Quality in Higher Education: A Variety of Stakeholder Perspectives

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Abstract—In higher education, stakeholders' views are crucial and should be taken into consideration by the education providers in transcending cognitive skills as well as improving quality processes. With the increasingly diverse profile of students nowadays, the authors seek to evaluate the perception of higher education stakeholders on quality in higher education. This study employed a combination of qualitative and quantitative approach. Interview participants in this study expressed divergent views but majority seemed inclined towards graduate qualities. It was emphasized that quality higher education should not only produce academically good graduates, but graduates with good character and meet industry expectations. Other perceptions specific to the stakeholders were also revealed. A survey was also conducted to investigate the perceptions of students who are the receiver of higher education provision. Structural Equation Modeling was employed and the results revealed that Effective Teaching and Learning, Personal Development, Supportive Learning Environment, Improved Communication Skills, and Information Availability, Accuracy and Accessibility were the reliable indicators of the underlying construct of perceived quality in higher education.

Index Terms—Higher Education, Quality, Structural Equation Modeling.

I. INTRODUCTION

The concept of quality is more complex in higher education as opposed to in the industry where the end products are clearly defined. Harvey and Green concurred that the underlying differences between higher education and other service providers were transformation process in higher education frequently engage in cognitive transcendence in the students and not just providing service for them [10]. However, rapid changes in higher education nowadays have significantly narrowed the gap in how universities and other types of organization view quality [18]. Concern about quality in higher education always has been in existence and is discernible in many ways. Due to the increasingly diverse student profile, it is imperative that stakeholders' views, especially the students', be taken into consideration by the higher education institutions for quality process improvement. This is supported by Srikanthan and Dalrymple who suggested that the students' criteria for quality in higher education should be elucidated to provide them with an evidence of the comparatively high standards in

order to guide their academic choices [24]. In Malaysia, student feedback is gaining importance in higher education course provision review and development.

From the literature review, it was found that the meaning of quality differs for many authors. As higher education evolves, Watty cited that there are two schools of thought [31]. The first, which was supported Baird [1], Fry [8], and Nordvall and Braxton [22] links quality to a perspective for it to have a meaning attached to it. For example, it is not uncommon to find that quality is made with reference to the student intake, academic programs, program designs, lecturers, teaching and learning, students' experience and academic as well as non-academic support for the students. In such cases, attempt to define the term is usually ignored. A second way of thinking about quality relates to a stakeholder-specific meaning. Quality values may be different to many higher education stakeholders as each thinks quality in different ways because they may have incongruent interest in higher education. The early works of Middlehurst [21] and Harvey and Green [10] highlight the importance and value of considering quality from a variety of stakeholder perspectives. This study is framed using the second way of thinking and aims to evaluate the meaning of quality in higher education from a variety of stakeholder perspectives.

II. METHODOLOGY

A. Research Participants and Data Collection

This study employed both the qualitative and quantitative approaches. The data presented in this study is part of a larger research project. Semi-structured interviews were conducted to collect in-depth qualitative data from 23 volunteer respondents comprising various internal and external stakeholders from two large private universities in the proximity of Kuala Lumpur, Malaysia. The participants were university managers (senior and middle level management), academic staff, students, parents, graduates, representative from Malaysian Associations of Private Colleges and Universities (MAPCU) and industry employers. They were identified as participants P1to P23 to protect their anonymity. Each interview lasted about an hour. All the interview sessions were audio-taped with the permission from participants and were transcribed and analysed using the constant comparative method. A survey was carried out at the same two private universities (labeled as University A and University B) and 768 students from a wide range of faculties participated voluntarily. The questionnaires were largely administered during lectures and tutorials, but some were

administered in the cafeteria and library in order to obtain a more diverse participant group. The participants were briefed on the purpose of the study and were told of their rights to withhold their participation during and after they had completed the questionnaire. They were assured of the confidentiality of their responses which would be used for research and improvement purposes only and would not be used in any way to refer to them as an individual.

