

Exploring students' satisfaction in the university learning environment: A study of newly introduced courses for state universities in Sri Lanka

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Abstract

Newly introduced undergraduate courses in state universities failed due to various reasons. The purpose of this study is to explore the factors that affect student satisfaction in the learning environment and to which extent such factors influence the learning behaviour of university students. The study adopts the nudge theory to analyse the students' decision making based on choice architecture and the constructivist grounded theory, which explores how students determine satisfaction with learning. This study has been conducted in the context of the students who follow newly introduced courses in state universities in Sri Lanka. The study has applied quantitative research design to answer the research questions following the survey method. The conceptual framework of the study focuses on physical and intellectual support factors in the learning environment to measure student satisfaction. The results derive that academic support provided by the staff is the main factor to satisfy the students in the learning environment, which has a significant relationship. Support of the library has been identified as a factor which negatively affects student satisfaction. The study reveals that how students' decision-making behaviour can be analysed through nudging. The primary contribution of the study is to the literature on identifying key factors which assist students in the learning environment to do the studies satisfactorily when they read for newly introduced courses in state universities. The study develops a novel theoretical structure through nudge theory to identify the students' behaviour and satisfaction level. The practical implications are vital in this study which indicates that important aspects of developing in higher education in Sri Lanka to improve the quality of newly introduced courses in business.

Keywords: Satisfaction, Learning environment, Nudge

INTRODUCTION

Students are the inception of the teaching and learning process at present days with student centred learning. Valuable learning journey depends on the satisfaction of students' learning journey (Smith et al, 2018). The teachers play the role of stimulating the students in the learning environment as facilitators by using different teaching methodologies (Martínez Jiménez & Ruiz-Jiménez, 2020). Students choose the universities on trial and error method, which is the best fit for them. Such decisions make an impact on their satisfaction as well as the well-being of their learning process (Gilbreath, Kim, & Nichols, 2011). Ultimately, the students' satisfaction and well-being depend on how they are fit to the university environment. Maximizing students' satisfaction is the primary policy driver in the higher education system (Smith, Grealish, & Henderson, 2018). Therefore, it is an essential concern on how to satisfy the students within the teaching and learning environment.

The teaching and learning process happening in a learning environment is vital. The learning environment is characterized as any mode where active interactions are happening with learners and educators (So & Brush, 2008). The intellectual dialogues happening between the learning partners generate a significant impact for an effective learning environment. The supportive environment and learning strategies have a remarkable role in empowering the students' satisfaction (Johnson, Shoulders, Edgar, Graham, & Rucker, 2016). Therefore, priority is given in the learning environment to optimize the student satisfaction (Hande, Jessee, Christenbery, Zsamboky, & Kennedy, 2020). In creating such an environment, the educator plays an essential role in the classroom not only with the content of knowledge and practical expertise but also using appropriate, evidence-based teaching methods. Students as the key role player in the learning environment has the much attention and satisfying the student is vital in the learning environment. However, the success of a faculty depends on the satisfaction of the students and other institutional factors as well (Grunwald & Peterson, 2003). Student engagement is very critical in learning environment to develop their skills and curriculum should be structured in a way to achieve the objectives (Guo, 2018).

There are failures reported in new educational programmes due to various reasons. When academic and emotional support is not provided to the students in the learning environment, there is a high tendency that students and course do not achieve the required goals satisfactorily (Luhanga, Larocque, MacEwan, & Danyluk, 2014). The universities which introduce new programmes must closely monitor the sustainability of the programme in terms of students' satisfaction which provide

an opportunity to identify the issues in early stages. There are a few types of research done on students' perception and the learning environment (Guo, 2018). This study aims to contribute to the research literature on how the learning environment influences the satisfaction of university students in state universities in Sri Lanka with the newly introduced programmes. The study explores the factors affect student satisfaction in the learning environment and to which extent such factors influence the learning behaviour of university students. There are many facilities that students require during the learning period in the university. It is mandatory to have a well-equipped learning environment to do the studies. Furthermore, university facilities are considered as one of the strategic sources which are essential to generate competitive advantages in higher education (Weerasinghe & Fernando, 2018).

There is a vast competition to select into a state university which requires higher performance in the entrance examination (Akin, 2012). In Sri Lanka, there is increased competition to enter a state university from advanced level examination and entrance exams for specific courses where students are being selected based on their performance. Therefore, student satisfaction should be focused on a facilitated learning environment.

