

# The Role of the Principal as an Educator in Developing Capability Teacher Information And Communication Technology

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## ABSTRACT

The demands of teachers in this era require teachers to continue to develop with the times. It is the responsibility of the principal to help teachers improve their abilities. This study aims to determine the role, obstacles and solutions of the principal as an educator in developing the Information and Communication Technology skills of teachers at SD Negeri 109 Pekanbaru. This study used descriptive qualitative method. Data collection techniques using interviews, observation and documentation review. Testing the validity of the data using triangulation. Data analysis techniques namely data collection, data reduction, data presentation and drawing conclusions. The results showed that the principal had tried to carry out his role as an educator in developing teachers' ICT skills. The conclusion from the research results is that the role of the principal as an educator in developing teachers' ICT skills is carried out with strategies that have been prepared such as, involving teachers in all ICT-based training and providing opportunities for teachers to increase knowledge and skills, creating a conducive school atmosphere by completing infrastructure ICT and complement teaching materials by checking ICT teaching materials used by teachers in learning, providing guidance and advice at regular meetings or meetings and providing motivation such as giving praise to teachers who have contributed a lot to the school.

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## 1. INTRODUCTION

Advances in information and communication technology (ICT) in the era of globalization are very influential in all fields including education [1], [2]. The development of technology requires us to be able to follow and use it for the continuity of life on earth. The era of technology also means an era of change by applying technology in all fields that create many changes to human life, including education. ICT is a technology that must be developed in the field of education. The development of a nation cannot be separated from quality education and quality education cannot be separated from quality teachers. Innovations made by educators can add new dimensions to learning

activities [3], [4]. ICT capabilities make the role of a teacher from the beginning as a teacher change into a facility provider, mentor, and director. Society is forced to keep up with the times in every activity including teachers. Teachers are required to be able to keep up with the times so that the quality of teaching and learning activities is increasing. Teachers can let students choose and have responsibility for students to experience learning events, so that students do not just listen to the knowledge conveyed by the teacher but also actively participate in learning activities. The ability of the teacher is important in the implementation of teaching and learning activities to achieve the goals that have been set [5], [6].

In this era, teachers are required to follow changes in learning activities using technology. If in the previous era the teacher explained learning using the blackboard as a medium, now the teacher can use technology as a medium in delivering learning. The Internet is the latest information technology that has become a human need. The existence of an internet source of information that teachers need is easily accessible by teachers which will make it easier for teachers [7]. Therefore, with the existence of the internet, the teacher's old habit of only using books as a source of teaching materials can now prepare more creatively. The use of ICT for teachers is considered very helpful in their work such as designing, implementing, evaluating, and following up so that it can inspire enthusiasm to continue to improve the quality of their performance. Progress in understanding ICT for teachers is the initial component in preparing teacher human resources who can utilize ICT to maximize learning activities in class. Preparation of teaching materials, learning activities and assessments can be facilitated by the use of ICT so that learning becomes more effective [4]; [8]. Law Number 14 of 2005 Article 10 paragraph (1) states that "teacher competence includes personality competence, pedagogical competence, professional competence and social competence". Among the competencies that teachers must have are professional competencies which lead to teacher mastery of learning materials that can be applied in the form of ICT mastery [9], [10].

Teachers not only master teaching skills in class, teachers must also be able to apply the benefits of ICT to learning. ICT is widely used in all fields including as infrastructure facilities, sources of teaching materials, tools and facilities for learning activities [11]. Therefore, ICT competence is a part that must be mastered by teachers. A teacher is the person most responsible for the development of their students by focusing on the development of affective, cognitive and psychomotor potential. the development of educational science which includes, the potential that exists actively as well as cognitive and psychomotor [12]. The lack of teacher skills in ICT competencies is a problem that arises in the use of ICT for Education. The teacher is referred to as the driving force in the implementation of learning in schools. ICT is used as a teacher's tool in improving learning activities inside and outside the classroom. The solution to problems regarding teachers' ICT skills is not only from the government but also the role of school principals who have a major influence on the development of teachers' ICT skills. Advances in technology and information are opportunities that can be utilized by teachers in improving their learning patterns such as available software used in the learning process [13], [14].

