



A SCALE DEVELOPMENT FOR STUDENT SATISFACTION: A PERCEIVED DIMENSION OF QUALITY EDUCATION

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Abstract

Purpose of the study: A 22 item Likert scale was developed by using Trochim (2000) procedure to measure the academic leader's impact on student satisfaction, which is ultimately considered a factor contributing to quality education. Such an instrument can be used in further empirical researches to understand the role of academic leaders in student satisfaction.

Methodology: Exploratory in-depth interviews were conducted with 20 academicians from the Central University of Rajasthan for item generation, followed by expert testing done by 10 HR experts. Data were collected from 30 students by employing multistage simple random sampling to ensure validity and reliability. SPSS version 21 was used for calculating corrected inter-item to total correlations (CITC) and t values for finalizing items of the questionnaire.

Main Findings: A pool of 25 items was generated at first stage of qualitative interviews with academicians, at the second stage of expert testing 23 items were retained and 2 items were deleted due to low CITC score and t-value. At third stage of pilot testing, 1 item was deleted and 22 items were retained. The instrument for measuring student satisfaction contains was developed containing 22 items.

Applications of this study: This study can be useful in the educational sector for analyzing quality education. It directs further future work by using exploratory and confirmatory factor analysis on larger sample sizes.

Originality of this study: The instrument is developed purely for measuring the impact of academic leaders rather than any other educational and quality factors filling the research gap, based on academic leaders' behavior, concern, responses, knowledge and other characteristics having an influence on elevating student satisfaction, which is perceived dimension of quality education.

Keywords: Student, student satisfaction, quality education, academic leaders, higher education

INTRODUCTION

Higher education institutions (HEI) are imperative for bringing positive social as well as economic changes in society Brennan and & teichler (2008) as education is viewed as a means for better development of societies in the absence of which detrimental effects can be observed in society as well as nation Holt (2000). In return of this, society provides sustainability and market for operations to HEI. HEIs should deliver quality services to the customers of the institute including students, parents, and society. Quality education dimensions include quality teaching, quality students, academic and administrative support. Akareem and Hossain (2012) Quality education can be defined from multiple perspectives, but his study identifies quality education from the student's perspective which results in student satisfaction. Therefore, this study aims to identify the perception of students for quality education in the context of academic leaders resulting in student satisfaction. A reliable and valid scale has been developed for measuring student satisfaction by exploratory analysis from a sample of 300 students from HEIs including colleges and universities. This research will help in formulating strategies and policies to policymakers of educational institutes to identify and meet the needs of students to deliver the quality education, in turn leading to student satisfaction.

LITERATURE REVIEW

Quality Education

Grisay and & mahlck (1991) studied that quality education is basically a three-step method which includes input, process, and results. The input may be in the form of resources and quality teachers available, the process includes the teaching practices adopted by academic leaders and outcomes can be observed in form of results such as student's performance and student satisfaction. According to Jain and Prasad (2018), there are two criteria for understanding quality in education. Firstly, a holistic approach of quality in the whole education system including education institutions, teaching, policies, etc. and secondly, what quality is offered to the customers of the institutions. This offering can be viewed in terms of teaching, curriculum, the learning by the students. This viewpoint is also supported by Ramsden and Moses (1992) that the quality of higher education is understood by the quality of teaching and materials provided to



students as per their understanding level. The concept of quality education is an elusive process but still is defined and discussed in numerous ways reflecting different ideas [Sayed \(1997\)](#). According to UNICEF quality education has five dimensions namely learners, environment, content, processes and outcomes [Unicef \(2000\)](#).

Student Satisfaction

[Cheng and Tam \(1997\)](#) also stress that measurement of quality education can be designed by catering to the needs of the students leading to student satisfaction. Students were the most prior stakeholder of the higher education institution has a legitimate claim on receiving the best quality education from the academicians of the institute. So quality education broadens the scope of considering students suggestions and opinions for delivering services to them both inside the classroom and outside the classroom [Darlaston-Jones et al. \(2003\)](#). Gibbs (2010) studied the 17 quality education aspects from the perspective of students. It basically includes the quality issues with specific concern to students and not for the overall higher education institutions. All the programs should take care of the understanding level of the students. Student satisfaction is a crucial parameter for measuring quality in higher education [Mahapatra and Khan \(2007\)](#) as it addresses the need of the most important stakeholders of the educational institutions. To measure the effectiveness of the services provided by the teachers to students, student satisfaction scale can be used [Palli and Mamilla \(2012\)](#).