B. Measures

A 17-item survey questionnaire for students to evaluate the quality in higher education, previously developed by one of the authors was used [28]. It was created in two phases. Firstly, the questionnaire was developed based on empirical translation of concepts from literature review and expert panel review. Secondly, reliability tests and exploratory factor analysis were then conducted following a pilot test using a sample of 107 undergraduate students from a Malaysian university whereby the reliability of each subscale ranges from 0.6 – 0.8. The reliable indicators of the underlying construct of perceived quality in higher education by the students were Effective Teaching and Learning, Personal Development, Supportive Learning Environment, Improved Communication Skills, and Information Availability, Accuracy and Accessibility. Each item was measured on a five-point Likert scale with 1 = *strongly disagree* to 5 = *strongly agree*. The details on the development of the questionnaire and the 17 items can be found in [28].

III. FINDINGS

A. From Interviews

Participants expressed divergent views when they were asked to comment on the meaning of quality in higher education. From the employers' perceptions, it was not surprising that they perceived quality in higher education as producing quality graduates. A senior manager from a private company (P22) who has three graduates from University A currently working in her company explained, "quality in higher education is not just making sure students know the technical aspects but also making sure in building their character". She stressed that good character was what she looked for when recruiting new staff. "It simply means that the person must be willing to take up more responsibilities and this will in turn provide them with opportunities to explore themselves, in terms of their strengths and weaknesses. The role of a university is to produce people with academic knowledge and students should use the university environment as a mini working world to learn how to interact with each other. Students nowadays either learn in the university or for some, after they have left the university" (University A, Employer P22). The views of employers pointed to quality in higher education as to produce graduates with certain expected level of academic achievement as well as good character and soft skills such as communication, interpersonal, and working in teams. Graduate Recruiting Manager (P9) for a private bank who has recruited students from University B, shared the same opinion. "To me, quality

higher education is just not preparing them [the students] for the industry but also making sure that they become a complete person" (University B, Employer P9).That explains why he insisted to meet the interview candidate when making selection because by looking at the resume was not good enough to make a judgment of his or her capabilities and suitability to the position applied.

Parent P20 from University A referred quality in higher education to reputable universities with relevant syllabus, competent teachers and qualification awards that are well recognized. This thought was supported by Parent P8 from University B who also felt that quality higher education generates independency and creativity in the students. She said his elder son would not have worked in Shanghai, one of world's most populous countries full of talents and perceived by many as the best place to work in, if not for having graduated from a top quality university. "During his studies, he had the opportunity to meet up with the top achievers from all over the world whereby he realized that they were also great thinkers with very creative mind and this has inspired my son to learn from them and emulate them (University B, Parent P8).

Graduate P18 from University A, perceived quality higher education as "one [university] that adequately trains and is capable of providing the means to a graduate to be competent, versatile and independent in his/her major field of study" meaning "an increase in the quality and quantity of employment opportunities. Quality refers to the (i) standard and reputation of the employing company, (ii) remuneration and benefits and (iii) learning and career progression potential. Quantity simply refers to employability". To Graduate P7 from University B, quality higher education does not only prepare the students well for working life but also provide a conducive learning environment to enable participation learning and confidence building, and for students to have a well-balanced social life while studying. He added that quality can be viewed from other aspects such as lecturers, environment and peers. He said employers including his present company which is an investment bank, prefer graduates from better learning grounds or reputable universities. He argued, that was the reason why parents are willing to invest so much in their children's education by sending them to better universities. Student P17 from University A referred quality higher education as its qualification awards being international recognized to facilitate student mobility. Student P6 from University B has the same opinion as Student P17, but stressed quality higher education provides good learning facilities including sufficient and a wide range of reference books and journals.

Dean P14 from University A expressed that quality in higher education can be reflected in quality of its staff and eventually quality of its students' learning experience. According to her, quality of staff can be represented by the extent of faculty focus on research development while quality of students' learning experience can be viewed from the rigorous assessments that students have to go through in order to generate "real graduates". She defined "real graduates" as graduates who possess the required academic knowledge, right attitude and the necessary work skills to meet the expectations of the industry. Head of Department

(P15) from the Engineering School in University A also linked quality higher education to graduate qualities. "Students must be able to perform those tasks required by their future employers. Some employers may require good communication skills and some knowledge on engineering products. Some may have robots to operate on. As long as they can meet the requirements of the future employers, it is a quality education. Employers are the ones that determine whether a university or higher education is of quality" (University A, Head of Department P15). Lecturer P4 from University B viewed quality higher education as having quality students as inputs. To him, quality students have good personality and are proactive in their own learning. He added, "a quality university provides student support services to facilitate student learning but at the end it is still up to the students themselves to take the opportunities to improve themselves".

