ELEMENTARY SCHOOL TEACHER QUALITY IMPROVEMENT MODEL BASED ON LITERACY AND TECHNOLOGY

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Abstract. The Industrial Revolution 4.0 and Society 5.0 were concepts that first developed in Japan. This concept has an impact not only on Japan but also for all countries in the world. Every country is required to be able to adapt technology, including Indonesia. Technology that is growing will even affect the development of each generation. This is proven by the discovery of the baby boomers to the alpha generation as a result of the development of technology and information. Therefore, every parent and even educator must have the skills to be able to educate generation Z and alpha who are currently very exposed to technology. This is even exacerbated by the Covid-19 pandemic which is currently still spreading in Indonesia. The government has started to encourage Distance Learning to break the chain of virus spread. Teachers and parents are required to be able to collaborate in educating children. In fact, teachers must be able to present interesting learning models so that they are not boring for students. Therefore, various kinds of skills are needed so that teachers are able to adapt to these conditions. And of course, those who need this the most are teachers in marginal areas of Indonesia who have many limitations. The general objective of this research is to compile basic data and develop a Literacy and Technology-based Elementary School Teacher Development model in Indonesia's Marginal Region, which is named TELEPATI (TEacher LEadership Program Towards Excellent Indonesia). TELAPATI is an integrated program to improve the quality of Indonesian teachers by optimizing their leadership abilities as themselves, teachers and educators. This model is dedicated to helping improve the quality of teachers who are able to educate the Indonesian generation in today's digital era. This model integrates coaching and mentoring using the 24h-Self Controlling system.

Keywords. Development, Teacher, Elementary School, Technology, Literacy
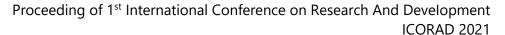
INTRODUCTION

The results of research conducted by Balitbang Diknas, stated that the quality of education in Indonesia is low due to several factors. One of the factors that causes the low quality of education is the teacher factor. That is, the quality of teachers is low in the development of teacher professional competencies caused by low pedagogic and professional competencies (Anam, 2009). Furthermore, it is said that the ability of these two competencies is a big problem when discussing the relationship between the quality of education and the quality of teachers. In fact, in terms of professional competence, our teachers are far behind teachers in other countries in the ASEAN region. This is due to the
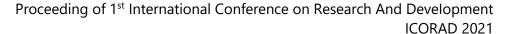
low ability to master and develop our teachers' teaching materials/materials according to the scientific field they are engaged in. The low mastery of the material can be caused by the low mastery of science and technology, especially information technology.

The quality of teachers in Indonesia from several studies is still questionable, as reported by Bahrul Hayat and Umar in Adiningsih (2002). They show that the national average score for the test for prospective civil servant teachers in elementary, junior high, high school, and vocational schools in 1998/1999 for the field of mathematics studies was only 27.67 from the 0-100 interval, meaning that they only mastered 27.67% of the material they should have. The same thing happened in other fields of study, such as physics (27.35), biology (44.96), chemistry (43.55), and English (37.57). The values above are certainly far from the ideal limit, which is a minimum of 75% so that a teacher can teach well. Another result that is more concerning is the research from the Education Science Consortium (2000) which shows that 40% of junior high school teachers and 33% of high school teachers teach fields of study outside their field of expertise (Mustofa, 2007).

According to Sanusi (2006), teachers cannot be relied on in various aspects of their standard performance, because they do not yet have: expertise in the content of the field of study, pedagogical, didactic, and methodical, personal and social skills, especially disciplined and motivated, teamwork among others. teachers, and other education personnel. For this reason, there needs to be a serious effort made by the government in improving the competence of teachers in schools. One way to help teachers who have problems in learning can be done by providing supervision. Good supervision is expected to help improve teacher competence. In addition to teacher supervision, to improve the quality of teachers, the government also provides teacher certification. Teacher certification is one of the government's efforts to improve teacher performance. Teachers as part of the State Apparatus who work to provide educational services to the community need to be assessed for their performance. With teacher certification, teachers are expected to have proper competence in providing quality educational services to the community. The government hopes that there will be an increase in the quality of teachers in carrying out learning, motivation and performance and a direct impact on improving the welfare of teachers for the better.

