Total Quality Management to Improve the Quality of Higher Education in the 21st Century

Hanif Al Kadri[✉], Widiawati, Lusi Susanti, and Ermita

Educational Administration, Universitas Negeri Padang, Padang, Indonesia
hanifalkadri@fip.unp.ac.id

Abstract. The 21st century is set apart by high difficulties and requests that make each college be prepared with this large number of difficulties and requests. The high difficulties requests make colleges actually need to focus on their quality. This is on the grounds that colleges are amidst worldwide rivalry where quality is something that must constantly be viewed as to keep up with its presence in the cutthroat field. The improvement of the 21st century has made progressively fast advancements in the realm of schooling, remembering for terms of offering types of assistance to address the issues of understudies. In this way, absolute quality administration is utilized as one of the endeavors to address these issues. A quality administration framework that is executed with a reliable responsibility will give advantages and accomplishment to all partners in the advanced education foundation. So that to make these advantages and progress, it should be founded on a few laid out quality administration standards and upheld by the 21st initiative.

Keywords: Education in the 21st Century · the Quality of Higher Education · Total Quality Management

1 Introduction

The accessibility of HR who are persevering, astute, innovative and have great moral norms is one of the capital and supporting elements for the advancement of the country. One of the ways of working on the nature of HR is by putting resources into training. Interest in schooling gives an assurance to the country to be more useful, on the grounds that the collection of information, abilities, and great perspectives and ethics can at last work on the government assistance of its kin [1]. The event of the modern upset 4.0 presents all that new that was already unbelievable [2] even requires HR to be profoundly qualified with the difficulties of robotization and computerization in all fields [2] and their exceptional attributes through the use of man-made brainpower [3].

The universe of schooling, including advanced education organizations, doesn't get away from the colossal difficulties introduced by the advancement of the 21st hundred years. Learning in the 21st century should have the option to set up the age of Indonesian to invite progresses in data and correspondence innovation in public activity [4]. The

development of different sorts of difficulties of the times, the job of instruction will likewise increment.

Given that education is simply the provision of learning experiences to students, the success of the educational institution can be determined by evaluating and measuring its effect on users (students). In higher education institutions, students are the main users of higher education services. Therefore, the implementation of the educational process must be directed at developing students' abilities and paying attention to their level of satisfaction.

Education is the key word in every effort made in improving the quality of human life, where in the educational process there are roles and objects to humanize humans. That's why the focus of education must lead to the formation of a superior personality by focusing on the process of maturation of the quality of logic, faith, morals and the human heart. Because, the peak of education is the achievement of the perfection point of quality of life [5].

Once the importance of the role of education in creating superior human beings, the quality of higher education must always be improved. To ensure the quality and quality of education, serious attention is needed, both by education providers, the government, and the community. Because in the current national education system, concentration on quality and quality is not solely the responsibility of Higher Education and the government, but is a synergy between various components, including the community. To carry out the quality assurance, systematic and planned activities are needed in the form total quality management (TQM).

Quality improvement is one of the prerequisites so that Humans can enter a worldwide age characterized by healthy and high-quality competition. Where the existence of Higher Education as an educational institution is inextricably linked to global competition. One of the causes contributing to the low quality of higher education is a lack of appropriate higher education administration. As a result, boosting the quality of higher education is the major objective in order to thrive in the global era. Total Quality Management is a management concept that focuses on integrated quality improvement. Higher education institutions must implement management patterns, one of which is integrated quality management. Total quality management (TQM) is a management concept aimed at increasing organizational performance [6].

Many studies reveal inconsistent results when it comes to the success and implementation of Total Quality Management principles in education. Some authors believe that Total Quality Management values can be equally applied in higher educations [7] and that Total Quality Management values are compatible with higher education [8, 9], whereas others argue that Total Quality Management values can only be used marginally in higher education settings. Higher education has dynamic and changing features [10, 11]. Nonetheless, the authors feel that the ideals included in overall quality management may significantly improve the quality of higher education. According to Asif et al., greater competition is driving the introduction of TQM in higher education institutions between institutions and strong expectations from the job market [6].

In light of the assertion above, it is important to carry out all out quality administration in advanced education organizations to work on the nature of advanced education. Hence, the motivation behind composing this article is to give data about coordinated

quality administration in working on the nature of advanced education in the 21st 100 years.

