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KEPEMIMPINAN PENDIDIKAN MEMASUKI ERA

REVOLUSI INDUSTRI 4.0

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Penerbit & Percetakan

Kepemimpinan Pendidikan Memasuki Era Revolusi Industri 4.0

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CHALLENGES FOR EFFECTIVE LEADERSHIP EDUCATION IN DIGITAL AND INDUSTRIAL REVOLUTION 4.0 ERA

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INTRODUCTION

The present life, wherever it is, has been dominated by the era of globalization, and digital affect towards the systems of life. This indicates that people's lives including their mindset, attitude and action cannot be separated from the significant influence and domination of the mentioned era which are always changing and demanding. Basri Hasnuddin[1] says that society has changed not only at modern society but also at knowledge-based society. For the preparation of the coming era, science becomes a driving force for gaining the advancement of information and communication technology driven by the rapid development of technology and globalization competition. Therefore, the role of educational institutions and higher education is very important to motivate and mobilize the community to make science as a great capital to achieve prosperity. To realize the knowledge-based society, the leadership and management of educational institutions (schools) are challenged to make important changes, innovations, and improvements that can meet the needs and expectations of the society in the digital era of the Industrial Revolution 4.0.

The improvement of the leadership and management of the schools strongly depends on the leadership functions of the school principals in implementing school management and guidance through good administration carried out by his own outmost capability. The leadership in this context is an attempt of the school principals to

influence others through their examples, the so called leadership by examples [2, Ambarita Alben]. In this context, the school principal must act as a supervisor with his additional duties to supervise, build, improve, and create innovations and initiatives of all operational activities in his school. In leadership, school principal as an education leader also functions to create a harmonious human relationships to foster and develop interpersonal cooperation among others, so that they can simultaneously move towards achieving goals through the willingness to carry out their own respective tasks efficiently and effectively [3, Wartono]. The professional leader is the one who plays the most important role in improving the quality of education. A successful leader in giving his staff great work motivation actually shows his high task performance and fascinating attitude towards his staff. In carrying out his duty and responsibility, he cannot escape from challenges and obstacles from both within and outside the school [3, Wartono]. Therefore, it is very important to critically consider in selecting the school principal, dean and rector because they are the ones who play the role of initiating the quality of their education. That is the reason driving me to write this paper on the challenges of leadership of educational institutions in this digital era and Industrial Revolution 4.0 in various aspects of leadership.

LEADERSHIP CHALLENGES OF EDUCATIONAL INNOVATION IN DIGITAL ERA AND INDUSTRIAL REVOLUTION 4.0

Facing social forces and demands of this modern time, digital era and Industrial Revolution 4.0, the leadership and management of educational institutions are challenged to change, improve, and create innovations that can meet the needs and expectations of the society. School leaders (principal, dean, and rector) have to be aware of any changes and developments in their leadership for not being left behind.

In implementing technology and digital instruments, some of them still have many obstacles and difficulties because of several reasons like 1) lack of related training, skills and experience in their own work, 2) resistance from school community, especially from the teachers and staff who are less motivated in learning innovation, 3) lack of human resources in technology education, 4) lack of supporting technological innovation facilities in learning process, and 5) the very complex tasks and responsibilities of the school leaders [4, Mehmet SINCAR]. The research shows that lack of training in the use of technology becomes the first major challenge for the school leaders since it is a key factor in the technology leadership. Furthermore, it was found out that the need for technology in teacher and administrator preparation was consistently identified as the overwhelming need for making technological innovation in reality in schools [5, Thomas & Kzenek].

In line with the research above, Blau, I. & Presser conducted a research on the management system at several secondary schools in Israel by implementing (1) e-leadership by the school principals; (2) e-leadership of teaching staff promoted by school principals; and (3) e-leadership and school effectiveness [6, Blau, I. & Presser]. The research showed that the school principals can make decisions and direct dialogue with staff about updated data of students' performance and their academic achievement progress. The students' assignment preparation can also be easily, accurately and quickly known, so that the school principals can monitor individual student progress in accordance with curriculum programs and educational goals.

