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QUALITY IN HIGHER EDUCATION FROM DIFFERENT PERSPECTIVES: A LITERATURE REVIEW

Abstract: The purpose of this paper is to provide an overview of existing research and present a holistic understanding of quality in higher education. This literature review builds on major sources of relevant research relating to educational quality methodologies, quality literacy and multi-dimensional concept of quality. The paper attempts to understand quality in education as a relationship amongst all the participants and resources of an educational institution. Based on the results of the literature review, the paper attempts to establish the foundation for a comprehensive understanding and analysis of quality focussing on higher education. This literature review provides a frame of reference that serves as a basis for future research regarding role of quality in education.

Keywords: Quality definition, Higher education, Quality dimensions, Critical success factors, E-learning

1. Introduction

The manufacturing industries were the first to realize the need for quality and subsequently, quality concept was introduced in service industries (Lockwood, 1995). But, in the past, educational institutes were not at the forefront of thinking on quality issues (Lockwood, 1995). However, the educational institutions have now realized the need for quality focus because of the key changes in the external environment in terms of consumer awareness and expectation, technology and competition. The operating environment of higher education institutions has undergone changes in terms of increasing demand for higher education, technological advancement, evolving knowledge economy, and pressure

to respond to the needs and aspiration of their stakeholders (Blackmore, 2009). These changes have posed major challenges and long term survival of educational institutions depends on its quality education delivery system. In the traditional education model, the students are viewed as passive recipients of teaching, absorbing information in an uncritical way; it is being replaced by a new education model that encourages deep processing of information through active and independent learning. Quality is now increasingly becoming important for the higher educational institutions (Gallifa and Batalle, 2010) and quickly spreading as an emerging theme (Sahney et al., 2008), as the institutions have realized that great benefits can be achieved by providing high quality education to the satisfaction of various customer groups.

The concept of educational quality is multi-faceted and multi-dimensional with respect to conceptualization, assessment and

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measurement and it is difficult to assess through one perspective (Sahney et al., 2008). In order to improve the quality of education, it is important to know and quantify the current quality levels. Higher educational institutes need more effective delivery systems to address the quality issues and improve performance. However, unlike industry, higher education is a professional organisation not a firm and its processes are more complex (Vroeijenstijn, 2003). Quality concept in education assumes different meanings in different contexts (Abukari and Corner, 2010). Higher education institutes with varying customers and stakeholders are facing huge pressures to become more accountable and responsive to customer needs, and become more efficient, effective and customer-centric. Quality in higher education is a priority issue today for research and analysis, and a number of studies are being conducted with a view to understanding the very conceptualization, assessment and measurement of quality in higher education. The objective of the paper is to address this question: What are the essential features of quality in higher education?

The structure of this paper is designed in the following way. Section 1 provides an introduction; Section 2 describes the research method; Section 3 presents the literature review findings on quality in education from various perspectives. Section 4 provides conclusion and suggestion for future work.

2. Method

The literature was reviewed using the principles of deductive reasoning, where care was taken to use all the facts published in standard scientific journals. Forward and backward searches were conducted to deepen the analysis. The general methods of content analysis have been followed to review the published literature. Furthermore, the aim of present review was to delineate critical aspects of educational quality that

can be utilized in future for addressing multiple and divergent quality aspects of educational institutions. Based on the review, the literature review section has been divided into distinctly different sub-sections.

3. Literature review

3.1. Quality definition

According to Garvin (1988), there are four key approaches through which quality can be achieved:

- Product-based: This approach defines product quality based on the presence or absence of particular attributes. Greater the amount of a desirable attribute, higher would be the quality of the service or product.
- System-based: In this approach, quality is viewed as conformance to requirements or specifications. It assumes that specification is a valid substitute for a customer requirement.
- User-based: The underpinning of this approach is that an organization's main objective is to satisfy the customer.
- Value-based: It consists of offering to customers a product or service with certain characteristics at an acceptable cost or price.

Harvey and Green (1993) viewed quality from different perspectives: as excellence, as transformative, as fitness for purpose, as value for money and as perfection. Quality in education is increasingly including terms such as "fitness for purpose", and "value for money" (Harvey and Green, 1993).

