isolation, receive less feedback from friends and/teachers, attain less knowledge on learning progress, etc. which at the end perhaps online learning system will be left. The fact is that the situation becomes more complex if learning activity is developed not only at online class level but also in groups. In this case, interaction among group members hold important roles to reach learning goals. Furthermore, difficulties arise for teachers in online learning collaborative system. It is more difficult for the teachers to evaluate students learning progress, give quick support, problem identification, etc., especially if they have to evaluate not only individual progress and their learning achievement but also the progress and learning outcomes of groups of students. Monitoring e-learning application needs special attention, a correct and effective methodology, and guidelines. This can be done through an electronic traceability system. This method may be done extensively, automatically, and easily [33]. In this way, monitoring can be the key to solve difficulties in online collaborative learning system [19]. It was proven by the previous research that is successful in utilizing all web-based multimedia devices. This strengthens the current research findings that when learning monitoring accompanies teacher professionalism, it affects almost 38% of learning outcomes.

Parental involvement or participation is viewed as an important strategy for the progress of education quality [23]. Researches about parental involvement have showed that big variations have taken place at the level of involvement, and these variations are very dependent on the socioeconomic position and ethnical background of the parents [35]. At the same time, it is found that parent involvement affects the cognitive and social development of children. It is in line and even strengthens the findings of the current study, namely when parental participation and learning monitoring accompany teacher professionalism, almost 42,60% of the learning outcomes can be achieved.

There has not been clarified yet which form of parental involvement to be the most effective, and which aspect of children development that is affected specifically. This is because research on differential effect of parental involvement on the outcomes related to students has been rarely conducted [36]. In studying the cooperation between school and parents, at least there are two perspectives that can be seen, covering parental involvement initiated by the school, and involvement that is proposed by the parents. Most of the researches have defined and investigated from school perspective (that is parental involvement which is initiated by the school). Therefore, it needs more researches on parental involvement viewed from parents' perspectives (that is the involvement which is proposed by the parents).

3.4. Benefit of Findings in Education Management

There is no doubt that technology positively revolutionizes global services, including education. In organization development, management effectiveness is admitted as one success determinant of organization services. To do so, Evidence-based management

(EBMgt) can be utilized since it translates principles based on the best evidence to the organization practices [37]. It uses principles from evidence of researches to solve organization problems. Related to this research, education quality during online learning in the COVID-19 pandemic era (students' learning outcomes) is determined by quality of teacher professionalism accompanied by learning monitoring and parental participation. Therefore, teacher empowerment model (the transformative one) to improve new professionalism can use the following monitoring activities: show me activity, train me level, test me activities, and let me activities.

These activities can empower parental participation to prepare for the main trend in developing new technology systems for education, training, and e-learning that are developing, namely Intelligent Tutoring Systems and Reality and Virtual Simulation [19]. For more, Intelligent Tutoring Systems is defined as any kind of system that is able to imitate instructor (teacher) behavior in all aspects that are related to supporting students when they gain knowledge. The teacher is not present, but the system itself guides the students when they learn various concepts. This idea is known as Intelligent Tutoring Systems (ITS) or Intelligent Computer-Assisted Instruction (ICAI). They belong to Reality and Virtual Simulation that many people relate virtual simulation and computer simulation with scientific fiction, high technology industry, and computer games. However, only a few of them relate it to education, although virtual reality device has been used in education field for some time.

4. Conclusion

The results show that teacher professionalism is the main predictor of student achievement with the contribution of 31.30% (model 1); when it is followed by teacher learning monitoring, it becomes 37.90% (model 2), and if it is accompanied by parental participation, it increases to 43.60% (model 3). This study emphasizes the need for a management model based on parental participation in improving the quality of learning from home (ODL).

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