The existence of a school principal in a school is like a captain in a ship, he becomes the controller and determines in which direction the ship goes and anchors. Likewise the school principal, he is the controller and determines the direction in which the school he leads moves and reaches the intended target [15]. The roles of the principal are: 1) the principal acts as an administrator, 2) the principal acts as a leader, 3) the principal acts as a supervisor, 4) the principal acts as an educator, 5) the principal acts as a provider of a working climate, 6) the principal acts as an entrepreneur, and 7) the principal acts as a manager [16]–[18]. The principal plays a role in developing teacher competence, one of which is as an educator. As an educator, the school principal must be able to guide and develop the abilities of teachers and education staff by providing the services needed to improve the quality of learning. The role of the principal is very important in improving the quality of education so that it can run effectively and efficiently and can be said to be effective if the principal is able to empower existing resources in the school environment and mobilize and direct members so that school activities can be carried out and achieve school goals [19], [20].

The progress of education in schools depends on the role of the principal. Therefore, the principal should have the spirit of a leader to coordinate teachers, educators and other employees. The principal's responsibility is not only to manage the teachers, but also to manage the school's relationship with the community and parents of students. The policy and application of the school principal to all school members depends on the achievement goals of the school [21]. The principal acts as a leader by increasing optimal performance, such as being a learning resource for members, building a school atmosphere that is cultured and conducive to learning, always conveying school goals and achievements to staff and helping teachers develop their competencies so they can become professional teachers for students in today's technological age [22]. Included in developing teachers' ICT skills. The development of competencies that must be possessed by teachers also depends on the role of the principal as an educator. The role of the school principal educator is to have a plan in accordance with increasing the professionalism of the education staff in the school, building a supportive environment, providing direction to the school community, providing motivation to all teaching staff and organizing training for teachers. [13].

Currently SD Negeri 109 Pekanbaru has implemented a new curriculum. In using this curriculum, teachers are required to be able to utilize ICT in learning. Apart from that, researchers also received information that so far the principal has actively encouraged teachers to improve their skills in ICT, but in fact, in the implementation, teachers admit that there are still problems. Teachers think that training is not enough to develop ICT skills. Teachers are still experiencing problems such as teachers having difficulty using the e-report application, while teachers are required to use e-reports. In making ICT-based media the teacher only relies on makeshift knowledge in using basic applications. There is still a lack of ICT-based training held by the principal at SD Negeri 109 Pekanbaru, as a result the teacher is still struggling with the use of ICT. In line with what has been stated [13] who emphasized that in the learning process the principal should show a great desire to organize quality learning, especially in the use of ICT, [23] also strengthens that to advance the quality of learning, school principals must be able to improve teacher competence, one of which is in ICT capabilities so that teachers can carry out their duties effectively and efficiently.

In the findings of previous studies, there appears to be a difference with the research being discussed by the current researcher. This research is focused on programs that have been run by the principal as an educator in developing teachers' ICT skills. This study aims to describe the role, obstacles and solutions of the principal as an educator in developing the Information and Communication Technology skills of teachers at SD Negeri 109 Pekanbaru. If the principal does not have a strategy for developing teachers' ICT skills, it will affect the quality of learning. As a result, learning does not run effectively. With this, the researchers dig deeper into the efforts of the principal as an educator in developing the ICT skills of teachers at SD Negeri 109 Pekanbaru.

## **2. RESEARCH METHOD**

The type of research used is descriptive qualitative research. The selection of qualitative research uses descriptive methods because basically the aim of this research is to export facts in the field that you want to know and describe again as they are without data manipulation without hypothesis testing. The research data was directly obtained from the principal and teachers to find out the role of the principal as an educator in developing the ICT skills of teachers at SD Negeri 109 Pekanbaru. The research data involved principals and teachers of SD Negeri 109 Pekanbaru, which included class I teachers and class IV teachers. Data collection techniques used are interviews, observation and documentation. The research instruments are as follows:

Table 1. Research Instruments

Researched Aspects	Indicator	Sub-Indicators
The Role of the Principal as an Educator in Developing Teachers' ICT Capability	Headmaster Strategy	1. Include teachers in training or workshops related to ICT
		2. Providing opportunities for teachers to increase their knowledge and skills to the education level regarding the use of ICT
	Conducive School Atmosphere	1. Completing ICT-based infrastructure facilities
		2. Complete teaching materials related to ICT
Advice and Guidance from the Principal	Hold regular meetings regarding the development of teachers' ICT skills	
Motivation from the Principal	Provide rewards such as praise and rewards for teachers who develop ICT skills	

In table 1 there are aspects studied as well as indicators that are used as research references. The validity of the data in this study uses data credibility testing using source, technique and time triangulation. Data obtained from interviews, observation and documentation will be analyzed using data analysis techniques, namely data reduction, data presentation and data verification.

### 3. RESULTS AND ANALYSIS

The research results are described according to how the research results are based on the method used. The research results are summarized in a descriptive way that answers the problems in this article.

