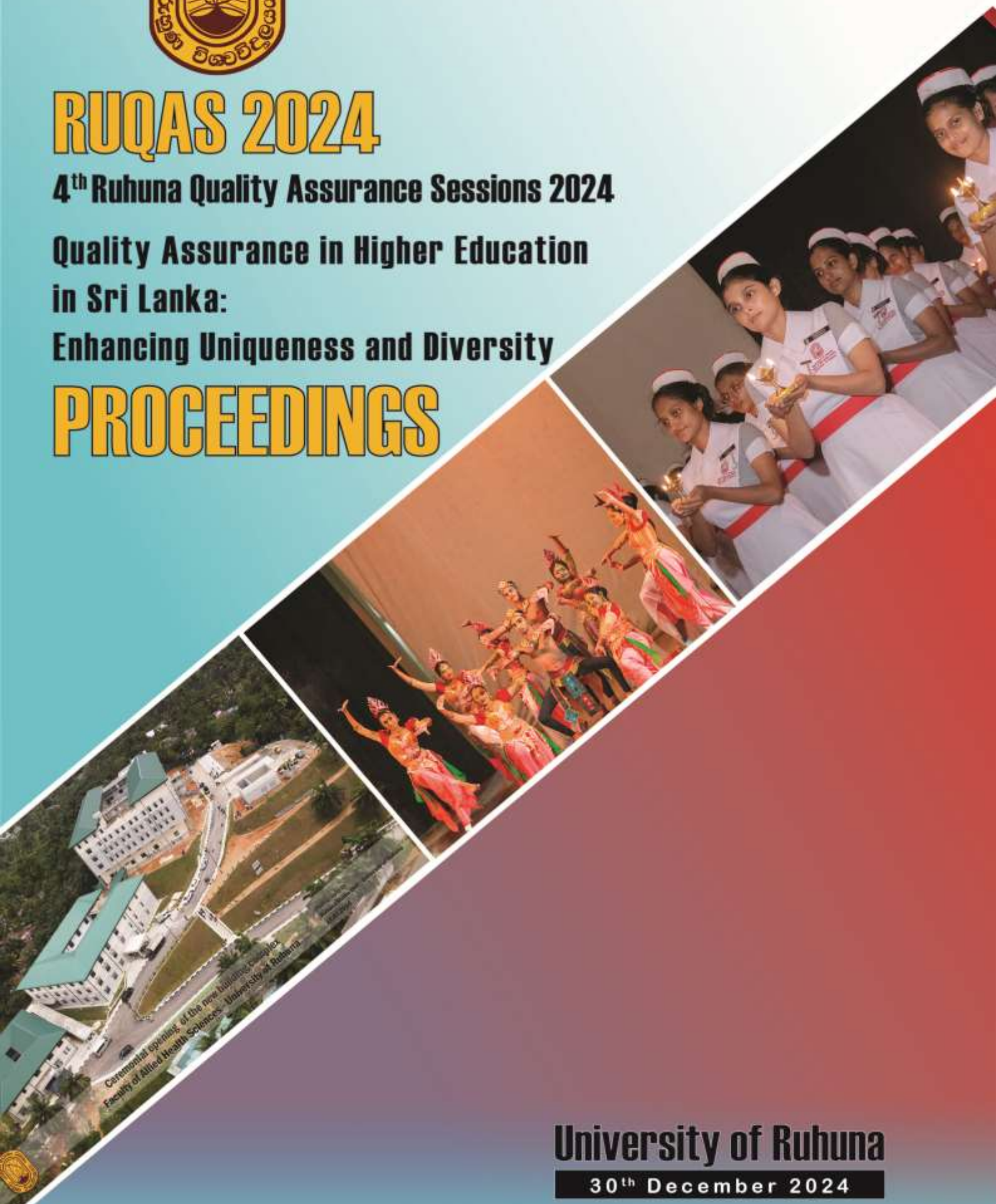
RUQAS 2024

4th Ruhuna Quality Assurance Sessions 2024

Quality Assurance in Higher Education in Sri Lanka: Enhancing Uniqueness and Diversity

PROCEEDINGS



University of Ruhuna

30th December 2024

RUQAS 2024

Proceedings

Ruhuna Quality Assurance Sessions 2024

Quality Assurance in Higher Education in Sri Lanka: Enhancing Uniqueness and Diversity

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Preface

Being the editorial board of Ruhuna Quality Assurance Sessions-2024 (RUQAS), it is our immense pleasure to present the 04th Proceeding of the sessions, which captured the latest advancements, ideas, and research findings in the field of Quality Assurance in Higher Education.