Campell and Rozsnayi (2002) proposed the following definitions of quality:

- Quality as excellence: It is the traditional academic view of quality in which the target for achieving quality is to be the best.
- Quality as zero errors: This definition of quality is applicable to

mass production industry where the specification of the product to be manufactured can be provided in detail and standardized measurement of the product attributes is possible to show conformity to the specifications. However, in the context of higher education, this definition of quality is not always applicable as the passing graduates are not expected to be identical.

- Quality as fitness for purpose: This quality approach expects that the product or service must conform to customer needs, requirements, or desires. According to Lomas (2002), this definition of quality derives largely from the manufacturing sector and is aimed at the standardisation of higher education whereby autonomy is removed from academics confirming higher education as just another “mass production industry”.
- Quality as process of transformation: The focus of this definition of quality is on the learners. It aims to achieve the goal of empowering students with specific skills, knowledge and attitudes through effective higher education institution system.
- Quality as threshold: This view sets certain norms and criteria as threshold limits. The education institutions that achieve these threshold norms and criteria are deemed to be of quality.
- Quality as value for money: The underpinning of this quality definition is the notion of accountability which is based on the need for restraint in public expenditure. However, this quality definition is leading to gradual erosion of academic autonomy and professional self-determination as the government, the principal

funder of higher education, is concerned to receive value for money by using intrusive methods of external quality assessment and inspection through various agencies (McNay, 1995).

- Quality as enhancement or improvement: The emphasis of this quality definition is on continuous improvement. It considers that achieving quality is central to the academic ethos and academics themselves know best about the level of quality is at any point in time.

Astin (1980) suggested five different views of quality in education: mystical, reputational, resources, outcomes, and value added:

- Mystical view: According to this definition, quality cannot be defined or measured due to the complexity and ambiguity of the higher education system.
- Reputational view: It takes into consideration the agreement or consensus about the quality of a given institution. If people agree on an institution being of high quality, then, the institution must be of high quality.
- Resources view: It focuses on inputs or resources, from the students, to the faculty, to the facilities that an institution has in order to accomplish its mission. It is based on the assumption that, the better the resources, the higher the quality an educational institution possesses.
- Outcomes view: It follows a production approach. According to this view, the quality is judged by an institution's products such as students, publications, sponsored research funding etc.
- Value-added view: It is based on economic principles and proposes that quality of an educational

institute should be assessed based on the benefits it provides to students.

Astin (1980) viewed quality in education as a continuous process involving critical self-examination of the institution's contribution to the student's intellectual and personal development. This view of quality is relevant and can easily be adapted for analysis at the international level. Rankings and accreditation agencies often focus on inputs and some outputs.

The common approaches to quality can be grouped as: excellence in inputs and outputs, fitness for purpose, value for money and then proposed an alternative perspective (Harvey and Green, 1993):

- Excellence in inputs and outputs translates into consistency and no errors.
- Another different view, defines quality as fitness for purpose. Fitness for purpose can be evaluated either through customer satisfaction or as defined by the institutional mission.
- A third perspective is that of quality as value for money.

Harvey and Green (1993) came up with a different perspective that they called "quality as transformation" as an alternative to the common three approaches which coincides with Astin's (1980) view as it relates to student learning and development. Quality as transformation involves empowering students to become agents of their own learning and quality in higher education needs to be measured against that standard (Harvey and Green, 1993).

Bergquist (1995) proposed five institutional perspectives on quality: elitists, populist, beleaguered, expedient, and unified. These approaches result from a combination of access orientation and quality concerns:

- The elitist view is highly concerned with quality but not as concerned about access.

- The populist view is highly concerned with access and not as much with quality.
- Beleaguered perspectives result from focus purely on survival and involve low concerns for both quality and access.
- The expedient view sees quality and access as opposed and, therefore, campus leaders need to reach some compromise between the two.
- Unified perspectives do not see conflict between access and quality and therefore, campus leaders that embrace this perspective pursue both access and quality.

