

## Research Papers/Extended Abstracts

### **Determinants of quality of university education from undergraduates' perspective: A case of Faculty of Agriculture in the University of Ruhuna, Sri Lanka**

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#### **Abstract**

Quality assurance plays a vital role in delivering higher education. Even though university education targets to produce quality graduates, the quality of the education system is quite questionable, particularly in developing countries. Hence, this study aims to examine determinants of quality of university education system while taking a sample of 164 undergraduates of the Faculty of Agriculture in the University of Ruhuna, Sri Lanka. The primary data was collected through a Google form-based structured questionnaire. Eight factors were considered as the determinants of the quality of higher education. The data were analyzed using Wilcoxon signed rank and Pearson Chi-Square Test. All the statements given to the respondents regarding the eight determinants were proven valid and significant by the Wilcoxon Signed Rank Test ( $p < 0.001$ ). Accordingly, undergraduates perceive that curriculum planning, professors/lecturers, infrastructure, extra-curricular activities, lectures, library services, university reputation, and other services significantly contribute to the quality of university education. Pearson Chi-Square Test results suggest that, a significant association exists between degree followed by undergraduates and their perception of the quality of university education ( $p < 0.005$ ), while gender, and year of studying show no association. The findings of this study provide valuable insights for the policymakers in university education to uplift the quality of the Sri Lankan university education system.

**Keywords:** *Quality determinants, Undergraduates, University education,*

#### **Introduction**

Providing a quality education is one of the key responsibilities of any government (Rahman & Uddin, 2009) that has significant social and economic effects on society (Hannum & Buchmann, 2005). Governments and society, therefore, have a stake in maintaining a steady stream of students in higher education (Akareem & Hossain, 2016). Even though education expects to produce quality graduates, the quality of the education system is questionable in particular in developing countries (Fomba et al., 2022). A significant number of students from various developing countries travel overseas each year to

pursue the quality higher university education. For instance, in terms of global trends, the number of international students enrolled in tertiary education worldwide rose significantly during the past few decades, from 2 million in 2000 to 5.3 million in 2017, with the US, UK, Australia, France, Germany, and Russia being the topmost destination countries (Migration Data Portal, 2020). As a result, a sizable sum of money leaves the country, resulting in lost economic opportunities. By ensuring the quality in higher education offered by local universities, local students may be kept in university and international students can be drawn in (Akareem & Hossain, 2016). Quality assurance is required to deliver higher education of a high standard. Collaborations between international and regional quality assurance organizations at the international and regional levels have been sparked due to the importance of quality assurance for higher education institutions around the world (Akareem & Hossain, 2016). Therefore, it is a due responsibility of education institutes in the Asian context in particular to see whether the higher education gives quality education as the name implies. Lack of research exploration in this regard keeps the question; does Sri Lankan higher education system give a quality education” unanswered yet. Therefore, this study examines the determinants of the quality in higher education.

Researchers have found determinants of education quality in developed countries (Akareem & Hossain, 2016; Hanushek & Woessmann, 2011). However, there is a dearth of empirical research on this issue in Sri Lanka.

The originality of the study lies in the perspective on the quality of university education according to the experiences of undergraduates. Therefore, this study provides empirical evidence on quality research in Sri Lankan higher education institutions while bridging the massive research gap in the area.

### **Main objective**

To examine the determinants of quality of university education system

### ***Specific Objectives***

1. To find out the perception of undergraduates on quality of university education
2. To explore how the main demographic characteristics influence on undergraduate perception of higher education quality
3. To recommend significant determinants of quality of university education to enhance the quality of university education system in Sri Lanka

## **Methodology**

The primary data were collected using a structured questionnaire. In line with past literature, eight factors were taken into account in this study to assess the quality of higher education, including curriculum planning, professors/lecturers, infrastructure, extracurricular activities, lectures, library service, university recognition, and others (Del & Avolio, 2020). Two sections of the questionnaire were used to evaluate the undergraduates' demographic characteristics and these eight main quality factors influencing how they perceived the quality of higher education. Quality factors were presented as statements and measured by using five points Likert scale ranging from 1 to 5 (strongly disagree to strongly agree).