At institutional level, University A's Chancellor P11 and University B's Vice Chancellor P1 brought in the community perspective when defining quality in higher education. Statements made by P11 and P1 of their perceptions of quality in higher education reflected their beliefs in leading the university. This belief, in turn forms the university's directions undertaken currently or in the near future towards a quality culture. Chancellor P11 viewed quality higher education as helping the nation to meet the manpower requirement, producing graduates that meet global demands, and having quality inputs such as students, curriculum and staff, especially staff with international experience. According to Vice Chancellor P1, one of the measurements of quality in global higher education is that quality assurance must be in place, meaning that processes must be well kept and well developed. He said that is something quite becoming important agenda to university, especially for the private universities. He then expressed quality higher education as having good governance, positive impact of teaching on quality of graduates, engagement in research and development of new knowledge, and positive impact to the community.

MAPCU Governing Council Member, P23 viewed quality in higher education as "what you say you are going to do and then you conform to it. Quality is not an adoption of a standard that someone says it should be". He recalled that quality was perceived to be costly previously but he acknowledged nowadays, "there is a growing realization among the higher education providers especially the larger ones that quality is an opportunity for the institution to enter into a virtual circle. By that it means if you invest in good facilities or resources, then the students' satisfaction will be higher. If the students' satisfaction is higher, then the feedback and student experience will be positive and they will tell their friends to come to the university. More and more students will come in which then give you more funds which make you reinvest in better facilities and resources. So it is a virtual circle". He then described quality higher education as meeting stakeholders' expectations especially the parents' whereby their main concern is about their children's experience in the university. What the students think about their learning experience as what determines their future success is also important to the higher education

providers. He acknowledged that quality higher education required huge capital investment in people, systems and facilities to ensure excellent learning and non-learning experiences for the students but he expected the return on investment to be even greater. According to him, institutions with their dedicated campuses, brand value and brand promise are the ones that parents will send their kids to.

B. From survey

Table I shows the demographics of the respondents who participated in the survey.

TABLE I: DEMOGRAPHICS OF RESPONDENTS

		University A	University B	Total
Gender	Female	293 (69.1%)	140 (40.7%)	433 (56.4%)
	Male	131 (30.9%)	204 (59.3%)	335 (43.6%)
Nationality	Malaysian	362 (85.4%)	306 (89.0%)	668 (87.0%)
	Non-Malaysian	62 (14.6%)	38 (11.0%)	100 (13%)
Ethnicity	Chinese	321 (75.7%)	272 (79.1%)	593 (77.2)
	Indian	36 (8.5%)	13 (3.8%)	49 (6.4%)
	Malay	13 (3.1%)	22 (6.4%)	35 (4.6%)
	Others	54 (12.7%)	37 (10.8%)	91 (11.8%)
Age	18-20	184 (43.4%)	222 (64.5%)	406 (52.9%)
	21-25	235 (55.4%)	121 (35.2%)	356 (46.4%)
	26-30	4 (0.9%)	1 (0.3%)	5 (0.7%)
	Above 30	1 (0.2%)	0 (0%)	1 (0.1%)
Study Major	Architecture	0 (0%)	64 (18.6%)	64 (8.3%)
	Business	16 (3.8%)	173 (50.3%)	189 (24.6%)
	Engineering	15 (3.5%)	68 (19.8%)	83 (10.8%)
	Hospitality	0 (0%)	39 (11.3%)	39 (5.1%)
	Food Sc. and Nutrition	179 (42.2%)	0 (0%)	179 (23.3%)
	Biotechnology	94 (22.2%)	0 (0%)	94 (12.2%)
	Accounting	38 (9.0%)	0 (0%)	38 (4.9%)
	Nursing	11 (2.6%)	0 (0%)	11 (1.4%)
	Mass Communication	7 (1.7%)	0 (0%)	7 (0.9%)
	Pharmacy	23 (5.4%)	0 (0%)	23 (3.0%)
	IT	8 (1.9%)	0 (0%)	8 (1.0%)
	Psychology	10 (2.4%)	0 (0%)	10 (1.3%)
	Music	5 (1.2%)	0 (0%)	5 (0.7%)
	Social Science	2 (0.5%)	0 (0%)	2 (0.3%)
	Medicine	1 (0.2%)	0 (0%)	1 (0.1%)
	A Levels	15 (3.5%)	0 (0%)	15 (2.0%)
Study Level	Diploma	24 (5.7%)	76 (22.1%)	100 (13.0%)
	Bachelor	359 (84.7%)	268 (77.9%)	627 (81.6%)
	Foundation/Pre-Tertiary	41 (9.7%)	0 (0%)	41 (5.3%)