3.2. Quality Models based on TQM

Mustafa and Chiang (2006) and Peat et al. (2005) suggested a TQM based framework covering all critical areas of higher education in terms of faculty, staff and infrastructure, academic life, management's policy towards employees, curriculum design, pedagogy, admission processes, and other non-academic processes. In the context of quality in higher education, Viswanadhan and Rao (2005) identified the following parameters: top management commitment, customer focus, course delivery, communication, campus facilities, congenial learning environment, continuous assessment and improvement.

Sakthivel et al. (2005) proposed a quality model for educational institutes based on the TQM concepts with the quality dimensions as follows:

- Top Management commitment - Leadership is the predecessor of process improvement. It includes top management commitment and support.
- Course delivery - It includes teaching standard, educational quality and course organization.

- Campus facilities - It includes infrastructure and learning facilities.
- Courtesy - It is defined as emotive and positive attitude toward students.
- Customer feedback and improvement

However, the inadequacy of applying TQM-based quality models across academic and service departments of the educational institutions was highlighted by Srikanthan and Dalrymple (2002, 2003). Srikanthan and Dalrymple (2002) presented a holistic model for quality in higher education that differentiates the teaching-learning functions from the service functions of the university. Accreditation agencies place emphasis on the learning component of quality.

3.3. Outcome based quality

Gallifa and Batalle (2010) viewed quality as relative to processes or outcomes. All the critical components of the education system produce outcomes (Odden, 1990). The traditional methods of assessment of educational quality by measuring the levels of inputs such as expenditure per student, number of library volumes, number of faculty and so forth, are not adequate (McCoy et al., 1994).

Higher education institutions should develop alternative evaluation procedures to assess and maintain quality and increase accountability by measuring and assessing the major outcomes. It requires defining the desired results or outcomes of a particular instructional/educational process. Outcome based assessment has now become a general trend (Mollis and Marginson, 2002). Most of the accrediting bodies have endorsed outcome based assessment as the appropriate tool for evaluating institutional effectiveness.

According to Clewes (2003), students perceive the quality in education as an outcome quality, having similarity with the service-marketing definition of quality

(Gronroos, 1984). Educational quality is viewed as a stakeholder-relative concept (Harvey and Green, 1993) and amongst several stakeholders in higher education, students are very important. Students form an essential part of university processes and their perceptions of quality are relevant as outcome quality. Student assessment of quality in teaching and learning is another outcome (Ramsden, 1991) and sometimes these opinions or perceptions are taken into consideration in faculty promotion as well as in quality rankings of teaching universities. Assessment of institution quality based on the total student experience and satisfaction is an interesting approach (Gaell, 2000; Wiers-Jenssen et al., 2002) and may be useful in bridging the gap between traditional and academic views on how to improve higher education with market-oriented perspectives (Wiers-Jenssen et al., 2002).

Aniskina (2015) proposed three main approaches to achieve quality in education: quality of the outcomes, quality of the educational programs, and management quality of the organization.

3.4. System view of quality

It views educational system as a constituent of subsystems and processes, consisting of inputs, processes and outputs. The inputs include factors relating to the students, teachers, administrative staff, physical facilities and infrastructure; whereas the processes comprise activities of teaching, learning, administration, and the examples of outputs of an educational system are examination results, employment, earnings and satisfaction. When the various components of system work together, to achieve the system objective, it produces a synergy culminating in customer and stakeholder satisfaction (Sahney et al., 2008).

According to Cheong Cheng and Ming Tam (1997), the process model views quality as an internal process of a transformation where

the administrative staff performs the administrative tasks, the teachers perform the teaching task and students gain knowledge. Another model called the satisfaction model (Cheong Cheng and Ming Tam, 1997), defines education quality as the satisfaction of expectations of the various customers and stakeholders.

Lewis and Smith (1994) identified the following items as the design characteristics of education system and these have been grouped as management system, technical system:

- Management system: Its characteristics are a well-accepted vision and mission statement, clearly defined and specific goals, effective and efficient leadership, clear and specific policies and procedures, strategic and operational planning, delegation of authority, strict discipline, and budget priorities. It should be proactive and objective driven, with emphasis on continuous improvement and managed by fact or information.
- Technical system: It should be suitable and relevant to curriculum content, instructional competence, expertise and adequacy. Instructional arrangement includes class size and adequate infrastructure.
- Social system: It comprises reward policy/ incentives, differentiation, adaptive service for its customers, emphasis on training and development, customer focus, trustworthiness, well defined channels of communication, teamwork, and respect for people.