#### 3.1. The Role of the Principal as an Educator in Developing Teachers' ICT Capability

The principal is not just a leader in managing the course of school activities but one who carries out all of his main tasks in accordance with regulations so that he is able to carry out his role in managing and building the school as a whole. Based on the results of the interviews to obtain data on the role of the school principal as an educator in developing teachers' ICT skills, together with three sources, namely the principal, class I teacher and class IV teacher, stated that in order to develop teachers' ICT skills, the school principal had carried out his role as an educator and made efforts which can help develop teachers' ICT skills.

School quality is very influential from the role of leaders in determining direction and goals. The principal is not just a leader who regulates and sees how an organization is running, but the principal ensures that the goals of an organization are achieved, one of which is by developing teacher abilities. According to Barnawi and Mohammad in [24] the teacher is an actor who interacts directly with students in the teaching and learning process on a daily basis, therefore the teacher is considered the one who best understands the conditions and needs of each individual student. The ability of the teacher greatly influences how the process and results of student learning. Therefore the development of teacher abilities is a mandatory thing that is considered by the principal.

As an educator, the principal carries out his role by having a strategy that can develop teachers' ICT skills. In essence, the principal is the root of the success of a school. This is reinforced by Maharhani's opinion in [25] the principal is a strategic key factor in developing school quality. The principal's strategy as an educator in developing teachers' ICT skills at SD Negeri 109 Pekanbaru is:

- a. Include teachers in training or workshops related to ICT. The school principal asks teacher representatives to attend training or workshops held by the service. The principal is very active in informing about seminars or webinars that are held outside of school.

school principals always urge teachers to diligently attend training or workshops related to ICT in order to broaden ICT knowledge and skills. training is very useful for teachers where it will discuss scientifically forms of development related to the duties and obligations of teachers in improving teaching and learning [26].

- b. Provide opportunities for teachers to increase their knowledge and skills regarding the use of ICT. The principal always provides support for every program that the teacher wants to participate in, especially in broadening the teacher's insight, one of which is ICT skills. the principal allows every teacher who wants to increase their knowledge and ICT skills by giving conditions to the teacher, namely not interfering with teaching and learning activities.

This is in line with Mulyasa's opinion in [27] school principals should provide opportunities for teachers to increase their knowledge and skills and involve teachers in training or upgrading that can increase the insight of teachers. The school principal's strategy is prepared according to the needs needed by teachers at this time, especially in developing teacher ICT skills.



**Figure 1. Teacher Training Certificate**

Figure 1 shows evidence of a certificate that has been obtained by one of the teachers as proof that the principal has included teachers in training related to ICT development. In addition to having a strategy for developing teachers' ICT skills, school principals must also create a conducive school atmosphere for teachers to develop ICT skills. Creating a conducive atmosphere is a must for the role of the principal. Because a conducive atmosphere for teachers is a major factor in learning at school. A conducive atmosphere that can be created by the principal can be in the form of:

- a. Completing infrastructure facilities relating to ICT. The facilities at SD Negeri 109 Pekanbaru are quite complete. The school principal has tried to complete the infrastructure at SD Negeri 109 Pekanbaru. based on research, SD Negeri 109 Pekanbaru has several ICT-based facilities, such as laptops, computers, infocus, WIFI, and so on. The principal provides laptops for teachers who do not have laptops to make it easier for teachers to carry out school activities such as inputting grades, designing teaching modules, accessing platforms that are useful for learning and so on. Infocus is available on every floor of the building to make it easier for teachers to deliver more innovative learning. In the library there is an infocus which if students study in the library, it will be easier for the teacher to convey learning that does not only come from books.
- b. Complete the source of teaching materials relating to the development of ICT. teaching materials at SD Negeri 109 Pekanbaru do not only come from books. In this new curriculum, teachers must be more creative in making teaching materials not only in printed form but also in non-printed or ICT-based forms. The school principal always encourages teachers to look for reference sources through platforms available on the

internet such as learning accounts which can be accessed by all teachers at SD Negeri 109 Pekanbaru.



Figure 2. ICT Infrastructure

Figure 2 shows the room used by teachers to develop ICT skills. In this room, there are quite complete facilities such as computers, computer desks and printers. This can be evidence that the principal has attempted to complete the facilities and infrastructure as a form of developing the teacher's ICT capability. Management of infrastructure in schools is very important so that the smooth running of the teaching and learning process is not hindered by the availability of the infrastructure needed by the teacher [28]. This is in accordance with Wardani's presentation in [29] regarding the management of school principals in providing ICT-based infrastructure, that principals play an important role in facilitating infrastructure and supporting ICT-based learning with quality school development programs and teaching materials. These findings are in accordance with the view that school principals have a responsibility in providing adequate ICT-based infrastructure and teaching materials to support the learning process.