Confirmatory Factor Analysis (CFA) was conducted to determine the quality dimensions that were important to the students. The hypothesized model tested in CFA using Structural Equation Modeling (SEM) with AMOS version 18.0 program, postulates a priori that quality in higher education perceived by students was a five-factor structure composed of the emerged factors from pilot study. They were effective teaching and learning, personal development, supportive learning environment, improved communication

skills, and information availability, accuracy and accessibility.

The test of H0 yielded a χ^2 value of 302.163, with 109 degrees of freedom and a probability .000 (p < 0.001), thereby suggesting that the fit of the data to the hypothesized model was not entirely adequate. In other words, given the present data, the hypothesis bearing the quality values to the students in higher education as summarized in the model, represented an unlikely event and should be rejected. However, the χ^2 test statistic is known to be very sensitive to large sample sizes and the χ^2 limitations have been addressed by many researchers [9, 13, 20, 27]. In turn, some of them have developed other goodness-of-fit indices that take a more sensible approach to the evaluation process and are usually used as appendage to the χ^2 statistic. In this study, several statistics were used to evaluate the fit of the proposed measurement model. Two incremental or comparative indices of fit, namely the normed fit index (NFI; [2]) and the comparative fit index (CFI: [3]) were examined. Bentler suggested that CFI should be the index of choice because NFI tends to underestimate fit in small sample [3]. Since the sample size (N=768) for this study is relatively large, it is unlikely that we will face this problem. Both the NFI (0.931) and CFI (0.954) were greater than the cut-off values of 0.90 and 0.95 respectively [14] suggesting that the hypothesized model represented an adequate fit to the data. According to Hu and Bentler [14], if the relative fit index (RFI) is close to 0.95, then it indicates a superior fit. RFI is a derivative of the NFI [4] and from the finding of RFI = 0.914, it was consistent with that of the NFI and CFI. The incremental index of fit (IFI: [5] which addresses the issue of parsimony and sample size, and the Tucker-Lewis index (TLI; [30]) yielded values of 0.955 and 0.943 respectively, being indicative of good fit too. The root mean square error of approximation (RMSEA; [26]) which takes into account the error of approximation is another good indicator of model fit adequacy. In this study, the RMSEA = 0.048 which was far lesser than 0.05 indicating a good fit. According to Browne and Cudeck [7], reasonable errors of approximation in the population can tolerate RMSEA values up to 0.08. MacCallum et al. [19] in a later study suggested that values ranging from 0.08 and 0.10 indicate mediocre fit and any value greater than 0.10 indicates inadequate fit. The RMSEA had a 90% confidence interval ranging from value 0.042-0.055 and the p value for the test of closeness of fit was 0.679, consistent with the conclusion that the hypothesized model fitted the data well.