The results of previous research on certification and professionalism showed unsatisfactory results, including; Lestri, Sri 2010, The Effect of Teacher Certification on MTsN Teacher Performance; Murwati, Brotosedjati. S, 2012, Performance of Teachers who have Passed Teacher Certification in Position; and Hesti, 2013, The Effect of Teacher Professional Certification on Work Motivation and Teacher Performance at SMKNs in Surakarta, it can be concluded that certification has a positive impact on increasing teacher motivation and performance. On the other hand, the results of research from the Word Bank say the opposite that "certification" has not succeeded in improving teacher competence and student learning outcomes (Word Bank, 2012).

The data above provides an overview of how important quality human resources are for the progress of a nation. These quality human resources will not be formed just like that, but need a long process and the cooperation of all elements. Two important elements that play a role in the formation of quality human resources are family and school. The family environment in this case is parents.

The teacher's role is one of the important and strategic components through its performance. Teacher performance is very important in realizing national education goals and determining the high and low quality of education, but the teacher's performance is heavily influenced by various factors both from within and from outside the individual concerned (Susanto, 2012). This is where the role of technology can be played to help smooth the delivery of learning so that learning objectives can be conveyed and understood by students. Teachers use various available media. Using information-based media so that learning is more fun.

Utilization of ICT which has penetrated in the field of education, since it was included in the 2004 curriculum. The goal is that students can optimize their skills, so that they can be applied to other subjects as a cross-curriculum (Budiman, 2012). The use of ICT in education is very useful, this is proven by previous research, namely by (Abrianto & Sitompul, 2014; Gunawan, 2016; Idris, 2015; Khairunnisa, 2017; Riasnelly, 2013; Roza, 2010; Sunarwan, 2013). The use of ICT is also not only useful in the learning process, but also ICT can be used in several general studies, such as those conducted by (Andriyani, Cangara, & Sadjad, 2014; Budiman, Yusrizal, & Damanik, 2014; Febriani, 2012; Kristiyono, 2015; Santoso, 2014). This change in demands makes the world of education require innovation and creativity in the learning process because many people propose in education, especially learning, but very few people talk about problem-solving solutions about the learning and teaching process that are in accordance with the global demands of the 21st century today (Budiman , 2017).

According to Rosenberg (2001), with the development of the use of ICT there are several shifts in the learning process, namely: a. from the classroom to anywhere and anytime, b. from paper to "on line" or channel, c. from physical facilities to network facilities Communication as an educational medium is carried out using communication media such as telephone, computer, internet, e-mail and others. Interaction between teachers and students is not only done through face-to-face relationships but is also carried out using these media. Teachers can provide services without having to deal directly with students. Similarly, students can obtain information in a broad scope from various sources of cyber space media or cyberspace by using computers or the internet.

Quality education is supported by quality teachers. The results of this study are expected to be able to reach teachers in marginal areas so that there is an even distribution of teacher quality throughout Indonesia, both in urban, rural, urban, and veranda areas. Therefore, this research needs to be carried out to be able to formulate a Literacy and Technology-based Elementary School Teacher Development model in Indonesia's Marginal

Region with a comprehensive approach from the typology and community point of view, as well as the role of education providers so that families and schools are able to play an optimal role in creating the nation's young generation. intelligent literacy, character and competent both intellectually.

METHOD

The population is a collection of all individuals whose surveys must be exploited (Lemeshow, 1990). The population of this study is marginal schools with low quality located in urban and rural areas of Indonesia. The selection of the area is done purposively (deliberately). Then, each 2 (two) provinces on 6 (six) big islands in Indonesia were selected based on the results of the lowest Teacher Competency Test (UKG) in 2018. The selection of regions was based on Regional Education Balance data (http://npd.data.kemdikbud.go.id/). The selected provinces are: (1) Sumatra Island: Aceh and West Sumatra Province, (2) Java Island: Banten and West Java Province, (3) Bali Island – Nusa Tenggara: BTB and Bali Province, (4) Kalimantan Island : North and South Kalimantan Provinces, (5) Sulawesi Island: North and West Sulawesi Provinces, (6) Papua Island: West Papua Province.