2 Method

This article was written using a systematic review approach because the writing of this article was based on several references in the form of books and articles as well as scientific publications online. The research approach used in writing this article is a qualitative descriptive approach. The means taken are to portray significant issues that are pertinent to how all out quality administration really works on the nature of advanced education in the 21st hundred years. The systematic review method used is to synthesize, which is to summarize various kinds of expert opinions through articles and other scientific publications. With data integration techniques to get new theories or concepts or a deeper and more thorough level of understanding [12]. The steps in writing this article are as follows: (1) formulating review questions, (2) conducting systematic literature research, (3) filtering and selecting appropriate research articles, (4) analyzing and synthesizing qualitative findings, (5) maintain quality control, and (5) present findings [13, 14].

3 Result and Discussion

1. *Higher Education in The 21st Century*

The century of openness or globalization is a hallmark of the twenty-first century. Human existence in this century is changing in ways that make it extremely different from life in earlier centuries. The twenty-first century necessitates excellence in all aspects of life and the outcomes of human labor. Through definition, the twenty-first century necessitates that every human being become a qualified human being, which is developed by professionally managed institutions that deliver superior results. These novel demands necessitate diverse breakthroughs in thinking, concept development, and action [15]. As a result, higher education is an investment in preparing persons [16] to tackle the problems of the twenty-first century.

Every nation that is able to improve itself by improving the quality of its human resources will most likely become a nation that is able to compete with other nations in the global competition. This is where higher education institutions, both private and state universities, are required to present themselves, whether they are able to educate and produce graduates who have high competitiveness (qualified) or are sterile in the face of various advances in the dynamics of globalization.

Hence, Indonesia's test in the field of schooling in what's in store is to increment seriousness and upper hand by depending on the HR capacities, innovation, and the board without diminishing the similar benefit that our country has.

Eventually, future higher trainings in Indonesia should confront the improvement of the nature of advanced education as instructive foundations that should deliver quality HR and enjoy benefits in different parts of life.

In entering this new period in the 21st hundred years, the advanced education framework in Indonesia should be carried out with the acknowledgment of a few qualities, among others, first, connected with understudy needs, public needs and financial turn of events; second, organized successfully so there are open doors for all residents to foster their own true capacity over the course of life and add to society, country and state; third, the presence of satisfactory subsidizing support so it is feasible to enhance and accomplish greatness; fourth, complete examination that can uphold public turn of events; fifth, the accessibility of access in the turn of events and use of innovation; 6th, doing its job as an ethical power in understanding an enlightened popularity based society [17].

Thus, the institutional credibility of universities in Indonesia must be fully and comprehensively owned. In entering this new period in the 21st hundred years, the advanced education framework in Indonesia should be carried out with the acknowledgment of a few qualities, among others, first, connected with understudy needs, public needs and financial turn of events; second, organized successfully so there are open doors for all residents to foster their own true capacity over the course of life and add to society, country and state; third, the presence of satisfactory subsidizing support so it is feasible to enhance and accomplish greatness; fourth, complete examination that can uphold public turn of events; fifth, the accessibility of access in the turn of events and use of innovation; 6th, doing its job as an ethical power in understanding an enlightened popularity based society [17]. Taking into account the above description, it can be said that universities in Indonesia are currently facing external challenges that are closely related to globalization, economic development, decentralization, political situation, socio-cultural development, technology and information.

2. *Quality of higher educations*

Quality is one of the significant perspectives to make the progress of the foundation, particularly in the ongoing time of rivalry [18]. There are specialists who characterize quality as "conformance to norms and details' [19]. Other specialists characterize quality as readiness for use [20]. Quality is one of the needs used to rival different foundations. Quality is depicted as "a unit of goodness bundled into an item or administration [21]. Quality is greatness, quality is esteem, quality is as indicated by determinations, ultimately, quality meets as well as surpasses client assumptions" [22].

From some expert opinions, quality can be defined as something special or unique, perfection, compliance with goals, commensurate with the price and quality as a change and reformation. That's what quality specialists accept, 'estimating consumer loyalty in instructive organizations might be viewed by teachers as one of the best difficulties of the quality development [23]. In deciding the nature of schooling, the nature of training will be accomplished assuming the parts contained in working on the nature of instruction meet the prerequisites [24].