STUDENT SATISFACTION

Student satisfaction largely derives from knowledge of achievements, and continuous experience obtaining is a must for effective learning (Cassel, 1968). Student satisfaction is defined as the perception of the students on the evaluation of the expenses incurred for the education (Johnson et al., 2016). Measuring student satisfaction is vital in blended learning, collaborative learning, as well as distance learning (So & Brush, 2008). Teaching presence strongly affects the students' learning in an online environment which has a strong positive relationship on students' perceived learning and satisfaction (Caskurlu, Maeda, Richardson, & Lv, 2020). Teachers must align the learning activities with self-imposed goals of the student, which increase the productivity of the student (Cassel, 1968). Importantly, personalized teaching must be designed very carefully to provide adequate guidance to the students. There are two significant phenomena which have been identified in student learning in higher education as phenomenographic perspective and student engagement perspective (Guo, 2018). A satisfactory and motivating learning environment should be in existence to have student engagement in the learning process.

LEARNING ENVIRONMENT

Socio-ecological system in the classroom matters for the behaviour of the teacher as well as students' learning (Moos, 1980). Students get the opportunity to share their perceptions in the classroom. Student-centred environment or teacher-centred environment depends on the perception of the student (Moos, 1980). However, the architectural characteristics of the environment also affect the learning of the students. On the other hand, teachers facilitate the students by providing them with the learning experience by identifying their diverse needs and fulfilling them with available technology and resources (Hande et al, 2020). The advancement of the technology has created virtual learning environments which can assist for active interactions (So & Brush, 2008). Motivation is critical in a learning environment where teachers can motivate the students in the learning environment by providing continuous care at first (DiYanni & Borst, 2020). As students expect the feedback for their work, it is the role of teachers to address the students' purpose. Active learning helps them to understand how the students learn and assist the teacher in engaging in teaching preparation (DiYanni & Borst, 2020). Learning activities must be designed to develop individuals with deeper intellectual concentration (Cassel, 1968). Significantly, the university environment affects the mental status of the students and when students are satisfied with the learning environment that enhances the university reputation (Gilbreath et al., 2011). Accordingly, the literature emphasises that teacher has a leading role in the classroom as the facilitator to teach the learning behaviour in students.

THEORETICAL FRAMING

The study mainly adapts theory to explain student psychological behaviour in decision making. The nudge theory analyses the students' decision making based on choice architecture (Thaler & Sunstein, 2009). Nudging theory discusses how people make decisions by analyzing human behaviour and how person's behaviour change others. Lecturers apply different approaches to change the behaviour of the students. Specifically, they use different methods to encourage them positively, and at the same time, we put restrictions and bring some rules and regulations to monitor them and change their behaviour. In addition to that, the study emphasizes constructivist grounded theory (Mills, Bonner, & Francis, 2006) which explores how students determine satisfaction with learning. This theory is mainly applied in psychology and education research to explain the positioning of the researcher concerning the participants and analysis of the data. However, to identify the grounded factors for the satisfaction of students, this can be applied.

RESEARCH DESIGN

The study adapts ontological assumption that there is a single reality, and it can be explicitly measured. The central theoretical perspective is positivism, and the study adapts survey as the research methodology. The quantitative part of this study is founded on the philosophy of positivism. Researchers who use this approach of positivism prefer to collect data on the observed reality to perform later generalizations based on those data (Saunders, 2012). Thus, a deductive approach has been chosen to conduct the quantitative part of the research and the time horizon of this study is a snapshot. Therefore, the survey can be referred to as a cross

sectional study. The population for the survey includes the students in the university learning environment. Unit of analysis is a specific example of what or who we are researching (Walter 2011) hence, the unit of analysis of this survey is students who learn newly introduced courses in government universities.

When the investigator is involved in investigating more than one case in their research, the survey method is used (Bryman, 2012). Thus, the self-administrated survey method is used in this study, and the conceptual model was operationalized by items which used a five-point Likert scale. These are single indicators. A single indicator measures the portion of the basic concept of it is too general. A measurement scale with a single item gaining control over one aspect of the construct that requires to be measured (Bryman, 2012). Five-point scale and Seven-point scale are used to measure the variables, and this scale consists of five boxes ranging from strongly disagree to agree strongly. The respondent administrated to circle the number, which most closely represents their experience on the scale and that ensures the respondents' level of agreement with each of the sentences in questionnaire.

