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Principal Leadership in the Era of the Industrial Revolution 4.0 at SD Negeri 1 Beureunun and Islamic Private Elementary Schools in Pidie Regency, Indonesia

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Abstract. Top management is one of the factors that influence teacher performance in learning. This research aims to determine school principals' programs, strategies, supervision, and constraints in improving teacher performance in the era of the industrial revolution 4.0. This research is a case study research with a qualitative approach. The subjects of this study were school principals, deputy heads of curriculum, teachers, supervisors and school development teams. The research results are: 1) The program carried out is: formulating the program, compiling the School Development Team (TPS), schedule of activities, program *e-learning*, and technology-based training programs according to 21st-century learning that TPS has prepared. 2) The strategy is carried out by dividing tasks according to the duties and functions of the TPS, involving teachers in IT-based training and having the ability *Communication, Collaborative, Critical Thinking, and Creativity (4C)* in 21st-century learning. 3) Supervision is carried out by the principal, namely carrying out the supervision process directly or through recording *Close Circuit Television (CCTV)*, which evaluates the achievement of program goals and targets. 4) Obstacles include that the principal has not been able to accommodate all of the teacher's needs in the use of technology, and teachers' ability in the technology field still needs to be improved.

Keywords: Principal Management; Teacher Performance; Industrial Revolution 4.0.

INTRODUCTION

The world is entering the era of the industrial revolution 4.0 or the fourth world industrial revolution. Technology has become the basis of human life in this revolution. Everything has become borderless and unlimited due to the internet and digital technology development. This era has influenced many aspects of life in economics, politics, culture, art, and even education.

Law No 20 of 2003 says that: "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble character, and skills that are needed by himself and society."

The relationship between the world of education and the industrial revolution 4.0 is that the world

of education must keep up with technological developments that are developing rapidly and utilise information and communication technology as more sophisticated facilities to expedite

learning. In addition, using information and communication technology can shift the learning mindset from teacher to student-centred. The author [1] explains that Cutting-edge information and communication technology allows for an increase in the quality of education, and interactive educational software is a way to enrich education by integrating technology into the traditional classroom. In addition, technology is an excellent resource for teachers to support teaching and learning.

Based on the government's legislation, a teacher must be able to adapt to rapidly developing technology so that learning tools and teaching and

learning processes seem innovative and creative. Author [2] explains that the primary purpose of learning technology is to solve learning problems or facilitate learning activities. This technology in learning is needed in education.

According to the author [3], "The use of technology is expected to increase student interest in learning because conventional learning processes are considered unpleasant and somewhat monotonous". In addition, learning only centred on teachers and books will make students bored with learning in class. Therefore, a learning innovation is needed, one of which is with technology-based learning so that the appearance and learning style is more attractive so that students avoid feeling bored and bored when participating in learning. The teacher is one of the elements in the field of education which must play an active role and place his position as an energy professional by the growing demands of society. Efforts to advance an educational institution are the duties and responsibilities of the principal, as the head of education, and at the same time as the school manager.

The principal must improve teacher performance as a leader, especially in an effective learning process. Improving teacher performance is the duty and obligation of school principals that must be carried out effectively to improve the quality of learning, leading to improving the quality of education. This means that the principal holds a strategic position in efforts to improve teacher performance.

Principals, in their capacity as educational leaders, are required to be able to choose the proper management to assist teachers in improving their performance, especially in the face of the 4.0 industrial revolution era. Mistakes in implementing school top management will significantly impact the success of increasing the professional competence of teachers and their leaders. This often occurs in the process of improving teacher performance in schools.

METHODS

This study used a qualitative approach with a descriptive research type. According to the author [4], "Qualitative research intends to understand the phenomenon of what is experienced by research subjects in the form of behaviour, actions, perceptions and motivations. This type of research uses descriptive research. Descriptive re-

search is a description of the current phenomena. Descriptive research is intended to examine the circumstances, conditions, or other matters mentioned. The results are presented as a research report. Three data collection techniques are used in this study: observation, interviews, and documentation. The statements and interviews concerned academic supervision by school supervisors, principal school programs, and obstacles in implementing the program in improving teacher performance in the revolutionary era 4.0 at Beureunun 1 Public Elementary School and Islamic Private Elementary School (further on Schools). The author [5] explains that data collection techniques include: interview techniques (interviews), questionnaires (questionnaires), observation (observation), and a combination of the three.

