

Leadership Education System in Education Management in Industry 4.0 Era

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ABSTRACT

Education in the industrial era 4.0 is a considerable challenge, because in order to realize good management in education to form leadership, adjustments to the curriculum, learning systems, supporting facilities and infrastructure and good human resources are needed. Not only that, in the industrial era, we must be able to build partnerships with various stakeholders to realize good management. Industry 4.0 can create artificial intelligence where the characteristics or behavior of a human being can be included in the application, so that humans are required to adapt to the current conditions of development.

Keywords: education, industry 4.0, leadership, management

INTRODUCTION

At the pre-scientific level, leadership is based on experience, intuition and practical experience. Leadership is a person's innate nature as a gift from God. Leadership is a process of obeying subordinates or fellow individuals regarding predetermined goals. Leadership is a very important factor in an organization, because leadership is an effort to influence fellow individuals in achieving goals. In leadership there is a leader who has the power to direct and influence his subordinates with respect to the tasks assigned to them. must be carried out. In educational management, leadership is a character that is inherent in individuals, Management is the process of organizing, managing, managing human resources to controlling it so that it can achieve the objectives of an activity. Leadership education management is managing a leadership character that is smart and dignified, and has high human values. When a leader has leadership character he can guide a group so that the goals of the group are achieved. This is not neglected by the relation of education management in leadership character.

However, there is a problem in the management of leadership education, where this problem becomes a challenge in the world of education, while this problem is the management of education in

the Industrial 4.0 era. This is a challenge in the world of education to educate someone to have leadership character, with advances in information technology that penetrates all aspects of human life from birth to death, this will change the pattern of human life, both positive and negative. All changes in society are associated with a global era full of competition. With the advancement of technology it is called the industrial revolution. This Industrial Revolution is a fundamental change in the way of life and human work process, where with the advancement of information technology can integrate in the world of life with digital impact for all disciplines of science. With the rapidly growing development of information technology, there has been a breakthrough in the field of artificial intelligence, where computer technology is a science discipline that adopts a person's skills into a technology-based application and gives birth to information technology and production processes that are controlled automatically. With the birth of the industrial revolution 4.0 which is digital, it has an impact on human life. All processes are automated and connected with internet technology, where this condition not only connects humans but greatly influences every aspect of human life such as the process of trade transactions, transportation, communication, education and other aspects (Hamdan, 2018). At present the world economy is starting to experience a shift that dominates the world ecosystem where digital-based industries such as grab, gojek, google, youtube, alibaba, facebook, amazon and others, these conditions create new challenges in the form of data security and the loss of many jobs and the emergence of many types of new job (Hamdan, 2018). The paradigm shift in the industrial revolution era will make an industry, educational institution or a nation start to lag behind if there is a lack of quality human resources (HR) and the inability to change by stakeholders (Prasetyo & Sutopo, 2018).

This condition can have an impact on leadership, both positive and negative, because someone definitely needs a new paradigm to be more practical in an organization. For this reason, a new concept is needed in the world of education in the industrial era 4.0 to anticipate negative things that will happen, so an effective, efficient management is needed in the world of education to educate people in this case to form a good leadership character by making the best use of it. Industry 4.0.

METHOD

The research method for literature review or literature study is that it contains theories that are relevant to the problems in the research taken by the researcher. Literature review or literature study is an activity that is required in an academic research whose main purpose is to develop aspects of practical benefits. This type of research is a bibliography, according to Zed M (2004) it is explained that a bibliography is a list of information in books by authors or experts in various fields, expertise or certain publishers.

This research is entirely based on literature review or literature studies. Therefore the nature of library research. The data collected and analysed all come from literature and other documentation materials such as journals and media that are relevant and are still being reviewed. The data collected in this study are two types of primary and secondary data.

The data collection technique used by the author in this study was a literature study, namely by searching for data related to the discussion in the research title that the researcher took. Data analysis techniques were carried out by research using qualitative analysis techniques in a deductive way, meaning that from general theoretical matters to draw specific conclusions. And in an inductive way related to specific and concrete facts and events then draw conclusions from the specific to the general.

RESULTS AND DISCUSSION

Definition of Education Management

According to Hasibuan, the word management comes from the word "to manager" which means to organize. Arrangements made through a process and arranged based on the order of the management function. From this definition, a question arises, 1) what is regulated, 2) why must it be regulated, 3) who regulates it, 4) how is it regulated, and 5) where should it be regulated.

1. What is set

What is regulated are all management elements consisting of man, money, method, materials, machines, and market (abbreviated as 6 M).

2. Why should it be set

Arrangements are made so that the 6M is more efficient, effective and coordinated.

3. Who is in charge

The one who regulates is the leader with leadership authority through instructions and/or persuasion, so that the 6M is right on target

4. How to organize it

The way to manage it is through the process of sequence of management functions such as planning, organizing, directing, and controlling.

5. Where to set

The setting is an organization such as a school, mandrasa, or college.