The attributes and design characteristics that contribute to total quality education are as follows: emphasis on continuous improvement, differentiation, customer focus, budget priorities, well-defined channels of communication, effective and

efficient leadership, clear and specific policies and procedures, instructional competence, management-by-fact/information system, and strategic and operational planning.

3.5. Service quality from stakeholder perspective

Higher education is intangible, heterogeneous and inseparable from delivery process-it possesses all the characteristics of service (Shank et al., 1995). Typical stakeholders in higher education are the students, faculty and the senior management. The framework of quality in education proposed by Shank et al. (1995) includes course design, course marketing, student recruitment, induction, course delivery, course content, assessment monitoring, and other miscellaneous and tangibles.

Sahney et al. (2003) opined that education institutes should aim to satisfy the needs of various stakeholders, through the design of an appropriate system comprising a management system, a technical system and a social system. Quality in education should be defined from an overall perspective including the quality of inputs, the quality of processes and the quality of outputs. In fact, the very concept of quality would infuse within itself the different aspects of academic life (Sahney et al., 2003).

3.6. Service quality from stakeholder perspective

The quality in education has essentially been looked at from the perspective of external customers such as employers and students, ignoring the internal customer's perspective (Sahney et al., 2008). However, employee satisfaction is important and it acts as a major driver towards adoption of a customer centric philosophy by any organization. Every organization, including educational institutions, should consider the requirements of their employees seriously and initiate measures to meet them so as to

cultivate employee satisfaction (Sahney et al., 2008).

The following items have been identified as the customer requirements and these have been categorized as follows.

- Tangibles: It includes adequate facilities and equipment, salary, allowances and other benefits, and sufficient number of efficient teaching assistants.
- Competence: Its elements are effective classroom management, proper classroom procedures, opportunity and control for curriculum development.
- Attitude: It is about effective problem solving, cordial interpersonal relations, proper monitoring systems and evaluation procedures.
- Delivery: The items in this group include in-service training and development, continuous personal growth, politeness and courtesy, environment conducive to teaching, and personal attention.
- Reliability: it includes elements such as fair and firmly enforced rules and regulations, security of job, and recognition for work.

An analysis of faculty's perception of efficiency and quality of university's performance, conducted by Trapitsin et al. (2015) revealed these quality characteristics: emotional climate of the institution, established labour norms, conditions for publication of research articles, conditions for scientific work, students' attitude to learning, availability of required hardware, availability of modern literature for research and teaching, availability of classrooms equipped with required technology, hygienic working conditions, salary.

3.7. Quality gaps in international higher education

Vauterin et al. (2011) presented a

comprehensive mapping of gaps in the international higher education service by considering the development of degree programme, recruitment of international students and service interactions with industries.

Gap 1: It is the difference between what the industrial customer expects and what the university thinks the industrial customer expects.

Gap 2: This gap is the difference between educational institute's perceived understanding of the industrial customer's expectations from the international higher education service and the design and development of the service concept and service specifications.

Gap 3: This gap is the difference between the design and development of the service concept and service specifications and the actual delivery of the service.

Gap 4: It is the communication gap between the delivery of the service and the institute's external marketing communications.

Gap 5: It is the customer gap between the customer perception of the international higher education service experience and customer expectations for the service.

3.8. Quality from student perspective

Considering student perception of quality as an important variable, Gallifa and Batalle (2010) proposed slightly redefined dimensions of quality based on Parasuraman et al. (1991) model.

- Tangibles: It includes physical aspect of facilities such as signs, comfort, accessibility, spaciousness, functionality, cleanliness, etc.
- Reliability: It includes elements such as schedules, materials, contents, group size, academic services, structure of the curriculum, number of elective subjects, and attendance control.