The data collected in this study consisted of primary data and secondary data. The data obtained will be processed through the process of editing, coding, scoring, data entry to a computer, data cleaning, and data analysis. The data will be analyzed using descriptive methods and verification or inference methods, after all data is entered into the computer, then processed using SPSS for Windows version 20.0. The data will be analyzed using three methods, namely: (1) descriptive analysis; (2) qualitative analysis; (3) and quantitative analysis. Descriptive analysis is used to describe the variables in this study.

RESULTS & DISCUSSION

3.1. Model Development

TELEPATI is a professional development program for Indonesian teachers by optimizing leadership skills, both as self, teachers and educators so that teachers are realized that are relevant to the digital era. This program is dedicated to helping improve the quality of teachers who are able to educate the Indonesian generation in today's digital era. This program integrates face-to-face and online coaching, and uses a 24h-Self Controlling system.
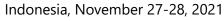
Program Objectives. This TELEPATI program has 3 (three) objectives as follows: (1) To create professional teachers who are able to design and implement effective and relevant learning with the characteristics of the generation of the digital era; (2) Forming teachers who have a leadership spirit in educating the digital era generation, (3) Forming teacher leadership who are role models and inspire students and other teachers.

Teacher Competency Targets. This model utilizes technology that can be accessed and developed in marginal areas of Indonesia. This model develops teachers in 7 (seven) types

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of excellence, namely: (1) Having basic teaching skills in educating generation Z and alpha, (2) Having a strong self-concept and character in educating generations, (3) Problem ability solving, (4) Having the ability to innovate in learning, Having high literacy skills (reading, writing, digital and communication technology), (6) Having a strong leadership spirit in inspiring other teachers to change, (7) Having communication and public skills good speaking.

Graduates of the TELEPATI program are expected to have the following competencies:

1. Coach, able to guide students according to their potential. Also able to guide other teachers.
   Indicators: (1). Able to guide students, (2). Able to guide other teachers, (3). Mastering simple coaching techniques.
2. Educator, has a good teacher self-concept, and has the ability to design, implement and evaluate learning.
   Indicators: (1). Mastering basic teaching skills, (2). Have a strong self-concept as a teacher, (3). Able to instill value in learning.
3. Reinforcer, able to motivate themselves, students and other teachers to achieve the best results in every activity.
   Indicators: (1). Passionate in carrying out teaching and educating activities, (2). Able to help others in dealing with problems, (3). Have sincerity in achieving something.
4. Millennials, able to take advantage of technological developments for the effectiveness of learning and education.
   Indicators: (1). Mastering technology that supports learning, (2). Have high literacy skills (reading, writing, digital and communication technology), (3). Able to innovate in learning.
5. Analyzer, able to analyze problems, then formulate solutions.
   Indicators: (1). Able to determine the source and root cause of the problem, (2). Able to formulate problem solutions effectively and efficiently, (3). Able to make CAR (Classroom Action Research).
6. Trainer, able to communicate effectively, mastering good public speaking skills, and able to share knowledge and experience with other teachers.
   Indicators: (1). Able to inspire other teachers to change, (2). Able to communicate effectively, (3). Have the ability to fill training / good public speaking.

Program Flow. To achieve this, the program is designed with the following flow:

a. Program Participant Selection, is the stage of participant selection based on regional targets.
b. Mapping the Initial Performance of Program Participants, in this stage the initial condition of participants is measured before joining the program.
c. Orientation, participants who have been declared eligible as program participants, participate in program orientation activities. The purpose of this activity is to unite perceptions, understandings and commitments related to the program.

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d. Training and Implementation, in this stage, participants attend debriefing in the form of training related to the competencies targeted in the program. Every time they attend the training, all participants are given a follow-up plan for the implementation of the training materials that have been obtained.

e. Enrichment (Mentoring & Coaching), participants get enrichment to achieve program targets. Enrichment is provided through mentoring and coaching techniques.

f. Phase 1 Monitoring and Evaluation, the program manager will conduct the first monitoring and evaluation of the program implementation by each participant.

g. Stage 1 competition, after monev 1 is done, all participants take part in the competition. The purpose of this competition is to accelerate and trigger so that the participants are able to achieve the best performance, especially related to the results of the monitoring and evaluation that have been carried out. In this competition, participants are expected to be able to implement all program materials for all their respective students.