The undergraduates of the Faculty of Agriculture, University of Ruhuna were selected as the population of the study as study aims to explore the determinants of Quality of University Education from Undergraduates' perspective. They were from three different degree programs; namely BSc Agriculture Resource Management and Technology, BSc Agribusiness Management and BSc Green Technology, and from four different academic years. It comprises 256 first year students, 237 second year students, 187 third year students, and 230 fourth year students. An online survey was designed for the data collection and the link was sent to 164 students of the faculty who were selected by the stratified random sampling method. The sample was selected proportionate to the students in each batch. The link of the questionnaire survey was sent via their academic emails, and the link was disabled after 7 days of circulation. The data were analyzed using SPSS statistical software. Descriptive and inferential statistics were used to analyze the collected data. Mainly the Chi-square test and the Wilcoxon sign rank test were used to analyze first and second objectives respectively.

## **Results and Discussion**

Table 1 shows that in terms of gender, the majority were female accounting of 82% while only there were 18% male respondents. The majority of responses are between the ages of 20 and 25. When degree programs were taken into consideration, respondents from the BSc Agricultural Resource Management and Technology program made up 43% of the total, those from the BSc Agribusiness Management program made up 36%, and those from the BSc Green Technology program had the least number of respondents (21%). Most undergraduates are in their first year of study while considering their current academic year (42%). Respectively 20% and 20% undergraduates are from 2<sup>nd</sup> year and 3<sup>rd</sup> years. The lowest number of respondents are from final years accounting of 18%.

The characteristics of the study sample are given in Table 1

**Table 1:** Characteristics of the Sample

| <b>Character</b>                                    | <b>% /number</b> |
|---|------------------|
| <b><i>Gender</i></b>                                |                  |
| Female  | 82               |
| Male  | 18               |
| <b><i>Age</i></b>                                   |                  |
| Majority  | 20-25 yrs        |
| <b><i>Respondents</i></b>                           |                  |
| BSc Agricultural Resource Management and Technology | 43               |
| BSc Agribusiness Management                         | 36               |
| BSc Green Technology                                | 21               |
| <b><i>Undergraduates</i></b>                        |                  |
| First year  | 42               |
| 2nd year  | 20               |
| 3rd years   | 20               |
| Final year  | 18               |

Wilcoxon Signed Rank Test was used to find the significant determinants that determine the quality of higher education. Table 2 shows the results of the Wilcoxon Signed Rank Test obtained from responses concerning each statement on the perception of the undergraduates towards the quality of higher education within the faculty of Agriculture, University of Ruhuna, Sri Lanka. Perception toward the quality of education is measured using eight parameters proposed by Del and Avolio (2020). According to the results, undergraduates perceive the curriculum planning, and service of academics (professors/lecturers) of the faculty are valid and significant ( $p < 0.001$ ). Students significantly consider that the infrastructure, library service, and recognition of the faculty are reputable ( $p < 0.001$ ). Moreover, the results show that all the statements given to the respondents regarding other services including laboratory facilities, job opportunities cafeteria services are proven as valid and significant ( $p < 0.001$ ) while only on campus banking facility shows insignificant.

In the curriculum planning, majority respondents (70%) agree on adequate and varied selection of elective courses among other statements under curriculum planning. The findings are in line with the literature suggesting that lectures and course structure are the most significant determinants of student satisfaction (Arnon & Reichel, 2007). Academic issues (the learning process) are a critical criterion in the measurement of student satisfaction, and that teaching, and assessment quality has a significant impact on students' perceptions of academic satisfaction (Masserini, Bini, & Pratesi, 2019). Interestingly, 74% of the respondents think that effective transmission of knowledge mainly affects for quality education delivery from professors/ lecturers rather than other parameters under professors/lecturers. Del and Avolio (2020) found that the quality of academic staff and their behaviors