- Responsiveness: It relates to the speed and quality of response and the attention given to incidents.
 - Assurance: It includes professionalism, teaching capacity, professional experience, treatment by teachers, and friendliness of administrative staff.
 - Empathy: It relates to capacity of the institute to understand the needs of the students and its ability to respond to these needs, flexibility of curricula, response to social demands, opportunities for student participation in various activities and complementary services.
- An analysis of management students' perception of quality of education in public institutions conducted by Narang (2012) revealed the quality characteristics which were sorted into five categories: physical facilities, academics, learning outcomes, responsiveness, and personality development:
- Physical facilities: The elements belonging to this group include training on modern technology; well-equipped communication classrooms with effective classroom management; adequate facilities and infrastructure to render service; computer laboratories with state-of-the art facilities; comprehensive learning resources; residential and recreational facilities; and aesthetic view of facilities.
 - Academics: It is about academic schedule; adequacy of subject teachers; availability of faculty for students' consultation; supervision of students' work; faculty expertise; well-organized lectures; and communication skill of faculty.
 - Learning outcomes: It includes practical orientation in education; adaptability to modern techniques; design of course structure based on job requirements; problem-solving skills; sense of social obligation;
- opportunities for campus training and placement; and extracurricular activities.
 - Responsiveness: The elements of responsiveness include prompt service provided by the various support departments; courteousness; helpful attitude; cleanliness; systematic and methodical approach; transparency of official procedure; norms and rules.
 - Personality development: It includes encouragement for sports games and cultural activities; enhancement of knowledge; and recognition of the students.

Yusoff et al. (2015) identified the following dimensions which drive business student satisfaction in higher education.

- Professional comfortable environment: The elements of professional comfortable environment are as follows: the competence, confidence and professionalism conveyed by the ambience; the feelings that students' best interests are being served; the feelings that rewards-marks/grades gained are consistent with the efforts put in by the students; the university environment's ability to make students feel comfortable; competence and availability of staff; and respect for students' feelings, concerns and opinion.
- Student assessments and learning Experiences: It includes the appropriateness of the method of assessment coursework and/or examination; the appropriateness of the style of assessment individual and/or group work; the course workload; the level/difficulty of subject content; the appropriateness of the quantity of assessment; and the way time table is organized.

- Classroom environment: It includes decoration; layout; furnishings; teaching and learning equipment, for example, projectors, screens; lighting; level of cleanliness; class sizes; and overall number of lecture and tutorial rooms.
 - Lecture and tutorial facilitating goods: It includes supplementary tutorial materials/hand-outs; supplementary lecture materials/hand-out; overall tutorials quality; quality of power point/slides presentation where applicable; and overall lecture quality.
 - Textbooks and tuition fees: It includes the quality of textbooks; tuition fees; availability of textbooks in local bookstores; textbooks' usefulness in enhancing understanding of the modules; and recommended core textbooks.
 - Student support facilities: It includes IT facilities; learning resource centres; vending machines; on-campus cafeteria/canteen facilities; and recreational facilities.
 - Business procedures: It includes availability of parking; security measures; registration procedures; toilet facilities; and accommodation facilities/services.
 - Relationship with faculty: It includes approachability of faculty; friendliness of faculty; and concern shown when students have a problem.
 - Knowledgeable and responsive faculty: It includes teaching ability of faculty; consistency of teaching quality irrespective of the faculty; responsiveness of teaching staff to requests; and subject expertise of the faculty
 - Staff helpfulness: It includes helpfulness of administrative staff; and helpfulness of technical staff.
 - Feedback: It is about usefulness of feedback on student performance; and promptness of feedback on student performance
- Based on an extensive literature review, Gruber et al. (2010) designed an instrument comprising fifteen quality dimensions, covering most aspects of student life, to measure student satisfaction with higher education service. These are: Administrative and student services; Atmosphere among students; Attractiveness of the surrounding city; Computer equipment; Courses; Library; Faculty; Lecture rooms; Canteen/Cafeteria; Relevance of teaching to practice; Reputation of the university; Placements; Support from faculty; The presentation of information; and University buildings.
- Sohail and Shaik (2004) studied student impressions of service quality in the context of business education and identified six dimensions of service quality namely, Contact personnel, Physical evidence, Reputation, Responsiveness, Access to facility and curriculum:
- Contact personnel: Its elements are friendly and courteous staff; staff having good knowledge of rules and procedures; appearance of staff and faculty; friendly and courteous faculty.
 - Physical evidence: It includes layout of classroom; lighting in classroom; appearance of buildings and grounds; overall cleanliness; and comfortable class rooms and study rooms.
 - Reputation: It includes innovative institute; institute's involvement in community; up-to-date curriculum; and administration which keeps student's best interest at heart.
 - Responsiveness: It is about orientation of programs; timely and error-free registration; and accurate recordkeeping.
 - Access to facility: It includes availability of parking; access to