Sampling Technique and the Sample size

The present study considers its population as the students learning in the University environment who are following newly introduced courses in Management and Business faculties. Based on the convenient sampling technique, the researcher has reached to 85 respondents who follow the freshly introduced courses in state universities. However, among that, 81 responses have been considered for the analysis.

Data Collection and Measures

Primary data were collected using a self-administered questionnaire distributing the hard copies to the students. The study uses one predictor; Factors affecting student satisfaction in the university learning environment and dependent variable; satisfaction of students in a university learning environment which is newly established. Items of factors affecting students' satisfaction and items

of satisfaction were mainly adopted from a scale developed by Weerasinghe & Fernando (2018). All items were measured on a five-point Likert scale. The values of Skewness and Kurtosis have proven the normality of the survey study. The study tested Cronbach's Alpha Coefficient (CAC) to measure internal consistency. The results of the reliability analysis were checked for the relationship between factors affecting student satisfaction including Lecture room facilities (LR), Information availability (INF), Library facilities (LIB), Lab facilities (LAB), Academic staff support (STF) & Welfare facilities (WF) and Satisfaction (SAT) of the students as the dependent variable. The results of CAC were more significant than 0.7 for all the variables, and that confirmed that all the scales were sufficiently reliable for further analysis of data. Further, Confirmatory Factor Analysis (CFA) as in the below table confirmed that these two constructs were appropriate.

DATA ANALYSIS AND DISCUSSION

The data analysis and discussion explain the descriptive statistics of the study, confirmatory factor analysis, the correlation among variables and regression analysis. The central hypothesis which accepted significantly in the research has been explained with other statistics.

Descriptive Statistics

The minimum and maximum values indicate that students have selected the different points in Likert scale. The mean values are quite suitable for all independent and dependent variable. Further, the standard deviation for variables is high, which shows that numbers have been distributed around. According to the data all statistics of the Skewness and Kurtosis are between the value range of +2 and -2, which justify that the data set is normally distributed.

Table 01 Confirmatory factor analysis Variable

Variable	KMO: Measure of Sampling Adequacy.	Bartlett's Test of Sphericity Sig
Factors affecting & Student Satisfaction	.729	000

Measurement errors about the amount of variance that is incurred by the construct are recognized as Average Variance Extracted (AVE) (Fornell and Larcker 1981). According to Hair et al. (2010), this value should exceed 0.50. Through the composite reliability, too, convergent validity is confirmed. All the constructs demonstrated the internal consistency of the measure since the CAC values are more than 0.7. According to the study, the results of all the AVE values are more than 0.50, which confirmed the convergent validity among the dimensions. Further, through the use of AVE value, the discriminant validity can be checked (Fornell and Larcker,1981). According to the study, the results of the AVE values are above 0.5.

Bivariate and multivariate analysis were conducted with the purpose of understanding the extent to which factors affecting the student satisfaction impact the satisfaction of the students learning in the University environment, which is newly established. Correlation and regression tests were performed to examine the relationship between the two variables. Accordingly, the below section represents the data analysis for the hypotheses.

Hypothesis 1: There is a positive correlation between the factors affecting the student satisfaction and satisfaction of students learning in the University environment.

The significant Pearson correlation coefficient values represent the below correlations between the factors affecting and satisfaction of students ($p < 0.01$). The study has considered number of factors through literature which affects student learning in the university learning environment.

Table 2: Pearson Correlation Coefficient Value Summary

Dimension	Satisfaction of Students
LR	Sig Positive weak relationship (0.314)
INF	Sig Positive weak relationship (0.296)
LIB	Sig Positive weak relationship (0.246)
LAB	Sig Positive weak relationship (0.218)
STF	Sig Positive strong relationship (0.644)
WF	Sig Positive weak relationship (0.444)

According to the Table 2, researcher tried to identify whether there is any correlation between dependent variable and the independent variables in the sample. Pearson's correlation test was conducted among the variables. All the independent variables are having a positive correlation with the dependent variable. Most of them are having weak positive correlations,

but 'P' values are significant, which means less than 0.05. However, there is a strong positive correlation between the staff support and student satisfaction which has a value of 0.644.