have significant impacts on student satisfaction levels in the higher education industry. Under infrastructure, majority undergraduates (69%) perceive relaxing environment with green areas affects quality of higher education rather than other infrastructure parameters. Career seminars are more effective for quality education under extracurricular activities as 64% perceives it than other parameters. According to undergraduate perceptions, majority (74%) perceives that, both the mode of teaching and the effectively scheduled continuous assessments are important in lectures in similar for quality education. In the aspect of library services, majority (72%) consider that constant availability of books is mainly affects for quality education service other than remaining parameters under library service. Under other services, laboratory facilities are prompt according to majority of undergraduates (65%). In terms of university recognition, according to respondents' perceptions, all statements of university reputation, the institution should be listed in top university rankings, international agreements and MOUs, local agreements and MOUs, employment status/ positions of the pass out graduates shows similar importance in quality education service.

According to the chi-square test findings, only the degree following shows significance relationship ( $p < 0.05$ ) with the undergraduate perception of quality of education, while gender, and year of studying show no significance.

**Table 2:** Perception of Undergraduates on the Quality of Higher Education: Results of the Wilcoxon Signed Rank Test

|                             | <b>Statements</b>  | <b>Test Value</b> | <b>P value</b> |
|-----------------------------|--|-------------------|----------------|
| <b>Curriculum Planning</b>  | Update in every 5 years  | 8.767             | 0.000          |
|                             | Adequate structure in the organization of the courses and the content of each course | 9.485             | 0.000          |
|                             | Adequate and varied selection of elective courses                                    | 9.36              | 0.000          |
|                             | Curriculum with more practical   | 8.355             | 0.000          |
|                             | Curriculum with more theory  | 6.913             | 0.000          |
|                             | Equal weights for theory and practical   | 6.921             | 0.000          |
|                             | Credit content of a particular course  | 9.327             | 0.000          |
|                             | ILO's of a particular course   | 9.544             | 0.000          |
| <b>Professors/Lecturers</b> | Effectively transmit knowledge   | 10.110            | 0.000          |
|                             | Qualification of the teacher (Communication skills of the lecturer)                  | 10.247            | 0.000          |
|                             | Facilitate enough practical exercises  | 8.614             | 0.000          |
|                             | Have professional experience   | 9.734             | 0.000          |
|                             | Adequately prepare students for the exams  | 9.081             | 0.000          |
|                             | Respect the class schedule   | 9.773             | 0.000          |
|                             | Don't miss classes without prior notice  | 9.685             | 0.000          |
|                             | Balance the workload   | 8.414             | 0.000          |
| Follow the syllabus         | 9.997  | 0.000             |                |