Top notch advanced education organizations are recognized as far as; contributions to frameworks (eg understudy choice), processes (eg instructing, learning, exploration) and results (eg with regards to employability). Arising subjects incorporate independent learning, great college scholastics, advancement and examination, in some cases with unequivocal connections to groundwork for entering the labor force [25].
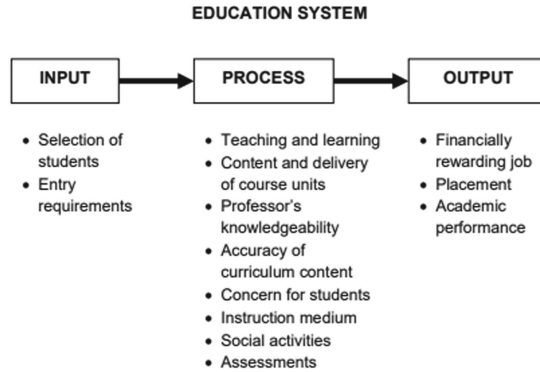
EDUCATION SYSTEM

Fig. 1. The Input–Process–Output framework of quality classification (Source: [26]).

A specialist said that the nature of schooling is known as the Input-Process-Output (IPO) system in which 'Information' alludes to the section prerequisites, 'Cycle' alludes to the most common way of educating and learning, and 'Result' alludes to the employability and scholarly standings [26].

The IPO framework of quality classification can be seen in Fig. 1.

Meanwhile, other experts explain that Quality dimensions and their corresponding characteristics in higher education can be seen in the following picture [27] (Fig. 2).

Based on the description above, the quality of higher education is determined by aspects of both input, process and output with the dimensions of quality both tangible, competence, attitude, content, delivery, and reliability.

3. *Total Quality Management To Improve The Quality Of Higher Education In The 21st Century*

The era of globalization which is marked by quality competition requires all parties involved in various fields, including the field of education, to always improve their excellence, so that in such conditions, demands for quality education and the quality of human resources are highly prioritized [28].

Total quality management is a management process that can be implemented by any organization through long-term planning, using a continuous quality improvement plan that gradually leads the organization towards the fulfillment of its vision [29]. TQM is an integrated quality management carried out by every level of management and all units in the organizational system that aims to provide satisfactory services to customers [30]. TQM is seen as a customer-focused process, implementing continuous improvement and meeting customer expectations [31].

TQM has a presence in advanced education, in numerous establishments, particularly research-based colleges and junior colleges. The establishment recounts further developing correspondence in the foundation, expanding representative resolve, expanding efficiency, expanding process effectiveness, and diminishing deformities and expenses [32].

Dimensions	Characteristics
(1) Tangibles	Sufficient equipment/facilities
	Modern equipment/facilities
	Ease of access
	Visually appealing environment
	Support services (accommodation, sports, ...)
(2) Competence	Sufficient (academic) staff
	Theoretical knowledge, qualifications
	Practical knowledge
	Up to date
	Teaching expertise, communication.
(3) Attitude	Understanding students' needs
	Willingness to help
	Availability for guidance and advice
	Giving personal attention
	Emotion, courtesy
(4) Content	Relevance of curriculum to the future jobs of students
	Effectiveness
	Containing primary knowledge/skills
	Completeness, use of computer
	Communication skills and teamworking
	Flexibility of knowledge, being cross-disciplinary
(5) Delivery	Effective presentation
	Sequencing, timeliness
	Consistency
	Fairness of examinations
	Feedback from students
	Encouraging students
(6) Reliability	Trustworthiness
	Giving valid award
	Keeping promises, match to the goals
	Handling complaints, solving problems

Fig. 2. Quality dimensions and their corresponding characteristics in higher education (Source: [27])

During the late 1980s, the application of TQM principles in higher education institutions was pioneered by US and UK universities. The existence of increasingly fierce competition, the demand to be able to adapt to a rapidly developing environment and the demands for meeting the expectations of stakeholders are the driving factors for implementing TQM in higher education [33]. Researchers [34–37] believes that the application of Total Quality Management principles in educational institutions makes a significant contribution to the improvement of higher education.