Education Management Duties/Responsibilities

In an Islamic view, the task of education management is very broad, including: 1) how educational leaders are properly selected, so that whoever the educational leader is chosen must have the requirements to be a leader, in this context, the Koran explains that the requirements to be a leader are strong and reliable. 2) the task of education management is self a leader and existing staff to work professionally.

Basic Concepts of Educational Leadership

As a branch of knowledge, especially administrative science, in the framework of the development of this knowledge, especially in the field of educational organization and administration, leadership

has an important role in the management framework. Because the role of the leader is basically a description of a series of functions of leadership.

1. Conceptual Framework

The implementation of educational management based on a healthy hierarchy and leadership structure departs from the application of his leadership philosophy which is adhered to by a leader adhering to educational management theories. Nanang Fattah (2013) quotes the opinion of Shored and Voich (1986) stating that the basic management framework includes: *"philosophy, asumptions, principles, and theology, which are basic to the study of any discipline of management"*. In simple terms it is said that philosophy is a view or perception of truth that is developed from practical thinking

2. Concept Description

Based on the diagram above, the knowledge framework can be a) The essence of management philosophy. Nanang Faġah (2013) explains that each type of knowledge including management knowledge has specific characteristics regarding what (ontology), how (epistemology) and for what (axiology) management knowledge is structured. All three are related to each other (system). The ontology of science is related to epistemology, and epistemology is related to axiology and so on

Based on the basis of ontology and axiology, then how to develop an epistemological basis is basically how to get the right knowledge by taking into account aspects of ontology and axiology. Likewise with the problems faced by epistemology, namely how to arrange the correct knowledge to become problems regarding the empirical world which will be used as a tool to predict and control events or symptoms that arise. In knowledge management, philosophy essentially provides a body of related knowledge to think effectively in solving management problems. This is the essence of management as a scientific discipline in overcoming organizational problems based on an intellectual approach. For a manager needs knowledge about the truth of management, assumptions that have been recognized, and values that have been determined. In the end all of that will give satisfaction in taking a systematic approach to managerial practice.

b) The Essentials of Management Theory

Management theory has a role or helps explain organizational behavior related to motivation, productivity, and satisfaction (satisfaction). The characteristics of management theory in outline can be stated:

1. Referring to empirical experience
2. There is a link between one theory and another theory
3. Acknowledge the possibility of ridicule

c) The Essence of Management Principles

The importance of basic principles in the form of management include:

- Determine the way or method of work
- Selection of workers and development of their skills
- Selection of work procedures
- Define task boundaries
- Prepare and create job specifications
- Doing education and training
- Determine the system and the amount of the reward

d) Managerial practice activities

Managerial practices are activities carried out by managers. If management is seen as a series of activities or processes, then the process will include how to coordinate and integrate various sources to achieve organizational goals (productivity and satisfaction) by involving people, techniques, information, and structures that have been designed. This managerial activity includes many aspects, but the main and very essential aspects are planning, organizing, leading, and controlling.

e) Educational resources

Educational Resources. Many management resources are involved in organizations or institutions including educational institutions, including: people, facilities and infrastructure, costs, technology, and information. However, the most important resource in education is human resources. How managers provide their energy, creative talents, and enthusiasm for the organization.

Educational Leadership

Education is one of the vehicles for developing self-potential so that a leader is needed to regulate the process in education. Leadership can be formulated as a means and infrastructure as well as building infrastructure for education, research, innovation and breakthroughs in research and development that support the 4.0 revolution and a research and development ecosystem for improve the quality and quantity of research and development in education and society.

Challenges to educational opportunities in the Industrial Revolution Era 4.0

According to Yahya (2018) that the government must immediately respond to the challenges of industry 4.0, namely the threat of unemployment and demographic bonuses with a focus on improving the quality of human resources through education. One of the government's policies is the revitalization of Indonesian vocational education. Support from the government must cover the learning system, educational units, students, educators and education personnel are also needed. Implementation of Revitalization of the learning system includes (1) Character Education Curriculum, (2) Learning materials based on information and communication technology, (3) Entrepreneurship, (4) alignment, and (5) evaluation. The education unit includes (1) New School Units and new classrooms, (2) other study rooms (3) room rehabilitation, (4) student and teacher dormitories, (5) equipment and (6) school management and culture. Elements of students include (1) government scholarships and (2) development of talents interested in the Industrial Age 4.0

The challenges and opportunities for the development of Indonesian Vocational Education are: (1) digital literacy, (2) technological literacy, and (3) human literacy (Aoun: 2017). These three skills are predicted to be skills that are needed in the future or the industrial era. Digital literacy is directed at the aim of increasing the ability to read, analyze and use information in the digital world, technological literacy is aimed at providing an understanding of how machines work and technological applications, and human literacy is directed at increasing communication skills from mastery of design science. The new literacy provided is expected to create cooperative leadership by perfecting the old literacy movement which only focused on improving reading, writing and communication skills. Adaptation of the new literacy movement can be integrated by adjusting the curriculum and learning system as a response to the industrial era 4.0. Response to the industrial era 4.0 challenges and opportunities for educational development. 21st century learning according to Triler and Fadel (2009) that 21st century learning oriented towards digital lifestyles, thinking tools, learning research, and how knowledge

works.

