A QUALITY MANAGEMENT CONCEPT FOR EDUCATIONAL FACILITIES AND INFRASTRUCTURE IN THE INDUSTRIAL REVOLUTION 5.0

Baso Syafaruddin
Institut Agama Islam As'adiyah Sengkang, Indonesia

ABSTRACT
This paper explores the potential and problems that modern educational institutions have when it comes to managing the quality of their infrastructure and amenities. Every organization, especially educational institutions, must keep up with technological advancements. Therefore, educational institutions must use these difficulties as possibilities to continue to exist as the institutions that will direct and build a civilization in the future. By managing educational infrastructure and amenities in a way that can keep up with the present 5.0-period development, this study attempts to gauge the essence of educational institutions. The study used library methods to get information from reliable sources. To ensure that educational institutions continue to exist, infrastructure and facilities must be updated for the modern 5.0 period. In essence, it has evolved into a requirement that may support the continuation of educational activities.

Keywords: Management, Quality, Facilities, Infrastructure, Education era 5.0

1. INTRODUCTION

The existence of educational institutions in today's era of science and technology is increasingly felt as an urgent need in responding to various challenges and current demands for change (Hodson, 2003; Bentley, 2012). In responding to empirical factual conditions, educational institutions that are considered to exist have already become the antidote for the community in an effort to form a generational figure that is efficient and effective in the future. But on the other hand, institutions that are not able to adapt to existing developments will become a very heavy burden and will always get the spotlight from the community (Vidal & Keating, 2004; Boström et al., 2018). The educational institution in turn experienced a crisis with various problems that surrounded it, and what was more fatal, it had to be forced to accept the reality of going out of business because it could not show its identity as being competent in developing needs.

The above can be used as a benchmark for assessing the quality of education until now when it is felt that it is still unclear. Even if the certainty of the notion of quality or quality in education is impossible because it involves many components that influence each other, changes from that influence are often discussed with qualitative changes, namely concerning relationships in education where educators and students are allowed
to meet on the basis of That is why the approach used to determine high-quality education is to try to imagine the process or teaching system that really educates. Therefore, what can be used as a standard for assessing a quality educational institution lies in its results and process (Abdullah, 2006; Bojović et al., 2020). In terms of the results, at least the human output of education must be intelligent in mind, strong, muscular, skilled in hands, and noble in heart. Meanwhile, in terms of the process is the ability of an educational institution to face problems related to participation, efficiency, effectiveness, and relevance of education (Danchikov et al., 2021).

Discussions and highlights on the issue of the quality of education in the last two decades have ranked quite high, especially in the mass media (Budiharso & Tarman, 2020; Daenekindt & Huisman, 2020), when compared with the spotlight on other educational issues. This can be said to be quite alarming because the focus of the problem does not only come from thinkers and observers in the field of education but also from managers and policymakers in this field. Since the 1970s, the spotlight has been on the low quality of education nationally at the levels and types of primary and secondary education (Novita, 2019; Isnah et al., 2020), which currently has also reached the types and levels of higher education.

One thing that cannot be denied is that the quality of national education is not evenly distributed (Sasongko, 2018; Riyanti et al., 2020). Quality gaps exist, for example, between regions at various levels of education. This needs serious attention because the gap will get worse and bigger if it is not addressed immediately. In an advanced era of globalization, people who are backward will be more motivated to advance faster (Anggarwal, 2011; Lund & Tyson, 2018; Korinek & Stiglitz, 2021; Prados de la Escosura, 2021).

Several assessments of the quality standards of educational institutions are in line with the objectives of education, as included in Article 3 of the Law on the National Education System, namely, the development of the potential of students, so that they become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens (Supardi, 2015; Pawero, 2021). This requires education to continue to improve quality in order to realize the hope of developing the resources owned by the state.

In essence, education is the spearhead in fostering and developing human resources, which are the basis for managing and developing various elements that exist in a particular area. Therefore, education has an important role in being able to study and develop various potentials possessed by a country (Schiller & Brimble, 2009; Widodo, 2019).

The meaningful formulation contained in the Law on the National Education System identifies that an intelligent nation can be interpreted as a person who is able to overcome life's problems both as an individual and as a member of a social group. We must look into the future and strive to build a better life for the whole nation (Pawero, 2021).
Building better life, in general, is also a social and national responsibility that must be carried out by every individual and existing institution. Education must be able to produce good and best outputs in order to achieve the expected goals (Richards, 2013; Chang, 2016). The location of the significant role of educational institutions in the context of national development is significant not only as a supporter of the emergence of an intelligent nation generation but more than that, namely, developing the obligation to create output or a generation that has a work ethic that animates religious spirit.

Efforts to realize these goals must be supported by educational institutions that have the capacity to foster human resources equipped with facilities and infrastructure that meet the needs and challenges of the times in era 5.0.