The Centre for Quality Assurance at the University of Ruhuna continues to play a pioneering role in promoting and sustaining quality initiatives throughout the national university system. RUQAS remains as the only conference in Sri Lanka exclusively dedicated in exploring the quality assurance in university education, providing a platform for the faculty within and beyond the university to formulate innovative ideas and practices among a quality-oriented audience

This year, RUQAS 2024 is launched with a theme "Quality Assurance in Higher Education in Sri Lanka: Enhancing Uniqueness and Diversity." This theme underscores the importance in cultivating an educational environment to celebrate diversity and promote unique strengths within the higher education sector. We are delighted to feature 13 extended abstracts, representing a rich variety of full research articles and insightful case studies, which reflect this year's focus on both maintaining and celebrating varied identities within Sri Lankan higher education system striving for excellence in quality standards.

We extend our sincere gratitude to the authors for their valuable contributions, which add depth to the ongoing discourse on quality assurance and express our appreciation towards the reviewers for their diligent work in helping shape these submissions to the high standards of this proceeding. We believe that this collection will inspire the thought, innovation, and commitment to enhance uniqueness and diversity of higher education in Sri Lanka through quality assurance.

Editorial Board
Ruhuna Quality Assurance Sessions 2024
University of Ruhuna
Sri Lanka.
30th December 2024

Message from the Competent Authority, University of Ruhuna

It is with great pride and responsibility that I extend my message for the 4th Ruhuna University Quality Assurance Session (RUQAS-2024). This year's theme, "Quality Assurance in Higher Education in Sri Lanka: Enhancing Uniqueness and Diversity," resonates deeply with the ongoing efforts to elevate the standards of higher education while embracing the unique strengths of our academic community.

Quality assurance serves as the cornerstone of academic and institutional excellence. In today's rapidly evolving educational landscape, it is imperative to adopt innovative approaches that not only uphold rigorous standards but also acknowledge and foster the diverse talents and capabilities of our students, staff, and academic programs. This diversity forms the bedrock of a robust and inclusive academic environment.

The University of Ruhuna remains steadfast in its commitment to promoting these values through the integration of effective quality assurance mechanisms across all spheres of the institution. By focusing on equity, inclusivity, and creativity, we aim to prepare our students to excel in an increasingly interconnected world and to contribute positively to society.

RUQAS-2024 serves as a vital platform for dialogue, collaboration, and innovation among academics and administrators. It encourages the exchange of ideas and practices that are critical to the continuous improvement of our higher education system.

I extend my heartfelt gratitude to the Director of the Centre for Quality Assurance and the organizing committee for their dedication to ensuring the success of this event. I trust that the insights and outcomes of this session will propel us closer to achieving our shared vision of a quality-focused, diverse, and inclusive educational landscape.

Senior Professor R.M.U.S.K. Rathnayaka
Competent Authority
University of Ruhuna

Message from the Chairperson, 4th Ruhuna Quality Assurance Sessions, University of Ruhuna

It is my sincere pleasure as the Dean of the Faculty of Allied Health Sciences (FAHS) and the Chairperson of the 4th Ruhuna Quality Assurance Sessions (RUQAS), to convey this message of heartfelt congratulations. I cordially welcome the chief guest, Keynote speaker, distinguished invitees, authors and participants for the RUQAS 2024.

It is an honour to host the 4th sessions in the premises of the FAHS though the construction process of the building complex is not yet complete. I take this opportunity to highly appreciate the commitment, courage of and readiness of the academic members of FAHS to take the challenge of hosting this session amidst many obstacles.

Centre for Quality Assurances of University of Ruhuna (CQA) has been doing a great service to the university by facilitating and promoting the activities such as quality of teaching, appraisal and recognition for excellence in teaching, curriculum preparations, revisions of undergraduate and postgraduate courses, program and institutional review processes, streamlining examination process, promoting research activities and best practices. Further it has facilitated starting new departments and new degree programs as well. CQA has made aware about plagiarism among academics. All above work has improved academic excellence in the University of Ruhuna.

The objective of RUQAS is to facilitate stimulating environment for academics and administrators to share their research findings and futuristic ideas in the area of quality assurance. I want to express my heartfelt appreciation for the huge efforts of the Director of the Centre for Quality Assurance and the organizing committee for organizing the 4th quality assurance session.