Education Management in the Revolutionary Era 4.0

According to Herwina (2018) Higher education in Indonesia is required to be able to anticipate technological developments that occur in the era of the industrial revolution 4.0. Curriculum design and educational methods must also be able to adapt to the business climate that continues to grow and is increasingly competitive, which must keep up with developments in technology and information. The challenges faced by universities in the era of the industrial revolution 4.0 include (1) adjusting the curriculum with developments to support the revolutionary era 4.0, (2) presenting innovative learning, (3) partnerships with educational institutions, industry or graduate user stakeholders, (4) infrastructure facilities education support, (5) human resources both lecturers and teaching staff.

According to Suryapermana (2017) Educational planning is making decisions on various options that will be implemented to achieve predetermined goals, where planning contains a series of decisions and explanations of objectives, policy determination, program determination, determination of certain strategies and procedures and determination of activities to be carried out, the planning that can be done in the form of:

a. Human Resources

According to Mello (2015) there are at least three human resource impacts for educational institutions to respond to new technological changes, namely: (1) the need to increase capabilities, (2) more oriented towards collaboration or collaboration and (3) work becomes automation. In addition, according to Syamsur and Reflianto (2019) in the field of education related to challenges in the industrial revolution era 4 will always be related to the readiness of human resources as users of supporting technology. The readiness in question is (1) the ability to interact and collaborate both internally in educational institutions and externally outside educational institutions, (2) the ability to master learning approaches that are able to develop creativity, high understanding, critical thinking skills, collaboration and communication skills, innovation skills, problem solving skills and 3) ability to use technology so that they are able to assist and teach students by utilizing technology.

b. Curriculum

According to Nugrahadi et al (2013) The current development of the curriculum in tertiary institutions aims to improve the quality of graduates so that they can keep up with the times and can compete in the world of work. Current technological developments require tertiary institutions to update the knowledge and competence of graduates so that they can meet market needs. Ferbriyanti said (2013) One of the objectives of providing education by an institution is to provide and produce graduates who have the ability and competitiveness in finding, obtaining, and creating jobs. One of the reasons for the low competitiveness lies in the higher education curriculum which is still content based, not competence

c. Facilities and infrastructure

Maryadi (2018) says that the first planning of educational infrastructure through needs analysis is carried out by analyzing and evaluating what facilities and infrastructure are needed to support the educational process and the learning process in the classroom and outside the classroom. In addition, said Nurbaiti (2015), careful planning can minimize the possibility of errors and can increase the effectiveness and efficiency of procurement of facilities and infrastructure. Errors that occur can be in

the form of purchasing goods that are not in accordance with the qualifications, the amount of funds available, the level of importance, and the level of urgency. Thus, a good information and coordination system is needed between the tasks of planners and procurement officers through the coordination of leaders

d. Learning

In line with the development of the industrial revolution 4.0, human resources are needed who have certain competencies such as high comprehension skills, critical thinking skills, collaboration and communication skills, innovation skills, problem solving skills, collaboration and communication skills, skills in mastering ICT media, life and career skills. Based on the competencies needed in the era of the industrial revolution 4.0, a number of breakthroughs and innovations are needed to improve the quality of the learning process. According to Syamsur and Reflianto (2015) Presenting an innovative learning system in the era of the industrial revolution 4.0. in tertiary institutions will improve students' abilities in terms of data Information Technology (IT), Operational Technology (OT), Internet of Things (IoT), and Big Data Analytics, integrating physical, digital and human objects to produce competitive and skilled college graduates especially in the aspects of data literacy, technological literacy and human literacy. It is Partnership

Idur (2017) said that efforts that can be made to improve the quality of education and student performance are through strengthening partnerships between educational institutions, industry and graduate user parties. Partnership is a relationship between individuals and groups that is characterized by cooperation and responsibility for achieving predetermined goals with the principle of mutual need, mutual reinforcement and mutual benefit. Meyana et al (2017) also said planning for partnership activities starts from the initial stage, namely the stage of acceptance or proposal of cooperation activities, then the preparation stage, the stage of drafting the MoU or cooperation agreement and the decision agreement stage as well as the type of partnership to be carried out based on the wishes of the collaborating parties

Musana (2017) Implementation of an educational program which is the application of plans that have been made before both the implementation of the activities of educational institutions and the main thing, namely the learning process.

CONCLUSION

This study concludes that Leadership education in educational management, namely managing everything as old as both the concept of educational leadership and managerial methods, because the success of an organization depends on how good a leader is in doing managerial. Education in the industrial era 4.0 must adapt to existing conditions, by adjusting the curriculum with developments to support the revolutionary era 4.0 presenting innovative learning, partnerships with educational institutions, industry or graduate user stakeholders, (4) facilities educational support infrastructure, human resources both lecturers and teaching staff. With the adjustments to Industry 4.0, effective and efficient management will be realized.

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