a. E-leadership by the School Principals

In order to make the school management and pedagogical practices more effective, the leadership system and school management have to be developed by applying technology and ICT. E-leadership by the school principals applied in schools can provide opportunities

for students to have life skills in the digital age of the 21st century. The principal may control the management of school data already done online such as pedagogical information systems, curriculum, and academic achievement. As a part of this process, schools can implement school data of management system in order to support the e-leadership and e-communication or interaction among teaching staff, students, and parents [6]. School principals based on their pedagogical decisions and the dialogue with teaching staff on updated data regarding student performance, including achievement in the state tests, and student daily functions, such as attendance, lateness, and homework preparation. Above all, the principal can easily monitor all data related to school information through e-leadership of any progress achieved by the school, students of different classes. This digital system facilitates transparent, fast and precise information.

b. E-leadership of Teachers Promoted by School Principals

The implementation of teacher leadership in the management system has increased school effectiveness. A related research was done and showed that the teacher leadership implementation in some schools was done in two stages, namely among school staff and among students and parents. The results indicated that participants monitored the exchange of pedagogical data and the amount of e-communication among school staff and between teachers and families in their schools [6]. In comparison to previous management system, the implementation of e-leadership of the teachers in management system is more representative and effective. The school principals can work and communicate more effectively and efficiently in improving school graduates' achievements, school curriculum, pedagogic data, and communication with teachers and parents by which any problems happen can be discussed together and quickly

overcome. In addition, ICT has been embedded within a broader framework of education reforms that develop students' capacities for self-learning, problem solving, information seeking and analysis, and critical thinking, as well as ability to communicate, collaborate and learn, abilities that figured much less impressive in previous school curriculum [7, Allan H.K. Yuen. 8, Barry J. Fishman et all]. The use of ICT and e-leadership of teaching staff is a demand for the industrial revolution 4.0. Any institution, schools in particular, cannot avoid using computers and digital applications with updated, fast and precise information. The use of ICT can fulfill the students' needs, find information easily, and encourage students to think critically and creatively. Increasing school awareness about e-leadership in teaching is very relevant at all school levels although many teachers in reality still cannot implement it because of their limited skills of technology.

c. E-leadership and School Effectiveness

E-leadership innovation can improve pedagogic competence of the teachers and has a significant impact on improving school effectiveness. Teachers can monitor curriculum programs, students' performance and progress, and facilitate communication with other teachers. According to Blue (2013), the systems and promotion of e-leadership by teachers consequently enhance pedagogical effectiveness of the school which includes making data-based decisions on the level of individual students, class and stratum, tracking in concordance with curriculum, level of performance and student achievement, decentralization of leadership, and time management during pedagogical meetings. Above all, various school activities in learning and administration can be efficiently and effectively carried out and easily monitored by all levels of the school so

that any information can be quickly known. From the point of view of humanistic literacy, school principals have to establish harmonious human relationships for the purpose of fostering and developing better team work among the teachers and their staff. This will lead them to achieve their goals through their respective tasks.

CHALLENGES AND INNOVATION IN FORMING PERFORMANCE MANAGEMENT

Giving direction and guidance to staff for optimal, effective, and satisfied job is a part of a leader's responsibility. If the leader does not feel satisfied with the job of his staff, he should evaluate whether his guidance is· clearly understood by all of his staff. Job satisfaction is not only viewed from the work aspect, but is a performance showing outcomes of the work environment organization. Performance in this context is a success of running various tasks and activities to achieve goals and objectives of the job. Good, realistic, and measurable leadership and managerial skills are urgently needed and require good and successful performance management [9, Ervin Widodo]. Therefore, performance management can improve service quality, performance, work skills, and support work programs and change work culture as well.

CHALLENGES FOR IMPROVING SERVICES QUALITY

Innovation for improving service quality is a leader's and his staff business to perform school administration and academic services. It is natural for the leaders and staff to provide good services with smile, management, accountability, responsibility, and trust (SMART) and satisfy customers. So, the customers feel cared for and satisfied because all their needs are quickly and accurately fulfilled. In other words, all business is running smoothly. Service quality is all actions either goods or services provided by producers or sellers to meet or exceed the consumers' needs

and expectations [9]. The producers in this context is a group of people involved in school leadership serving students and stakeholders, while the customers are students, parents, and stakeholders.