|                                    | <b>Statements</b>  | <b>Test Value</b> | <b>P value</b> |
|------------------------------------|--|-------------------|----------------|
|                                    | Encourage students to conduct research   | 9.104             | 0.000          |
|                                    | Have time and patience to clear up doubts  | 9.855             | 0.000          |
| <b>Infrastructure</b>              | Classrooms with air conditioning   | 4.749             | 0.000          |
|                                    | Adequate faculty capacity  | 8.238             | 0.000          |
|                                    | Classrooms with an adequate number of students   | 8.999             | 0.000          |
|                                    | Strong wireless network  | 3.203             | 0.001          |
|                                    | Comfortable classrooms and furniture   | 7.205             | 0.000          |
|                                    | Operating computers (IT unit)  | 7.418             | 0.000          |
|                                    | Adequate water service and sanitary facilities   | 6.210             | 0.000          |
|                                    | Relaxing environment with green areas  | 9.798             | 0.000          |
| <b>Extra-Curricular Activities</b> | Bringing industry experts to talk about their experiences  | 8.988             | 0.000          |
|                                    | Visits to career-related organizations   | 7.397             | 0.000          |
|                                    | Extra-academic workshops   | 7.718             | 0.000          |
|                                    | Extra academic trainings   | 7.598             | 0.000          |
|                                    | Sports activities  | 9.673             | 0.000          |
|                                    | Career seminars  | 9.851             | 0.000          |
| <b>Lectures</b>                    | Academic counseling when needed  | 9.375             | 0.000          |
|                                    | Class Hours: consistent class schedules  | 9.993             | 0.000          |
|                                    | Effectively schedule midterm and final exams   | 8.446             | 0.000          |
|                                    | Effectively schedule continuous assessments  | 9.409             | 0.000          |
|                                    | Adequate coordination among the professors who teach the same course   | 9.302             | 0.000          |
|                                    | Have the option to complete courses online   | 7.574             | 0.000          |
|                                    | Availability of academic counseling  | 9.763             | 0.000          |
|                                    | Mode of teaching   | 10.108            | 0.000          |
|                                    | Way of presenting  | 10.238            | 0.000          |
| <b>Library Service</b>             | Constant availability of books   | 9.662             | 0.000          |
|                                    | Provide an adequate service to the students  | 9.946             | 0.000          |
|                                    | Have enough room to work in groups   | 9.061             | 0.000          |
|                                    | Have enough computers with internet access   | 6.208             | 0.000          |
|                                    | Air conditioning service   | 5.780             | 0.000          |
|                                    | Comfortable furniture  | 8.151             | 0.000          |
|                                    | Respect the rule of silence  | 9.866             | 0.000          |
|                                    | Extend book loan periods   | 9.696             | 0.000          |
| <b>Other Services</b>              | Laboratories: availability of laboratories when required; teach the courses in the laboratory when required; | 8.605             | 0.000          |
|                                    | Job opportunities: internships; guidance to write your resume; guidance to succeed in a job interview        | 9.042             | 0.000          |
|                                    | Cafeteria: Avoid long queues; have enough space to have lunch and rest                                       | 6.469             | 0.000          |
|                                    | Photocopies: Avoid long queues   | 4.536             | 0.000          |
|                                    | On-campus banks  | -1.084            | 0.278          |
|                                    | Transportation   | 3.339             | 0.001          |
|                                    | Parking space  | 7.925             | 0.000          |

|                               | <b>Statements</b>  | <b>Test Value</b> | <b>P value</b> |
|-------------------------------|--|-------------------|----------------|
| <b>University Recognition</b> | University reputation. The institution should be listed in top university rankings | 9.757             | 0.000          |
|                               | International agreements and MOUs  | 9.757             | 0.000          |
|                               | Local agreements and MOUs  | 9.603             | 0.000          |
|                               | Employment status/ Positions of the pass-out graduates                             | 9.209             | 0.000          |

\*5-point Likert; 1– Strongly disagree; 2-Disagree; 3-Neutral; 4-Agree; 5- Strongly agree

\*Significance level- 0.05

## Conclusion

The findings of the Wilcoxon sign rank test suggest that out of eight parameters used in the study, curriculum planning, professors, extracurricular activities, infrastructure, library services, lectures, university recognition, and other services have significantly contributed to quality of higher education, while on campus banking of the other services have no any significant contribution on this. Moreover, out of the demographic and other factors, only the degree following shows a significance relationship with the undergraduate perception of quality of education, while gender, and year of studying show no any significance. The findings of this study will be of great significance for policymakers in higher education to uplift the quality of the Sri Lankan higher education system to produce quality graduates. The present study addressed the undergraduate perception regarding factors affecting the quality of education of the Faculty of Agriculture, the University of Ruhuna only. Therefore, it will be beneficial to consider graduate perceptions regarding other higher education institutions in Sri Lanka as a whole to develop a feasible quality assurance system in higher education. Since the quality assurance may vary according to the course contents, the type of the university (private, public), etc. the consideration of these factors as well accounts the generalizability of the present findings. In addition, here the present study considered students' perception only. The perception of other stakeholders such as academics, nonacademics, etc., may contribute to decide the quality. Therefore, taking the perception of them as well can decide the overall system. Due to the limitation of time, present study considered only students' perception. Though these limitations limit the generalizability of the results, present study gives a great avenue for further researchers to continue researches in this area.

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