RESULTS AND DISCUSSION

The School's principal, as the highest leader in education management in school institutions, must carry out surveillance to create programs that aim to improve teacher performance in the era of the industrial revolution 4.0. School program loading details the activities needed by the school, what is required and what will be carried out, including, in this case, the management of teacher performance at the school to achieve technology-based learning in the era of the industrial revolution 4.0.

Planning is an action that will be carried out to obtain a specified result within a certain period and space. Thus, planning is a thought process, both in outline and in detail, of an activity/work undertaken to achieve the best and most effective certainty. According to the author [6], planning is anticipating something that will happen because it must be the best possible process.

Based on the results of this research, planning was carried out to develop programs that could improve quality in the School carried out by the school principal, vice principal in curriculum, student affairs, treasurer, education and education staff and the school committee. In this program planning meeting, all school activities, curriculum, student affairs, infrastructure and public relations are mapped into short, medium and long-term programs and included in the RKAS.

Regarding the preparation of school quality support program planning carried out by the school principal together with teachers, employees, and

parents of students. The principal, teachers, and staff gather first in a forum to analyse what programs are needed by teachers and students at school. What was done by School's was by Permendiknas No 19 of 2007 concerning Management Standards regarding the steps for determining the program, namely "To socialise the concept of a quality assurance program to all school members, carry out target analysis, formulate targets based on the school's vision, mission and goals, develop plans, and formulate program objectives.

In this context, Schools have carried out objectives such as 1) increasing the quality of education on a large scale; 2) streamlining the resources owned by the school; 3) optimising the potential of students (creative thinking, problem solving, problem posing) (attached), as well as the meaning of the appropriate program management function, starting from a meeting that accommodates all school activities including curriculum, students, and infrastructure which are mapped into short, medium and long term programs, then outlined in the RKAS as a reference for implementation regarding financing and the implementation time of all programs to be implemented.

Thus the management carried out by the School's principal in improving teacher performance in the era of the industrial revolution 4.0 has covered all things according to the objectives of the planning management function and can be adequately achieved so that it has an impact on school goals and ultimately affects the quality of the school.

In terms of the principal's strategy covers all areas of school operations, which include: student affairs, curriculum and learning activities, educators and education staff, facilities and infrastructure, finance and financing, culture and the surrounding environment, as well as community participation and school partnerships.

From the description of the study results, implementing the quality development program at Schools is to increase the competence of teacher educators in terms of learning and performance teachers such as IT Deepening activities, school and national level KKG, personal coaching, supervision and technical guidance. The implementation of the activity program is carried out through coordination by the implementing committee/team, carrying out activities according to the scheduled plan, enforcing teacher ab-

sences in each activity, carrying out personal coaching, and encouraging teachers to continue to a higher level.

The approach taken in the school principal's strategy for improving teacher performance in the industrial era 4.0 is persuasive communication. This approach is carried out wisely. Namely, the principal must be able to place himself in each of the existing characters at the institution, for example, under what conditions must be democratic and under what circumstances must be firm. Meanwhile, the purpose of the strategy is to teach well, namely that the principal must be able to set a good role model in any aspect to the institution's personnel to achieve common goals.

The principal's strategy is carried out by the plans prepared. Thus, it has been perfect in terms of management implementation to improve the performance of educators at Schools. According to the author [7], "Teacher development is work that the principal must do in educational personnel management, which aims to utilise teachers and staff effectively and efficiently to achieve optimal results". At this moment, the principal's strategy in management at Schools in improving teacher performance in the industrial era 4.0 was carried out correctly and by existing regulations.

Supervision of the teacher performance improvement program at Schools was carried out from the beginning to the end of the study in the form of monitoring and evaluation, closely related to management. Supervision is carried out by all parties who are obliged, especially the school principal and school supervisors assigned from the ministry. It is intended that the work program that has been determined and mutually agreed upon can be carried out by the targets to be achieved.

The supervision carried out is also by the main tasks and functions of each, monitoring the implementation of activities or training held by the school is carried out by the school principal assisted by deputy principals, the principal who deputy principals help is present directly in the activities carried out, monitors the course of activities and provides directions, monitoring teaching and learning activities every day. In this case, Schools have implemented monitoring or evaluating activities to ensure that these activities have been running well. Supervision is carried out after the action takes place to measure how far program achievement is.