2. METHOD

The author’s technique for this study is a qualitative research method. This approach is utilized to carry out a descriptive study on the quality management of educational infrastructure and facilities in the 5.0 era. Because the data was gathered from books, periodicals, journals, and other sources related to the pattern of quality management of educational infrastructure and facilities, the researcher used a qualitative research method that is literary in nature. The purpose of this journal is to describe or summarize the findings of the research that has been conducted.

3. RESULTS AND DISCUSSION

3.1 Educational Facilities and Infrastructure

Educational facilities are one component that must receive the main attention of every education manager. The educational facilities and infrastructure that are able to meet the challenges of the times are especially important. UUSPN number 20 of 2003 article 45 requires that every formal and non-formal education unit provide facilities and infrastructure that meet educational needs in accordance with the growth and development of the physical, intellectual, social, emotional, and psychological potential of students (Abdurahman, 2017; Pandria et al., 2017). This is a challenge and an opportunity for educational institutions in era 5.0, which is an era of technological development that provides convenience in carrying out learning activities, especially those related to educational facilities and infrastructure.

Educational facilities are all resources that are used directly in the educational process (Sobandi & Yuniarsih, 2020), while educational infrastructure is all resources that are used indirectly and support the implementation of the educational process (Sholihah, 2019). Facilities and infrastructure are all devices that help the smooth teaching and learning process, both those that are in direct contact or those that are not directly related to the learning process. Educational facilities and infrastructure are an absolute requirement in the implementation of the teaching and learning process in educational institutions (Sholihah, 2019; Agustin & Permana, 2020).
In relation to educational facilities, classified them into three parts, namely: (1) whether they are used or not; (2) whether they move or not when they are used; and (3) their relationship in the teaching and learning process. Meanwhile, school education infrastructure is classified into two forms, namely (1) educational infrastructure that is directly used in the teaching and learning process and (2) school infrastructure that is not directly used in the teaching and learning process.

For the effectiveness of learning, which will determine the quality of learning, schools must be equipped with adequate facilities and infrastructure. Thus, the learning process will run effectively and efficiently, which will certainly have an impact on graduates who are produced with skills that are as expected. So, facilities and infrastructure are the determinants of the quality of learning in a school (Kaur & Bhalla, 2018; Romlah et al., 2021).

3.2 Quality Criteria for Educational Facilities and Infrastructure in the 5.0 Era

The term "quality" is still a topic of debate among experts. Some call quality a slippery concept because the term "quality" is often associated with the interests of the users (Rapley, 2003; Solin & Curry, 2022). This is due to the concept of quality that departs from the absolute concept (absolute concept), which is a beauty and truth that is certain and uncompromising, while the relative standard is contrary to the absolute standard. Quality requires stakeholder satisfaction with products or services that have been received. Therefore, quality standards are essential in the hands of the stakeholders (Solin & Curry, 2022).

Furthermore, there are 14 quality principles that must exist in organizations if they want quality (World Health Organization, 2018; Norström et al., 2020), namely: 1) Establishing a consistent goal of developing products and services in order to create a competitive business environment. 2) Adopt a new philosophy. 3) Replace inspection reliance with quality-assured efforts. 4) Stop thinking that, in business, the price is the reward. 5) Constantly improving production and service systems in order to improve quality and output. 6) On-the-job instruction. 7) Institutional management. 8) Face your fears. 9) Remove organizational barriers between departments and bureaus. 10) Eliminating warning slogans and targets in favor of methods that can increase work motivation is a good idea. 11) Reduce work standards that necessitate numerical quotas. 12) Remove barriers that can lead to the abolition of human rights so that they can be proud of their work. 13) Instituting a vigorous program of education and self-improvement. 14) Everyone in the company works together to support the transformation process.

Quality criteria is a necessity that becomes a stipulation in providing educational facilities and infrastructure for the best use in the implementation of the teaching and learning process (Redmond et al., 2008; Pistoni et al., 2018). The criteria include:

1. Physical dimensions for users/students to ensure proper use.
2. The basic form is in accordance with: a) student activities in PBM; b) strong, easy to maintain and easy to clean; c) has a simple basic pattern; d) easy and light to store and compile; and e) flexible so that it is easy to use and can also stand alone.

3. The contribution of facilities and infrastructure should be: a) strong and durable; b) easy to work in bulk; c) independent of their use's safety; and d) and materials readily available on the market and adapted to local conditions.

4. Type, shape, size, and color should all be tailored to students' needs and interests. This is a must-have for school equipment.

Standardization of educational facilities and infrastructure will determine the quality of graduates. In-Law No. 20 of 2003 concerning the National Education System, Chapter XII: Educational Facilities and Infrastructure, Article 45 Paragraphs 1 and 2. Likewise, PP RI. No. 19 of 2005 concerning SNP, namely: articles 42, 43, 44, 45, 46, 47, and 48. And Permendiknas was No. 24 in 2007 and No. 40 in 2008 (Abdurahman, 2017; Pandria et al., 2017). The regulation binds the essence of facilities and infrastructure in educational institutions. So, facilities and infrastructure are necessities that must be owned by every educational institution. The facilities and infrastructure that are able to meet the development of the era are in the current 5.0 era.