h. Assessment & Feedback, carried out on the process and achievements achieved by each participant in the Stage 1 Competition. Every best achievement will get appreciation, and every aspect that is not on target will get feedback for improvement.

i. Phase 2 competition, competition at this stage is carried out for all program targets, with a wider scope, namely being able to inspire other teachers with the knowledge and experience gained from the program.

j. Assessment & Feedback, carried out on the process and achievements achieved by each participant in the Stage 2 Competition. Every best achievement will get appreciation, and every aspect that is not on target will get feedback for improvement. In this competition, it is possible for teachers to make remedial actions if there are program targets that have not been achieved.

k. Final Assessment, carried out by looking at the participant's portfolio from the beginning of the program, and mapping teacher performance at the end of the program.

l. Graduation, is the stage of confirmation of participants who pass the program.

Teacher Rating Level. As the output of the program, teachers who have participated in the TELEPATI program will be assessed and measured by level. Teachers are divided into 2 levels, namely:
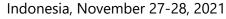
1. Level 1: Model Teacher (Able to Foster Students). Teachers who have received program guidance, then provide guidance to the students they have in class (at least 20 children) so that they become students who excel (spirit in learning and are active in organizations) and have character (discipline, diligent in worship, respect, and do not engage in free sex or sexual activity). brawl).

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2. Level 2: Master Teacher (Able to Cadre Teachers). Teachers who have received program guidance and participated in level 1 competitions, then provide training to teachers in their respective schools to become teachers who have at least 3 teacher competencies in the TELAPATI program.

3.2. Model Eligibility

The validity test aims to assess the feasibility of the model design. The validators who carry out this test are lecturers in the field of education and school principals. The validator provides an assessment, feedback, and comments on the e-module design.

Validation test is carried out through assessment of 8 aspects, namely: (1) Feasibility of Program Description, (2) Feasibility of Program Objectives, (3) Feasibility of Program Targets, (4) Feasibility of Program Outputs, (5) Feasibility of Program Activities, (6) Feasibility of Flow Program, (7) Feasibility of Program Implementation and (8) Feasibility of Final Program Assessment. The results of the validation test show that the overall model is very feasible to use to improve the quality of teachers in the current digital era with a feasibility score of 88%. This can be seen in all aspects assessed.

Table 1. Average Score of Model Feasibility Test Results by Experts

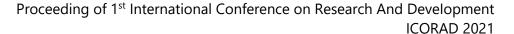| No	Aspect	Expert Rating	
		Skor (%)	Kategori
1	Program Description	92%	Very Worthy
2	Program Objectives	90%	Very Worthy
3	Program Target	86%	Very Worthy
4	Program Output	92%	Very Worthy
5	Program Activities	86%	Very Worthy
6	Program Flow	89%	Very Worthy
7	Program Implementation	79%	Worthy
8	Program Final Assessment	87%	Very Worthy
	Average	**88%**	**Very Worthy**

CONCLUSION

TELAPATI is an integrated program to improve the quality of Indonesian teachers by optimizing their leadership abilities as themselves, teachers and educators. This model is dedicated to helping improve the quality of teachers who are able to educate the Indonesian generation in today's digital era. This model integrates coaching and mentoring using the 24h-Self Controlling system.

This model utilizes technology that can be accessed and developed in marginal areas of Indonesia. This model develops teachers in 7 (seven) types of excellence, namely: (1) Having basic teaching skills in educating generation Z and alpha, (2) Having a strong self-

concept and character in educating generations, (3) Problem ability solving, (4) Having the ability to innovate in learning, (5) Having high literacy skills (reading, writing, digital and communication technology), (6) Having a strong leadership spirit in inspiring other teachers to change, (7) Having the ability to good communication and public speaking. Meanwhile, the output of this model is the formation of teachers who have CERMAT characters (Coach, Educator, Reinforcer (motivator), Millennial, Analyzer, Trainer).

This model is suitable for developing teachers and improving the quality of basic education in Indonesia. Therefore, it is necessary to conduct further research to measure the effectiveness of the model intervention on improving teacher competence and performance.

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