Objectives of the study

1. To understand the importance of academic leaders in providing student satisfaction, the perceived dimension of quality education.
2. To develop a scale for measuring student satisfaction as a result of attributes of academic leaders in Higher Education Institutions.

Research Methodology

The study has employed an exploratory method in understanding quality education from student 's perspective delivering them student satisfaction. This study basically focuses on the attributes of the academic educational leader leading to student satisfaction in the context of HEIs. Development and purification of the scale for measuring student satisfaction is done in the following sequence. Firstly, qualitative and in-depth interviews have been conducted from 20 academicians from the Central University of Rajasthan resulting in item generation to measure student satisfaction. Secondly, to check the suitability of items in the scale the survey has been conducted with 10 Human Resources experts with the help of questionnaires on the five-point Likert scale. This resulted in the deletion of irrelevant items with low CITC and t-values. At third stage, reliability of the questionnaire is checked through pilot testing over 30 Students from the Central University of Rajasthan with the elimination of items with low Cronbach alpha. The complete stages of research method have been depicted in the following tables.

RESULTS

The content validity and reliability of student satisfaction scale consists of three steps firstly, generating item pool and the qualitative study conducted with experts. Secondly, designing scale and expert testing and the third stage is pilot testing. The results are summarised in figure 1.

STAGE ONE: Generating Item Pool and Qualitative Study conducted with Experts

Initially, items have been generated related to student satisfaction as the outcome of attributes of the ethical academic leader by extensive literature review. Existing instruments were also tested for items relevant to academic leaders resulting in student satisfaction. Secondly, in-depth exploratory interviews have been conducted with 20 academicians from Central University of Rajasthan including Dean (3), Department Heads (5), Professors (2), Associate (4) and Assistant Professors (6). The items were analyzed and generated after deleting repeated items. With the completion of this stage, 25 items were generated. The demographic profile of academicians is listed in table 1.

STAGE TWO: Designing Scale and Expert Testing

The favourableness and relevancy of items to the concept is determined by administering the questionnaire to 10 HR

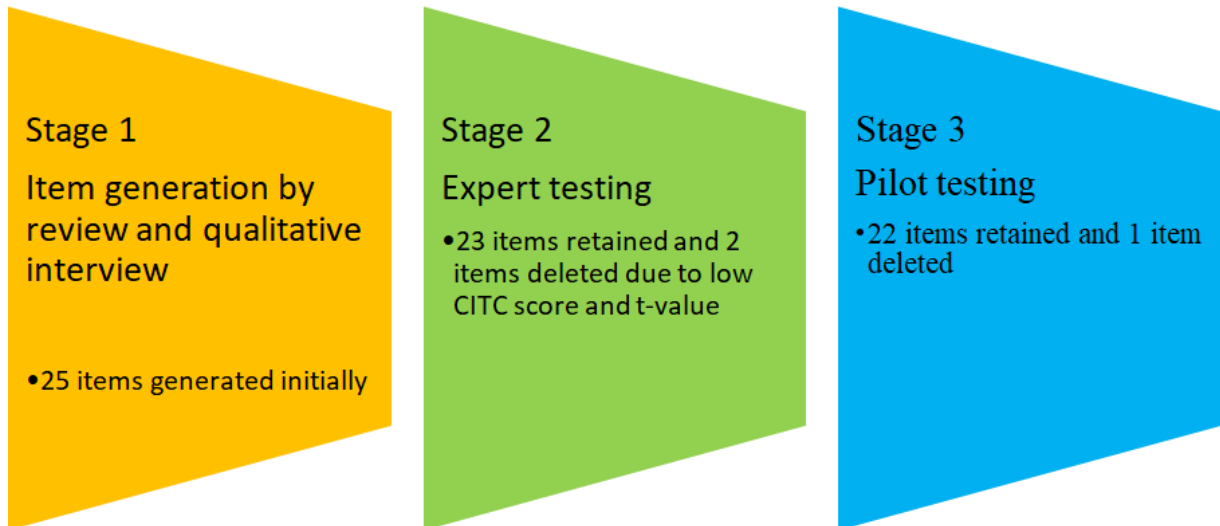


Figure 1: Stages for reliability and validity of student satisfaction scale

experts on the five-point rating scale where the items were rated from strongly unfavorable to the strong favourableness of the concept. For this purpose, the survey was done with the help of questionnaires with five-point Likert scale ranging from 1 to 5, where 1 denotes strongly unfavorable and 5 denotes strongly favorable. Content validity was checked by experts with the ratings on Likert scale Trochim (2000). Expert's responses were recorded in SPSS version 21 to calculate corrected inter-item to total correlations (CITC) and t values respectively. The items with CITC less than 0.6 and t values less than 1 were eliminated and remaining items were finalized for the questionnaire Trochim (2000). CITC scores obtained for student satisfaction scale with 25 items is depicted in table 2.