Education has the same position as life because education is the totality of each person's learning experiences throughout his life. Education is not limited to a certain age that is binding but can last throughout human life. Education in this era 5.0 requires every human being to be able to access various types of information without being limited by space and time so that the educational process can take place for everyone without having to choose a certain place and time (Darmaji et al., 2019; Dwiningrum, 2021; Jamilah, 2021). The existence of educational institutions in organizing various lessons forms the effectiveness and efficiency of time for students. The rest is left to each student to maximize their own potential.

Schools are formal educational institutions as a result of human civilization's engineering, in addition to the family, the world of work, the state, and religious institutions. So schools are held to meet the educational needs of the community in accordance with the culture, which is developing and increasing. Education in the school environment is very dependent on the learning process. In carrying out the teaching and learning process effectively and efficiently, facilities and infrastructure are needed to support the success of these activities. Learning activities cannot run as expected if they are not equipped with adequate facilities and infrastructure (Rozak et al., 2020; Goffar & Agustin, 2021). For example, in classrooms, chairs, blackboards, books, etc. As a result, facilities and infrastructure have become important factors in producing quality graduates.

All institutions, including educational institutions, need infrastructure, which is a very important resource for education. Many schools already have complete facilities and infrastructure so that they really support the educational process at these schools. Both educators and students feel helped by the existence of these adequate facilities. However, in reality, it cannot be denied that some of these facilities and infrastructure must be managed
3.3 Quality Management of Educational Facilities and Infrastructure in Era 5.0

Quality management of educational facilities and infrastructure cannot be separated from management functions in general, namely, planning, organizing, implementing, procuring, and controlling (Sunder, 2016; Tanjung, 2020). This is an effort to maximize the procurement of facilities and infrastructure in accordance with the number of needs and utilization.

In order for facilities and infrastructure to make a meaningful contribution to the course of the educational process, they should be managed with good management (Tanjung, 2020). The management in question contains elements of (a) planning, (b) procurement, (c) inventory, (d) storage, (e) arrangement, (f) use, (g) maintenance, and (h) removal.

The management of facilities and infrastructure begins with the planning process (Sunder, 2016), which is carried out to determine the facilities and infrastructure that are needed by educational institutions and the ability of human resources to use them. Then proceed with procurement, which is a series of activities to provide facilities and infrastructure based on planning. Furthermore, arrangements are made which include inventory and storage activities. After that, it enters the utilization stage, namely the utilization of facilities and infrastructure in supporting the process of implementing education by paying attention to its effectiveness and efficiency. The last is elimination, namely efforts to optimize existing facilities and infrastructure, while those that are no longer suitable for use will be reconstructed or removed from the inventory list.

In essence, the quality management of facilities and infrastructure is an effort to regulate and provide convenience for educators and students in learning activities (Harvey & Newton, 2007; Churiyah et al., 2020; Mukhopadhyay, 2020). Therefore, quality must be a top priority in planning, organizing, procuring, and controlling facilities and infrastructure, especially in the current 5.0 era.

Educational institutions are required to have facilities and infrastructure based on information technology in accordance with the latest developments in offline and online forms (Mukhopadhyay, 2020). All are required to move quickly to be able to follow the development of science and technology in civilization. This, of course, must be directly proportional to the readiness of educators and students to apply various educational facilities and infrastructure that continue to develop in accordance with the current 5.0 era. This makes it easier to use and maintain the educational facilities and infrastructure.

Quality management of educational facilities and infrastructure helps each institution be able to prepare and complete the current and future needs of facilities and infrastructure. Therefore, the design of the procurement of educational facilities and infrastructure must always consider various changes and technological developments in the future, so that every student can prepare themselves to conquer technological developments in the future.
4. CONCLUSION

Facilities and infrastructure are a series of facilities that support the course of the educational process effectively and efficiently. For this reason, the management of facilities and infrastructure in maintaining their quality has a very important role. Mainly in planning, procurement, regulation, use, and disposal.

Quality management of facilities and infrastructure must be prepared with the first consideration being the ability of human resources to apply; second, suitability with today's and future developments.

The management of educational facilities and infrastructure must be understood by every educational institution to maintain the usefulness of these educational facilities. Therefore, quality management of educational facilities and infrastructure is needed that is oriented to maintaining the effectiveness and efficiency of their use.

It is very important to maintain the quality of facilities and infrastructure so that replacements can be imported. For this reason, the ability to use these facilities and infrastructure effectively and efficiently is very important for the loyal users of the facilities and infrastructure.

REFERENCES