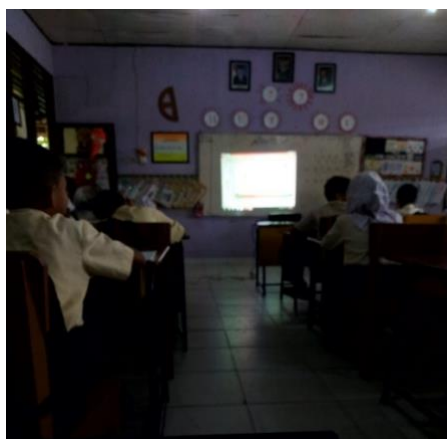


Figure 3. ICT-Based Teaching Materials

In Figure 3 you can see the teacher teaching by displaying teaching materials using infocus as the use of ICT. The teaching materials used by teachers are in the form of creatively designed teaching materials in Powerpoint slides. This is proof that the principal has made an effort to complement ICT-based teaching materials. Furthermore, the role of the principal as an educator is to provide guidance and advice to teachers in developing ICT skills. Based on research results, guidance and advice are always given by the school principal during regular meetings and other meetings. The guidance and advice given by the principal is in the form of words and actions. Each representative

who attended the training, the principal asked the representative to convey back the results of the training. This can assist the principal in providing guidance in developing teachers' ICT skills.

According to Priansa Dalam [27] the ability of the principal as an educator can be seen from guiding and advising teachers to always follow science and technology developments. This form of guidance from the principal is in the form of direction to teachers and staff. Mulyasa in [27] explains that the role of the principal is very important and useful for increasing teacher understanding of the importance of ICT-based learning media.



Figure 4. Regular Meeting

In Figure 4, it can be seen that the principal is leading a regular meeting with teachers regarding the development of ICT skills. Some of the points discussed by the principal at the meeting included, the principal urged teachers not to forget to fill out a teaching account where all teachers were required to fill out a teaching account, the principal also reminded teachers to continue to be enthusiastic about developing abilities, one of which is ICT because in the current curriculum Currently, many teachers are required to take advantage of the use of ICT. Not only guidance and advice, the principal of SD Negeri 109 Pekanbaru provides motivation or encouragement to teachers to generate interest and enthusiasm in developing abilities, especially ICT abilities. Based on the results of the research, the motivation or encouragement given by the principal was in the form of praise, trophies, gifts and certificates for outstanding teachers. Every teacher who does something new in improving the quality of learning, the principal always gives appreciation and makes it an example for other teachers to emulate. Teachers who contribute a lot to schools, such as guiding teachers in using ICT tools, school principals always reward these teachers. This is done to be a motivation or encouragement that can increase teacher enthusiasm in developing ICT skills.

Work motivation will lead to enthusiasm in doing work. The more motivation given, the higher the performance in carrying out the task. Therefore, providing motivation or encouragement cannot be separated from the role of the principal in developing teachers' ICT skills [30].

### 3.2. Obstacles to the Role of the Principal in Developing ICT Capability of Teachers at SD Negeri 109 Pekanbaru

Based on the aspects that have been observed, the researchers found the fact that there were still obstacles by school principals in seeking to develop teachers' ICT skills. Limited number of teachers who can be included in the training held by the service. Only teacher representatives can attend the training because not all teachers can attend the training. This makes the delivery made by the representative teacher less effective because the delivery takes turns. As for holding training in schools by inviting resource persons, school principals are hampered by the lack of resource persons who are proficient in using ICT. According to Utamy in [29] human resources (HR) are strong and committed to conducting training related to the use of ICT, which is fully for the success of the school as a whole as well as development and efforts to achieve excellence to improve the quality of education.

Another obstacle is the lack of ICT-based facilities in each class such as infocus, which is due to a lack of funds to complete ICT facilities. The use of infocus is still alternated due to the

limited number of infocus. But this does not prevent teachers from using infocus during learning. The use of infocus greatly influences the development of teachers' ICT skills because teachers are required to make ICT-based learning media. This is in line with the opinion of Istiyarti and Purnama [31] believes that using ICT is very good for learning if it is supported by adequate infrastructure. Limited quantity and quality of infrastructure will certainly make the use of ICT in learning less than optimal.

Furthermore, in providing guidance, the principal has obstacles, namely the lack of the age factor of senior teachers. Because the age is no longer young, it is difficult for senior teachers to develop ICT skills. Because of this, the principal does not put too much emphasis when guiding senior teachers to fully understand how to use ICT. Guidance carried out by the principal should be carried out in a flexible, relaxed and comfortable manner which will create an increase in teacher understanding, skills and creativity [21].