After calculation of CITC scores, within each questionnaire average sum of responses for each item was calculated and arranged in descending order. This descending order was divided into upper quarter and lower quarter in order to calculate mean and t-difference. The difference between the mean of upper and lower quarter t-values is calculated. Those items with t-value less than 1 were eliminated as they represent a low difference between two means. Items with t-value more than 1 were retained in the scale. Table 3 depicts the t-values obtained for student satisfaction scale.

After analyzing CITC scores and t-values for student satisfaction scale, two items were deleted with low CITC score and low t-value (SS10, SS12). At this stage, the numbers of items retained in the questionnaire are 23.

STAGE 3: PILOT STUDY

The pilot study is done to check the reliability of the scale. The pilot study was conducted in higher education institutions on 30 respondents (students) for each questionnaire, as this study measures the perception of the student in considering student satisfaction as the determinant of quality education. Responses received from students were recorded and coded on the five-point Likert scale.

Descriptive statistics of student satisfaction items

The means score for the student satisfaction items measuring student perception towards quality education ranging from 0.724 to 1.137 depicted in Table 4. High mean scores were observed in items SS2, SS4, SS7, SS8, SS15, SS19, SS21, SS22 with mean scores of 1.137, 1.029, 1.124, 1.094, 1.066, 1.061, 1.037, 1.015 respectively. Purification of scale is performed by the researcher by examining CITC scores indicating the relevancy of item to the respective construct for improving Cronbach alpha and reliability. To develop an instrument, reliability is the prerequisite for any measurement tool. Acceptable Cronbach alpha score for reliability should be greater than 0.7 (Nunnally, 1978).

The respondents of this questionnaire were students. The first part of the questionnaire includes the demographic profile of students including age, gender, educational qualification, and subject. The latter part includes items highlighting the satisfaction level of students attained by the concern and supportiveness of faculty within higher education. The questionnaire used to conduct pilot study comprised 23 items, 1 item was deleted after conducting a pilot study, resulting in 22 items, each item was rated on five-point Likert scale with responses ranging from strongly agree (5) to strongly disagree (1). Remaining 22 items have Cronbach's alpha of .936 showing high-reliability statistics presented in table 5.



CONCLUSION

The results obtained from exploratory interviews conducted with experts have revealed the role of the academic leader in enhancing the level of satisfaction among students. The contribution of the academic leader is observed in the form of support, guidance, counseling, mentoring provided to the students. Thus, student satisfaction achieved from the efforts of academic leaders is explored as one of the dimensions for achieving quality education. This study constructs a valid and reliable instrument for measuring student's perception of student satisfaction as a result of an academic leader of higher education institutions. This research entails the three stages of research instrument development, validity, and reliability including generating item pool through review and in-depth interviews, designing the scale by expert testing and pilot testing. Validation of scale was done by analyzing CITC scores and t-values. Pilot testing was done on a sample of 30 students in the Central University of Rajasthan. Reliability of scale was analysed through Cronbach alpha observed as 0.936. This research provides a valid measurement tool for student satisfaction. This scale can be further developed by other researchers for purification by exploratory and confirmatory factor analysis. After further purification, this scale can be used on larger sample sizes and the impact of academic leaders can be assessed on student satisfaction.

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Table 1: Demographic profile of academicians

AGE	Frequency	Percent	Valid percent	Cumulative percent
Below 30	5	25.0	25.0	25.0
31-40	10	50.0	50.0	75.0
41 years & above	5	25.0	25.0	100.0
Total	20	100.0	100.0	

Gender				
Male	11	55.0	55.0	55.0
Female	9	45.0	45.0	100.0
Total	20	100.0	100.0	

Educational Qualification				
Doctoral Degree	17	85.0	85.0	85.0
Master Degree	3	15.0	15.0	100.0
Total	20	100.0	100.0	

Work Experience				
Below 5 years	4	20.0	20.0	20.0
5-10 years	8	40.0	40.0	60.0
11 years & above	8	40.0	40.0	100.0
Total	20	100.0	100.0	