Based on the study's results, it is known that the teacher performance management program supervision at Schools in the era of the industrial revolution 4.0 was carried out with two systems: supervision intern and external maintenance. Supervision intern is carried out by the school and external control, namely from the supervisor, as monitoring all teachers. Thus, aspects including supervision procedures and results have run supervision at Schools.

The main obstacle in management to improve teacher performance lies in each teacher's ability. Technological facilities are available, but capabilities taught in operating it still need to be improved, then it becomes less work. The next obstacle is the teacher's age factor; teachers who are relatively old tend to be technology stutters, so it is difficult to be required to use technological means in the learning process.

The constraints in Schools are similar to the existing theory. The teacher assumes that the material in the book is enough to teach students competently so that no technological media is needed, so the teacher thinks it is easier. In addition, there needs to be more training for teachers to improve teachers skills in technology.

Constraints experienced by teachers in mastering technology in Islamic Religion learning is a matter of the teacher's individuality, where the teacher's ability to use technology still needs to improve. Even though the facilities are adequate, the teacher's ability as an executor is essential. This is like the results of research [8], which concluded that "The power of teachers needs to be developed, both in the form of IT skills in the industrial era 4.0. Thus, strong motivation is needed from within the teacher.

Another problem experienced by teachers in mastering technology in learning is internet services. When learning, students in the class learn by tab and need to use the Wi-Fi available at school. The limited internet service capacity disrupts students who simultaneously use internet data. Current time loading is longer, caused by the number of users exceeding the speed capacity of Wi-Fi.

Another problem is the assumption that book media is sufficient to teach teaching materials. That the teacher feels free to use electronic media to assist the learning process, which makes the teacher's motivation to learn and master technology is decreasing, so the role of the school

principal is needed to provide more encouragement or enthusiasm so that teachers can be more active in developing skills regarding the application of technology to learning in the era of the industrial revolution 4.0.

Technology training activities are the best solution to do if you expect teachers to be able to use technological media in learning. Training can also improve teachers' skills in technology so that teachers can be more creative in teaching and learning activities. It must be admitted that the teacher's factor dramatically influences the mastery of technology. This solution is similar to the results of research [9], which concluded that "One solution to develop teacher competence is through training".

Training must also be held notice of teacher readiness. Teachers in the old category will find it more challenging to teach various kinds of technology that exist today. So, special attention is needed to maximise the teacher's abilities in the technology field. In contrast to teachers whose age can be said to be younger, receiving technology training will be faster and more creative in developing it.

Procurement of technological facilities is also critical to implement learning using specialised media successfully. With adequate facilities, it will be easier to implement knowledge using electronic media. With the development of the times, the development of technology is also very rapid. Many electronic media can be used to maximise learning activities, especially learning PAI or Acehese language. Training to increase knowledge about technology learning aligns with the research results [10], which concluded that "Training is needed for teachers to increase their ability to understand technology-based learning in the industrial era 4.0".

CONCLUSIONS

Based on the results of research conducted at Schools regarding the school principal's program to improve teacher performance in the industrial revolution era 4.0, it can be concluded that:

1. The principal's program in enhancing teacher performance are 1) formulating programs including vision, mission, program goals and targets; compiling the School Development Team (TPS); 2) making a program activity plan, creating a program e-learning use tab, google meet,

and applications cinema; 3) make workshop or training regarding the use of technology and learning media such as use tab and cinema into 21st-century learning.

2. The strategy carried out by the principal to improve teacher performance is carried out by carrying out development and mentoring related to learning, cooperating with other institutions in participating workshops or training related to technology, providing internet service facilities in the form of Wi-Fi, including delivering more intense training to teachers in a seminar about 21st-century learning integrated technology, strengthening technology-based learning, motivating teachers, communicating persuasively with teachers, giving awards and reprimands, giving orders according to their duties and functions, and receiving suggestions from various parties.

3. Program supervision in improving teacher performance was carried out by conducting direct supervision (early semester supervision, quarterly supervision and money from district supervisors), evaluating the achievement of pro-

gram goals and targets, and doing follow-up from the monitoring results that have been obtained.

4. Obstacles from the teacher performance improvement program at Schools, namely that 1) the principal has not been able to accommodate all of the teacher's needs in technology; 2) teachers are overwhelmed with implementing learning technology based; 3) school policies have not been firm towards teachers who have not implemented technology-based learning; 4) the ability of teachers in the field of technology is still low - teachers use non-technology-based learning methods because they are considered more accessible and less complicated

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