### **3.3. Solutions to Barriers to the Role of the Principal in Developing ICT Capabilities of Elementary School 109 Pekanbaru Teachers**

As for the various obstacles, the principal has tried to find a solution. The results showed that as an educator, the principal of SD Negeri 109 Pekanbaru had a solution to the existing obstacles. In response to the limited number of teachers who could attend the training, the school principal required every teacher who attended the training to convey the results of the training back to the teachers. With this, teachers who cannot attend will still get the same knowledge. As for the provision of training in schools, the principal will try to find the right resource persons to fill in training in schools related to ICT capacity development. training has significant benefits to school effectiveness. Teachers get the opportunity to develop new skills, knowledge and attitudes in improving student learning achievement from a training [32].

Furthermore, the principal's solution in responding to obstacles in completing infrastructure facilities is to set aside each school fund to complete ICT infrastructure facilities in schools. The principal asks the teacher to take turns using infocus during learning. The principal has also provided additional information in the library so that when teachers carry out learning in the library, teachers can easily display learning media. Currently the school principal urges teachers to routinely carry out learning in the library so that learning is not only in class. Infocus in the library makes it easier for teachers to convey learning resources not only from books from the library. Teachers are also encouraged to take turns in using the existing information in class. learning that utilizes ICT can stimulate student activity, generate student interest in learning so that it can increase student motivation and attention. The principal always reminds the teacher to use infocus in learning and not always use the lecture method which makes students bored [29].

From the various activities that have been carried out by the principal above, it has reflected the implementation of his role as an educator in developing teacher abilities at SD Negeri 109 Pekanbaru. This is in accordance with what was presented by [13], [27] the role of the school principal as an educator in improving teacher quality is to include teachers in training that is academic in nature and specific skills, provide guidance to school members, especially teachers, provide opportunities for teachers to take part in upgrading which can increase knowledge and complete infrastructure.

The role played by the principal at SD Negeri 109 Pekanbaru is also in line with the research conducted by [33] that the principal's program as an educator in improving teacher competence by providing coaching and guidance to teachers. Guidance and guidance are also related to the mental and moral development of teachers. The principal also provides encouragement and motivation to teachers and includes teachers in training and upgrading as an effort to increase teacher responsibility and awareness to improve their competence.

This research is also in line with research that has been conducted by [34] that the efforts made by school principals are evident in developing teacher professionalism by providing guidance to teachers and involving teachers in various trainings, seminars, workshops and so on. In addition,



the principal does not forget to evaluate the performance of the teachers and provide encouragement and motivation in order to develop their performance.

The difference between the results of the research above and the research that the researchers have done lies in the efforts made by the school principal. The research above focuses on all the abilities of teachers, in the research that researchers have done only focuses on the professional abilities of teachers, especially on ICT skills. Another thing that makes a difference is the coaching and guidance carried out by the principal in the research conducted by [33] that coaching and guidance related to the mental and moral of the teacher. While in the research that researchers have done, the principal provides guidance and advice related to the development of teachers' ICT skills.

In the research above, there was no effort by the principal to create a conducive school environment. While in the research that researchers have conducted, school principals have sought to create a conducive atmosphere for teachers to develop abilities, especially ICT abilities.

#### 4. CONCLUSION

The role of the school principal as an educator in developing teachers' ICT skills at SD Negeri 109 Pekanbaru is carried out through 6 efforts, including the principal involving teachers in training or workshops related to ICT development both held by the agency and outside the agency, allowing teachers to participate in programs related to development ICT skills outside of school, complement ICT-based infrastructure such as WIFI, laptops, computers, and infocus, encourage teachers to use ICT-based teaching materials such as PPT, learning videos and others, hold meetings to discuss teacher ICT developments and provide motivation in the form of praise to increase teacher morale.

The obstacles encountered by the headmaster in carrying out his role as an educator in developing the ICT skills of teachers at SD Negeri 109 Pekanbaru were concluded to be experiencing 4 obstacles including, the limited number of teachers who can attend training, the lack of funds in completing ICT infrastructure, the age factor and the lack of teacher motivation. The solution from the school principal as an educator to overcome obstacles in developing ICT skills for teachers at SD Negeri 109 Pekanbaru, there are 4 efforts, informing ICT training that all teachers can participate in, setting aside each school fund to complete ICT infrastructure, then the headmaster forms a companion teacher for teachers who are senior in helping to use ICT in lessons and provide the motivation needed by teachers so that they can arouse the enthusiasm of teachers in developing their ICT skills.

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