Table 2: CITC scores for student satisfaction scale

S.no	Item Description	CITC Score
SS 1	My faculty helps in solving my problems	.779
SS 2	My faculty deals with my inquiries in efficient manner	.877
SS 3	My faculty allocate s sufficient time for consulta- tion	.691
SS 4	My faculty's teaching methodology is appropriate	.779
SS 5	My facultiesare highly educated in their respective fields	.817
SS 6	My faculty keeps my information disclosed to them confidential	.877
SS 7	My faculty provides time from their busy schedule for assisting me.	.819
SS 8	My faculty's attitude towards students is positive	.691
SS 9	My faculty fulfil their promises on time they men- tion	.759
SS 10	My faculties are easy to contact	-.569
SS 11	My faculty provides counselling service	.877
SS 12	My faculty provide s caring attention.	.140
SS 13	The handouts are provided adequately by my fac- ulty.	.759
SS 14	The documentations are provided adequately by my faculty.	.877
SS 15	My faculty is fair in assessing my grades	.939
SS 16	My faculty have grasp on the knowledge of course content.	.974
SS 17	My faculty behaves courteously with students.	.972
SS 18	My faculty communicates well with students	.684
SS 19	Students are treated equally by my faculties	.836
SS 20	My faculty make the subjects interesting	.726
SS 21	The language used by my faculty is understood easily by students.	.833
SS 22	My faculty shows sympathy when I face problems	.943
SS 23	My faculty provides feedback timely	.831
SS 24	My faculty incorporates technology very well while teaching	.939
SS 25	My faculty provides good careers advice	.974

Table 3: t-values for student satisfaction scale

Item Number	Upper	Bottom	Difference	Item Number	Upper	Bottom	Difference
SS1	4.00	3.00	1.00	SS14	4.00	2.33	1.67
SS2	4.00	2.33	1.67	SS15	4.00	2.00	2.00
SS3	4.00	1.67	2.33	SS16	4.67	2.00	2.67
SS4	4.00	3.00	1.00	SS17	4.67	2.00	2.67
SS5	4.33	3.00	1.33	SS18	4.00	3.00	1.00
SS6	4.00	2.33	1.67	SS19	4.00	2.67	1.33
SS7	4.00	1.67	2.33	SS20	4.00	2.33	1.67
SS8	4.00	1.67	2.33	SS21	4.00	2.00	2.00
SS9	4.00	1.67	2.33	SS22	4.67	3.00	1.67
SS10	4.00	5.00	-1.00	SS23	4.00	2.67	1.33
SS11	4.00	2.33	1.67	SS24	4.00	2.00	2.00
SS12	4.67	4.67	0.00	SS25	4.67	2.00	2.67
SS13	4.00	1.67	2.33				

Table 4: Descriptive statistics of student satisfaction items (N=30)

	N	Mean	Std. Deviation
My faculty helps in solving my problems	30	2.33	.994
My faculty deals with my inquiries in efficient manner	30	2.87	1.137
My leader allocates sufficient time for consultation	30	3.20	.997
My leader/ Faculty's teaching methodology is appropriate	30	2.90	1.029
My leader/Faculty is highly educated in their respective fields	30	2.83	.986
My faculty keeps my information disclosed to them confidential	30	2.87	.900
My faculty provides time from their busy schedule for assisting me.	30	2.67	1.124
My faculty's attitude towards students is positive	30	3.10	1.094
My faculty fulfil their promises on time they mention	30	2.87	.973
My leader/faculty provides counselling service	30	3.23	.971
The handouts are provided adequately by my leader.	30	3.27	.868
The documentations are provided adequately by my leader.	30	3.13	.973
My faculty is fair in assessing my grades.	30	2.70	.877
My faculty have grasp on the knowledge of course content.	30	2.87	.776
My faculty behaves courteously with students.	30	2.63	1.066
My leader communicates well with students	30	2.57	.817
Students are treated equally by my leader	30	2.80	.887
My leader/faculty make the subjects interesting	30	2.60	.724
The language used by my faculty is understood easily by students.	30	2.67	1.061
My faculty shows sympathy when I face problems	30	2.20	.997
My faculty provides feedback timely	30	2.40	1.037
My faculty incorporates technology very well while teaching	30	2.27	1.015
My leader/faculty provides good careers advice	30	1.73	.785

Table 5: Reliability statistics of student satisfaction

No of items	Cronbach's Alpha
22	.936