Table:3 Multivariate Partial Relationship between Dimensions of Factors and Satisfaction

Dimensions	LR	INF	LIB	LAB	STF	WF
LR	1					
INF	.282*	1				
LIB	.549**	.439**	1			
LAB	.366**	.260*	.312**	1		
STF	.228*	.234*	.340**	.116	1	
WF	.425**	.459**	.637**	.232*	.465**	1

Table 3 indicates the multivariate partial relationship between dimensions of factors and satisfaction. According to the table, a significant level of multicollinearity between independent variables does not appear Library facilities & Lecture hall facilities (0.549) and Library facilities & Welfare facilities (0.637) which are higher than 0.5 of Pearson values.

Table:4 Coefficients for Dimensions of Factors and Satisfaction

Dimension	Satisfaction of students		
	UC_B	SC_Beta	Sig
Constant	0.343		
LR	.133	.170	.106
INF	.123	.107	.277
LIB	-.230	-.234	.058
LAB	.091	.092	.322
STF	.659	.561	.000

The results of the regression analysis indicate an adjusted R^2 of .495 for the impact of factors affecting student satisfaction. Thus, the fitted regression model explains 49.5% of the variation in student satisfaction. Thereby the model is adequate, and the statistic value for Durbin-Watson is 2.377, which is not too far from 2. Due to that, the data are independent. The table further presents the results of a linear regression which is significant at F. Change value of 0.000. Information of each predictor is shown as in the below paragraph.

According to the results other than staff support, all the other variables have p-value which is higher than 0.05 (< 0.05). Thus, Lecture room facilities (LR), Information availability (INF), Library facilities (LIB), Lab facilities (LAB) & Welfare facilities (WF) do not have a significant influence on student satisfaction in a University environment. However, all the other variables significantly contribute to the model. The P-value of the Lecture hall facilities is .106, which is higher than the alpha value of 0.05. Therefore, the researcher does not reject H_0 , indicating that the lecture hall facilities do not have a significant impact on the student satisfaction of a newly established University environment. The p-value of Information availability is 0.277, which is higher than the alpha value of 0.05. Therefore, the researcher does not reject H_0 , indicating that the information available does not have a significant impact on the student satisfaction of a newly established University environment. The p-value of the Library facilities is 0.058, which is higher than the alpha value of 0.05. Therefore, the researcher does not reject H_0 , indicating that the Library facilities do not have a significant impact on the student satisfaction of a newly established University environment. The P-value of Lab facilities is 0.322, which is higher than the alpha value of 0.05. Therefore, the researcher does not reject H_0 , indicating that the Lab facilities do not have a significant impact on the student satisfaction of a newly established University environment. The P-value of Staff support is 0.000, which is lower than the alpha value of 0.05. Therefore, the researcher rejects H_0 , indicating that Staff support has a significant impact on the student satisfaction of a newly established University environment. Finally, the p-value of Welfare facilities is 0.119, which is higher than the alpha value of 0.05. Therefore, the researcher does not reject H_0 , indicating that Welfare facilities do not have a significant impact on student satisfaction of a newly established University environment.

Thus, the below equation is derived from the results to identify the student satisfaction of a newly established University environment which indicates that staff support has a significant contribution in the learning environment when new degree programmes are introduced. Students expect

facilitators' support in large when they study for newly introduced courses in business and management.

$$Y (\text{SAT}) = 0.343 + .659 (\text{STF}) + .515\epsilon$$

CONCLUSION

Accordingly, the study suggests that the facilitators or the university teachers support are vital among all other factors in the learning environment to make them satisfied. Similar studies in different contexts also prove that the role of the university teacher is critical in the learning process. Educators are facilitating diverse stakeholders (Smith et al., 2018). According to Biggs and Tang (2007), teachers play different roles in the learning environment to facilitate the students for the teaching and learning process. The motivation generated within students with continuous interactions with teachers plays a significant role. The study can be improved by incorporating qualitative methods to explain more on constructivist grounded theory. The primary contribution of the study is to the literature on identifying key factors which assist students in the learning environment to do the studies satisfactorily. The study develops a novel and robust theoretical structure through nudge theory to identify the students' behaviour and satisfaction level. Students focus on university teachers' support on their learning which is their strength of learning as per the economies of value when they follow a newly introduced course. The practical implications are vital in this study which indicates that facilitation given by the teachers is crucial to develop higher education in Sri Lanka to improve productivity, specifically; in newly introduced courses.

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