- computer facilities; and access to study rooms.
- Curriculum: It includes number of courses offered; and curriculum having program objectives clearly explained.

Based on the study of management student perceptions of service quality, Oldfield and Baron (2000) categorized the factors of higher education service quality as follows:

- Requisite: The items belonging to this group enable students to achieve their study obligations. Its important elements are- academic staff possess knowledge to answer questions relating to course provision and understand the needs of their students; staff in whom students have confidence; academic staff deal with students in a caring fashion; students feel secure in transactions with faculty; queries from students are answered promptly; administration maintains accurate records; administrative staff are available and show interest in solving students' problems; support services complete the tasks on time; prompt assistance by the support staff; and visually appealing physical facilities.
- Acceptable: The factor described as acceptable contains elements which are desirable, but not necessarily essential for students in their course of study. They relate largely to the way in which academic staff treats the students.
- Functional: The items belonging to this group are mainly of practical nature. It includes elements such as convenient opening hours for students, faculty providing services as promised and up-to-date equipment.

Lagrosen et al. (2004) examined the quality dimensions of higher education and grouped

them as follows.

- Corporate collaboration: creation of courses in cooperation with business; contact between faculty and business; faculty having experience from business; and ability to contribute to the corporate world
- Information and responsiveness: responsiveness and accessibility to faculty; appropriate information at the beginning of the studies; career information and guidance; appropriate career design and content; and clear mission and vision
- Courses offered: courses being taught by guest lecturers; courses in foreign languages; short programs run by professionals; and opportunity to study abroad.
- Campus facilities: cafeteria near the university; shops near the university; and student accommodations
- Teaching practices: group work; participation and involvement; gaining research skills; and faculty also doing research.
- Internal evaluations: evaluation of courses; and evaluation presented.
- External evaluations: peer reviews; and assessments by external organizations
- Computer facilities: 24 hour access to facilities; and sufficient computer facilities.
- Collaboration and comparisons: international standards for comparisons; and national cooperation
- Post study factors: postgraduate studies; and alumni contact
- Library resources: availability of library resources

Tsinidou et al. (2010) conducted an empirical study to evaluate the factors that determine quality in higher education. These

factors have been grouped into seven categories: Academic staff, Administrative services, Library services, Curriculum structure, Location, Infrastructure, and Career prospects:

- Academic staff: academic qualifications; professional experience; communication skills; friendliness/approachability; links with enterprises; and research activity
- Administration services: Its elements are rapid service; friendliness, availability of information material; clear guidelines and advice; office automation systems for customer service; use of internet for announcements and sufficient working hours.
- Library services: It includes availability of textbooks and journals; easy borrowing process; friendliness; working hours and e-library.
- Curriculum structure: The elements of curriculum structure include interesting module content/books; high quality educational material; efficient structure of modules; availability of information on the module structure; variety of elective modules/modules on specialization areas; laboratories and weekly timetable.
- Location: The attributes of location are accessibility; frequency of transport service and cost of transportation.
- Infrastructure: It includes quality infrastructure of classrooms and laboratories; catering services; accommodation; sport facilities; medical facilities; quality infrastructure and availability of services to host social/cultural events.
- Carrier prospects: The important attributes include perspectives for

professional career; opportunities for postgraduate programs; opportunities to continue studies abroad; availability of exchange programs with other institutes and institution's links with business.

Ndirangu and Udot (2011) grouped the quality of learning facilities and library services under three sub-headings: Quality of books and online resources, Quality of support services, and Quality of learning environment.