Through several studies, there is a five-step process for implementing TQM in educational institutions [32]. They are:

1. The first phase, "deciding".
   Top administration (senior executives) should have a total comprehension of what TQM is and the way in which they intend to accomplish it. For instance, for what reason should the establishment carry out Total Quality Management? Does the school need to begin the TQM interaction at the managerial level or at a particular major?
2. The second phase, "preparing".
   It is incorporate a) play out an inside quality evaluation of the organization to distinguish qualities and shortcomings; b) give schooling to key staff; c) set dreams and goals recorded as a hard copy; and • plan another framework.
3. The third phase is "starting".
   In this stage, the organization should: a) name the interaction; b) expressing objectives through the new quality system; c) giving preparation to all degrees of staff; d) lead inward and outer client studies to assess the ongoing system and make any vital changes; e) lay out a quality board to manage and direct the TQM interaction; f) performing serious benchmarking to contrast its presentation and different associations; g) structure a quality improvement group; and h) lay out quality measures and markers that can legitimately quantify the organization's objectives and targets.
4. The fourth phase, "expanding/integrating",
   In this phase, involving: a) providing ongoing education and training; b) forming new committees, new teams, new departments, or hiring new specialists to help the process as and when required; and c) recognizing and rewarding quality improvements.
5. The fifth phase is "evaluating",
   involving evaluating the success or failure of the programme. This should be conducted annually. For example, if the program is not achieving its goals, it should be redesigned.

What's more, the TQM system ought to be based on a bunch of guiding principle and ideas. These qualities and ideas act as the reason for incorporating key execution into the quality system. These qualities are:

1. leadership and quality culture;
2. continuous improvement and innovation in educational processes;
3. employee participation and development;
4. fast response and management of information;
5. customer-driven quality; and
6. partnership development, internally and externally [9].

In all out quality administration, there is a quality circle. A quality circle is characterized as a little gathering who meet routinely, to examine issues, track down arrangements, and help out administration in the execution of these arrangements [38, 39].

In advanced education, the quality circle screens and recognizes different viewpoints that influence the nature of instructing. The quality circle should include itself straightforwardly in the six center components of the TQM structure as displayed in Fig. 3. In certain colleges, as a type of value circle, they structure a "Quality Assurance

Fig. 3. TQM framework in higher education (Source: researchers)

Department" or "Training Quality Department" or "TQM Department". This division is a gathering doled out the undertaking of regulating and acknowledging quality training.

The implementation of quality higher education in addition Not only be based on the implementation of TQM, but also needs to be based on leadership.

Leadership is the main ingredient in the ultimate success or failure of any organization [40]. The conception of 21st century leadership in the practice of providing higher education is a leader who meets the following criteria; 1) Leaders must be able to face various challenges; 2) Leaders have a high curiosity about various things; 3) Leaders must be able to build an established, conducive, and professional work and organizational culture; 4) Leaders must be able to establish communication between various lines; 5) Leaders must have a high commitment to progress, prosperity, and mutual excellence [41].

Pioneers with regards to working on the nature of advanced education assume a significant part on the grounds that (a) Leaders foster a mission, vision and values and become good examples for a culture of greatness. (b) Leaders are actually engaged with guaranteeing the association's administration framework is created, carried out and constantly gotten to the next level. (c) Leaders draw in with clients, accomplices and local area agents. (d) Leaders propel, support and perceive authoritative individuals [42].

4   Conclusions

Education plays an important and strategic role in producing human resources who will build this nation. Moreover, in the 21st century, the challenges and opportunities that it provides require individuals who are qualified both in terms of soft skills and hard skills. Higher education institutions as one of the educational institutions that organize the educational process are responsible for responding to and taking advantage of the opportunities that exist in the 21st century. Higher education must improve the quality and ensure the quality of its education so that it can continue to compete and respond to the challenges of the times. Subsequently, the utilization of coordinated quality administration in advanced education organizations with 6 stages and focusing on the key

qualities that exist in TQM, is supposed to be a device that can urge colleges to keep on working on their quality and have the option to rival different establishments and make due. In addition, improving the quality of higher education also needs to be supported by 21st century educational leadership.

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