The output from AMOS also provides the Hoelter's indices (labeled as Hoelter's 0.05 and 0.01 indices). Values greater than 200 are indicative of a model that adequately represents the sample data [12]. In this study, the 0.05 and 0.01 Hoelter's indices for the hypothesized model were 342 and 372 respectively (both exceeding 200) leading us to conclude that the size of our sample (N=768) was satisfactory. Joreskog [15] suggested that while a model appears to be a good fit to the data, it may still be possible to enhance the fit further by indentifying any area of misfit in the model. To improve the overall fit, the model misspecifications were detected using the modification indices suggested by AMOS. The modification index (MI) is the expected drop in overall χ^2 value if the parameter were to be freely estimated (MI = 0)

in a subsequent run. However, there is no absolute rule on changing a particular parameter but the decision made on the basis of the modification indices must be theoretically meaningful. Having that in mind, several items have been removed and the initial model was revised twice to enhance the fit. The summary of analysis of revised models with the corresponding goodness-of-fit indices is shown in Table II.

TABLE II: SUMMARY OF CONFIRMATORY FACTOR ANALYSIS

Model No.	Total Items	Goodness of Fit	Goodness of Fit & Hoelter's indices	Enhancing fit by removing item (s)
1	17	χ^2 =302.163, *df* 109, *p* = .000	NFI 0.931, CFI 0.954, RFI 0.914, IFI 0.955, TLI 0.934, RMSEA 0.048 Hoelter's 0.05 index=342 Hoelter's 0.01 index=372	Q10, Q15, Q20
2	14	χ^2 =121.101, *df* 67, *p* = .000	NFI 0.966, CFI 0.984, RFI 0.95, IFI 0.984, TLI 0.979, RMSEA 0.032 Hoelter's 0.05 index=552 Hoelter's 0.01 index=614	Q19
3	13	χ^2 =83.855, *df* 55, *p* = .007	NFI 0.973, CFI 0.990, RFI 0.961, IFI 0.990, TLI 0.986, RMSEA 0.026 Hoelter's 0.05 index=671 Hoelter's 0.01 index=753	-

Univariate skewness and univariate kurtosis values ranged from -0.505 to 0.064 and -0.405 to 0.525 respectively. The relatively large value of Mardia's normalized multivariate estimate of multivariate kurtosis (31.653) showed evidence that the data were not multivariate normal. In order to address the issue of multivariate non-normality, bootstrapping was conducted to assess the stability of parameter estimates and report them more accurately. Within the context of SEM, bootstrapping provides a mechanism for addressing situations where the ponderous statistical assumptions of large sample size and multivariate normality may not hold [33]. In this study the Bollen-Stein bootstrap procedure [6] was employed. It is a modified bootstrap method for the χ^2 goodness of fit statistic which provides a means to testing the null hypothesis that the specified model is correct. In particular, it can be used to correct for standard error and fit statistic bias that occurs due to non-normal data. It tests the adequacy of the hypothesized model based on the transformation of the sample data such that the model is made to fit the data perfectly. In this study, 1000 bootstrap samples were drawn with replacement from this transformed sample. The Bollen-Stein bootstrap p value was 0.135 (> 0.05) indicated that there was insufficient evidence to reject the hypothesized model.

Considering the feasibility and statistical significance of all parameter estimates, the substantially good fit of the model and the lack of any substantial evidence of model misfit, the authors conclude that the final five-factor model represents an adequate description of quality in higher education structure for the university students. Hence, the reliable indicators of the underlying construct of perceived quality in higher education by the students are effective teaching and learning, personal development, supportive learning environment, improved communication skills, and information availability, accuracy and accessibility.

IV. DISCUSSION

The literature shows there is no easy definition of quality in higher education. Therefore, it was not surprised that participants in this study expressed divergent views when they were asked the meaning of quality in higher education. In the end, majority seemed inclined towards the output, that is, the students' learning experience or the graduate qualities which include both the academic and no-academic aspect of having good character that meet industry expectations. The effective teaching and learning scale of the questionnaire pondered upon good teaching, student active engagement in learning and the relevancy of educational outcomes. Ramsden [23] defines good teaching involves giving clear explanation through interesting lessons and providing useful and timely feedback. Being supportive of students' problems is also essential. Kettunen and Kantola [17] describe the teachers as a key position for quality assurance in higher education and their sense of ownership is important in ensuring quality in teaching and learning. Kehm [16] agrees that the teacher plays a cast role in facilitating the learning experience by creating opportunities for acquiring such skills in the classroom. Srikanthan and Dalrymple [25], in developing a holistic model for quality in higher education, emphasized that learning is based on dynamic engagement between students and teachers, especially about the nature, scope and style of their learning. They recommended transformation by shifting attention from 'teaching' to 'learning'. In particular, students should be involved as partners in internal quality assurance activities in particular the teaching and learning initiatives. The sense of responsibility and high level of engagement between the teachers and students makes quality assurance effective [17].