- Quality of books and online resources: availability of books/journals; internet browsing facilities; easily accessible browsing services; and affordable browsing services.
- Quality of support services: photocopying facilities; and efficient and professional staff.
- Quality of the learning environment: adequate reading space for students; comfortable seats and reading tables; pleasant study rooms; lighting provided good for reading; quality of library study; lectures halls are not overcrowded; and lecture halls allow closer interaction with students.

3.9. Quality of e-learning system

Web-based technologies on education are facilitating wide adoption of electronic learning (e-learning) (Stefanovic et al., 2009) on practices in education and training and e-learning is becoming more and more important. However, simply providing learners with a Web-based learning system does not guarantee a successful e-learning. Quality of e-learning has increasingly become a central concern for education. Assessment of quality has become an essential requirement of evaluation for e-learning acceptance.

Tseng et al. (2011) evaluated the

effectiveness of e-learning system and grouped quality characteristics into five categories: Effectiveness, Learner attractiveness, Instructor attitudes, Service quality, and Supportive issues.

Effectiveness

- Accessibility: ease to access to learning materials
- Response time: reasonable waiting time for loading learning materials
- Learnability: enabling learner to accomplish learning tasks more quickly
- Up-to date: up-to date content
- Reliability: providing the right solution to learner requests

Learner attractiveness

- Course design: web site providing the appropriate learning scenario
- Enjoyment/multi-media: usage of multimedia features to attract learner attention
- To discuss with others: ease of discussion with other learners
- Ease to discuss with lecturers: ease of discussion with lecturers

Instructor attitudes

- Responsiveness: responsive to learner inquiries
- Informativeness: appropriate presentation of information about e-learning materials
- Fairness: on-time examination and on-time announcement of grading policy and assignment results
- Course management: good and friendly instructors' attitude to learners

Service quality

- Student tracking: ease of contact with the instructor via e-mail or phone

- Curriculum design: core learning material includes lecture notes and content
- Knowledgeable: instructor knowledgeable enough about content
- Instruction authorization: good enough service supported by university

Supportive issues

- Promotion: preference to e-learning as a supportive tool as it helps performance
- Trends: trendier and more popular e-learning
- Ethical and legal issues: ethical and legal issues compliance
- Costs: lower cost of e-learning (paper, communication, transportation cost)

Cheng (2012) studied the effects of quality antecedents on e-learning acceptance and grouped the quality characteristics into twelve categories: Course content quality, Course design quality, Support service quality, Support functionality, System interactivity, System response, User-interface design, Instructor attitude towards e-learners, Perceived usefulness, Perceived ease of use, Perceived enjoyment, and Intention to use.

- Course content quality: sufficient learning content; updated information; and appropriate learning content.
- Course design quality: appropriate level of difficulty of the learning content; flexible delivery schedule; and individualized learning management.
- Support service quality: adequate support services from help desk to help learning; adequate support services from service administrators to help learning; and overall satisfactory support services.

- System functionality: offering multimedia types of course content; enabling students to control over the pace of learning; offering the means for taking tests and turning in assignments; readable and well-organized course content format; clear presentation of course content; and offering flexibility in learning in terms of time and place.
- System interactivity: interactive communication among learners; interactive communication between the instructor and learners; and effective communication tools.
- System response: quick response to requests; consistent response time; and reasonable response time.
- User-interface design: user friendly layout; well-structured layout; and overall satisfactory user-interface design.
- Instructor attitude towards e-learners: timely response to learners' e-mails; frequent update of lecture notes for learners; prompt response to learners' concerns; good at communication with the learners; overall instructor attitude conducive to learners' learning
- Perceived usefulness: system improves learners' learning performance; enhances learners' learning effectiveness; offers greater control over learning; and useful in learners' learning.
- Perceived ease of use: interaction requiring little mental effort; easy to use; clear and understandable interaction; easy to get what the learners' require
- Perceived enjoyment: using experience is enjoyable and fun; and pleasant experience.
- Intention to use: using on a regular basis; frequently using; and would recommend others to use.