CHALLENGES FOR IMPROVING QUALITY ASSURANCE

Improving quality of education is too important to ignore. Educational institutions in Indonesia have been implementing school quality that guarantee their school graduates to compete with other schools nationally, regionally and internationally. The Improvement of quality assurance of education is a serious business of schools and colleges which not only cover science and technology but also "software" that enables their graduates to have academic competence, skills, good character, innovation, and creativity for their living in the digital era and Industrial Revolution 4.0. At the moment, what society needs is the products (school graduates) that can meet and guarantee stakeholders' satisfaction. The quality can be achieved only in a systemized management of all the supporting components of the school management and leadership systems with continuous improvement, [9]. In short, quality assurance is badly needed and practiced by the schools to guarantee all school stakeholders to meet their needs and satisfaction.

CHALLENGES AND INNOVATION IN LEARNING

Learning innovation is a challenge for the school principals to direct the teachers to use digital technology. They have to provide instructional facilities and learning resources that support the teachers to achieve *e-leadership* in teaching so that they have the need of innovation in teaching skills. Some constraints such as lack of technological facilities and human resources were emerged as challenges for school leaders. When teachers do not have the necessary skills and interest in using the

technology, it would be a major challenge staying ahead of the principal [4]. Teachers in the 21st century are different from the teachers in the 20th century. In this digital era, the existence of the teacher is no longer seen from his charisma only [Karim & Saleh Sugiyanto, 2006). Teachers are expected to be able to communicate and adapt themselves to the challenges of age. They are required to be innovative and creative in this digital era and Industrial Revolution 4.0 because learning system of 1980s does not go any longer with the development of students nowadays.

In addition, the teachers are agents of change, renovators of knowledge and learning consultants [3, Wartono] acting in the context of (firstly) global digital community. They perform instructional activities which direct the students to develop inquiry, discovery, creativity, initiative, interaction, and cooperation. They also prepare teaching and learning activities in the digital era. Secondly, they also act as a learning resource, facilitator, manager, and demonstrator who gives examples to students; and thirdly, they act as a mentor, motivator, and evaluator as well.

Changing of learning places like the transition from analog to digital era is also very important to consider. This includes teaching and learning integrated in the demands of a balanced curriculum, managing behavior, managing resources and the environment, building schools as professional learning places, and supporting parents to give learning opportunity to students [10, Bastian, Aulia Reza, 11, Christopher]. In the digital era, learning environment must be equated and equipped with the use of information and communication technologies, such as the use of internet and cybernetics that enables the students to have independent and dynamic learning. They are not limited to one learning resource, not even dependent on one certain teacher, but they can learn from many different teachers and various resources of cyberspace. In this case, classroom management plays important roles in regulating more

flexible and independent student learning methods. All teacher competences that tend to treat the students only based on experience, abilities, knowledge and learning resources possessed by a teacher, or measuring students' potential and abilities with the brain of the teacher are no longer relevant to the needs of the present time. In the digital era, teachers are encouraged to apply the concept of multi channels of learning which treats the students to learn more dynamically from anywhere, anyone, various resources. Therefore, the role of the teachers is very necessary as a facilitator to foster the students' competencies and encourage the students to learn from various digital sources according to their needs dependent on the easy and quick accessibility to knowledge and information. Unfortunately, students are more quickly following digital development and information than teachers through various resources and multimedia. Learning through multimedia requires the teachers to design ideas and messages of learning through verbal and visualized images which can fully utilize the students' capacity of information processing [12, Richartd and 13, Barnawi et al]. Therefore, learning needs in the 21st century require changes of the roles of the school principals and teachers in accordance with their time.

CONCLUSION

In conclusion, let me tell you two different statements to end this article. Firstly is the importance of following the progress of information learning supported by internet, Google, Smartwatch, and Siri as examples of innovations from the trends of digital life. XL also contributed to the achievement of subsequent innovations [14, Bayu]. Secondly is Dian's explanation about these innovations which consisted of the M-Fish application to detect the fish location and the Xmart Village program focusing on improving the welfare of rural people through good internet access. She also explained her company's innovation in the development of the 4G / LTE network. She hopes that with

better network technology, people can comfortably access the needed information because the purpose of having better network technology is to disseminate information technology through which people can communicate and improve their welfare. The advancement of scientific information or hard skills was achieved through internet. However, too important to forget, in this digital era we cannot ignore the need of soft skills which is often emphasized by school leaders because with the soft skills they are able to face a variety of challenges of this era. Above all, the school leaders have to encourage their staff and students to actively collaborate in various activities or organizations that open their insights into valuable decision-making perspectives for the future progress and challenges.

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