The personal development scale reflects the extent to which students perceive their studies in university would foster the development of a set of generic skills recognized by the university as a valuable outcome of university education, in addition to discipline specific skills and knowledge. It is worth noting that "improved communication skills" emerged as a separate factor on its own rather than subsumed in the personal development scale. This may be explained by its increasing importance as one of the most appealing skills to the employers. Both personal development and improved communication skills are perceived as important quality values to the students. Known as graduate capabilities to many universities, these skills represents the traits that are commonly sought by employers, thus preparing the students to be work ready, as expected by the employers. Examples include critical analyzing, problem solving, thinking inventively, logical reasoning, confidence and ability to see things from different perspectives. Supporting this, Kehm [16] posits that these skills together with the subject-specific learning outcomes must be clearly defined and the curricular be revised to teach and assess them. While most of the time the teachers are unsure when left with these assignments, it is recommended that training to be given to the teachers in terms of appropriate assessment strategies for such skills and ways to generate opportunities for students to acquire these skills. These skills are not just helpful in finding work in career of their choice but may lead them to a more contented personal life.

While there is a basic assumption that these skills are innate traits, close scrutiny on these skills would suggest that they can be acquired and cultivated over time. Higher education institutions can nurture these skills using several ways. Modeling helps to inspire students to follow what they see others, especially the teachers in demonstrating them. For example, when a teacher works through a problem together with the students during their lesson by illustrating the critical arguments in solving the problem, students not only realize the value and feel inspired to use them but they see how and when to apply them. Introducing puzzle questions encourages students to think critically and allow logical reasoning that would put students in a more competitive learning environment. This method facilitates students to contemplate others' viewpoint and reframe their thinking.

Students also see quality higher education as having a supportive learning environment especially getting support from their teachers. A study on students' perception of quality in higher education by Hill *et al*. [11] also suggested that social or emotional support systems are the important factors. Srikanthan and Dalrymple [25] postulate that one of the important aspects of quality in higher education is the significant commitment by the university and individuals and providing students a supportive environment. As mentioned earlier, the teacher's role is regarded as vital in cognitive transcendence in the students and they look up at their teachers as role model in their demeanor and interest for the subject. Satisfaction in any learning experience must at least be achieved in the classroom, even though many feels that it should goes beyond the classroom. The teacher's response towards promoting an atmosphere that motivates self-directed and cooperative learning is crucial. This requires the mental change in the teachers that would need tactical influence of leadership and clear direction from top management regarding a shared vision about service quality improves overall institutional performance [32]. In addition, teachers who exhibit professionalism by showing respect for students and demonstrate commitment in ensuring learning are definitely supportive in creating a supportive learning environment for the students. This is supported by Telford and Masson [29] who agreed that lecturer commitment is one of the quality values in congruence among the higher education stakeholders.

One surprising outcome of this study was the emergence of the Information Availability, Accuracy and Accessibility factor. This implies that students view information in terms of its availability, accuracy and accessibility as important quality value. Majority of the current student population is the generation Y who grew up with the internet. They are familiar with the online universe that they may even have the more updated facts than their teachers. They use technology extensively for variety, stimulation and access to information. It definitely changed the way they communicate and relate to learning. Hence, information is expected to be easily available especially in the electronic mode which warrants for quick availability and accessibility.

The findings from this study provide greater insights into the perceptions of internal and external stakeholders on quality in higher education which can impact how universities, especially the private universities, formulate

their quality assurance as well as business strategies to remain sustainable in the increasingly competitive industry.

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