Jara and Mellor (2009) studied the factors

which affect quality of e-learning courses and grouped the quality characteristics into nineteen categories: Outcomes, Course definition, Intended learning outcomes, Curriculum, Assessment, Learning opportunities, Teaching and learning, Student capacity, Staff capacity, Teaching methods, Student achievement, Student expectations, Student support Before the start of the course and during delivery, Academic support, Accessibility and equal opportunities issues, Learning resources Staff, Facilities, Delivery system, and QA procedures for External examiners.

3.10. Critical success factors (CSF) of educational quality

According to Sahu et al. (2013), the following are the CSFs:

Roles and responsibilities of senior management

- Commitment; Vision; Resource allocation and budgetary provision; Policy making through stakeholder participation; Performance-like promotions; Proactive management; Social responsibility through affirmative action; ISO certification

Infrastructure

- Good library with sufficient number of staff, books, periodicals scientific journals of all courses; Good ambience in class rooms/ seminar rooms; Good and well-equipped laboratories; Hygienic wash rooms; Canteen with subsidized food; Hostel accommodation; Play ground; Transportation facility; Internet facility; Medical facility, psychological counselling; Computer centre; Workshop.

Training development and placement

- Communication skills; Industrial training; Technical writing skills;

Trainings for knowledge beyond syllabus; Quality management training; Database of potential employers; Interaction with HRD management potential employers; Tracking placements of alumni; Feedback from the employers

Academic aspects

- Up-to-date syllabus; Teaching quality monitoring; Competent teaching methodology; Teaching aptitude of faculty; Student-teacher ratio; Qualified instructor (non-teaching staff).

Research and development and consultancy.

Research and development and consultancy Administration.

- Academic planning and monitoring; Facilitation of various demands of teachers and students; Recruitment of competent staff; Communication of with stakeholders; Inspection and maintenance of institutes facility; Inspection of teaching/evaluating process; Signing Memorandum of Understandings with Multi-National Companies and other institutes; Organizing lectures of experts; Organizing conference/seminars/ workshops/training, etc.; Data analysis regarding performance of students, teachers, etc.; Implementation of policies delineated by management and statutory bodies

Promoting institute's initiatives

- Institute initiative's publicity; Instillation of awards for staff members

Technical institute's excellence measures

- Technically competent human resource; Research papers; Higher grade on independent accreditation agency; Strong and effective alumni association; High employability score against standard indices; Consistently good academic results (high scores of students); Research and development initiatives; Recognition through various awards; High number of Memorandum of Understandings with Multi-National Companies and other technical institutes; Satisfaction of stakeholders, students, parents and others; Better personality traits in students, such as leadership, teamwork, communication, less anxiety regarding job; Higher resource and finance credibility of institute

5. Conclusions

Answering the research question "What are the essential features of quality in education?" the author has provided a framework for viewing educational quality from different perspectives. This framework builds on a literature review that involves major sources of journal and conference articles. The literature review gives qualitative insights on research considering quality in educational institutions.

The purpose of this paper was to review the quality dimensions in higher education established in various studies conducted across the world. The major conclusion drawn from this review is that although most studies are empirically rigorous, the higher education quality is very broad and there is no common framework. The number of dimensional structure varies across the studies. The area of convergence is observed in quite a few major dimensions and has been validated in different contexts. Another important observation is that most of the studies have studied quality from students'

perspectives, whereas there are other stakeholders in the higher education systems whose views on quality are also important. Finally, some of the studies reviewed involve specialized education system such as e-learning.

The literature offers dimensions used in assessing perceived quality in higher education from different perspectives. The review reveals diversity and a plethora of quality dimensions in higher education. The author believes that the findings of this study would be useful to the practitioners to identify the gaps in their settings.

Quality matters as a core value in higher

education. While world-class institutions, global rankings, and accreditation have become hot topics within field of education, the potential of researching these topics is significantly limited by the lack of theorizing about what quality means. Quality must be at the centre of the research and the first step must include revisiting the notions of quality. In this context, the author is of the opinion that this paper should guide research and practice in higher education. The author has tried to contribute to that important goal by presenting quality in education from various perspectives.

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