Further, I take this opportunity to express my gratitude to Senior Prof. Udith K Jayasinghe for accepting our invitation to deliver the keynote speech of the 04th RUQAS.

Finally, I would like extend my heartfelt best wishes for successful completion of RUQAS 2024.

Prof. Imendra Kotapola
Chairperson
RUQAS-2024
University of Ruhuna
Sri Lanka.

Keynote Speech of the Ruhuna Quality Assurance Sessions 2024

Enhancing Uniqueness and Diversity of Quality Assurance in Higher Education: Where Do We Go From Here?

Senior Professor Udith K. Jayasinghe

Vice-Chancellor, Wayamba University of Sri Lanka, Kuliyapitiya, Sri Lanka

The 'high-quality educational institutions', exist in both public and private sectors, have in generally been perceived as such by a range of stakeholders from professionals to the general public.

In light of this, from a considerable pool of definitions and the clearer and most informative conceptual models in the QA literature, we shall take into account of five discrete, yet interrelated, ways of thinking about 'quality'. These include:

(1) Exceptional – excellent and distinctive standards of academic achievement, where the excellence as "an outstanding high level of quality that distinguishes the best institutions from the rest", and the being distinctive can be thought of as "high class" and can potentially provide benchmarks against which 'high' standards can be evaluated;

(2) Perfection or Consistency – concentrate on the "processes and specifications" to be met (as opposed to inputs and outputs). This notion of quality is encapsulated in two interrelated ideas, i.e. "zero defects" and "quality culture" (but this notion is perhaps of limited value in higher education where the 'perfect results' are unlikely to be achieved;

(3) Fitness for Purpose – stresses the achievement of 'minimum standards' and the use of 'numerical indicators' to judge the quality of a product or service, i.e. extent to which its stated purpose (meeting customer specifications or conformity with the institutional mission) is met. In theory, the measuring is done by the institution, demonstrating that it fits either externally-prescribed standards (e.g. specified by a regulatory or professional body) or its own objectives (as specified in its values and mission statement for example);

(4) Value for Money – assesses quality in terms of 'return on investment' by concentrating on the connection between the quality of output ("Graduate") and the financial costs implied, and is often linked to the popular notions of efficiency and effectiveness, and

(5) Transformative – quality as a process of qualitative (or potentially quantitative) change from one state to [presumably] a higher-level state with emphasis on the enhancement and empowerment of students through the learning process.

Besides we shall recognize, in the contemporary literature, three types of challenges, one is different from other noticeably, that complicate the 'traditional' definitions of quality. The first challenge is that 'quality is in the eye of the beholder', meaning that the quality can mean different things to different stakeholders and be subject to a diversity of underlying drivers. The second challenge is that quality itself is a 'multidimensional concept', thus making a simple definition problematic. The third challenge is that quality is a 'dynamic concept', reflective of the larger and ever changing economic, educational, political, and social landscape (i.e. the 'quality ecosystem').

History of QA in Education illustrates its "political dimension": politics and quality have been continued closely intertwined. This is countered to some extent by the emergence of "semi-independent" quality agencies; however, which are not officially (if official, it is only partly), linked with relevant decision-making bodies, including the Ministry, but were defectively linked via management or board appointments. All these led to "detach" policy-making from policy implementation, which ultimately did not pave the way for greater independence from political interference.

Where do we go from here? the emergence of a greater role for stakeholders in the QA processes (both internal and external) must be welcomed and provides for a more holistic approach to QA leading to a greater likelihood of relevant outcomes and institutional learning.

As educators, we must have a 'guiding image' of what knowledge we believe the student should know and comprehend and what skills (i.e. 'hard' – applications and 'life' – attitudes) they should have acquired at various stages of their education. And we must 'evaluate' those attributes against 'targets' of what we think they should or need to know ('Key Performance Indicators').

No need to underline again and again that the student's success in many ways reflects on the teachers' ability to teach, transfer knowledge and develop skills in the student just as much as it depends on the student's inherent abilities and learning capacity. But who sets this target of knowledge that the student should achieve – the teacher themselves? The external examiner? the disciplinary profession? the government? or broader society? Then what is the interrelated role of Mission (of an institution), Passion (of a student), Vocation (by the market) and profession (by the government) in creating a value product (i.e. the Graduate demanded by the society). Today may be the best day / the best time to initiate pushing and pulling the key stakeholders towards that.

Research Papers/Extended Abstracts

on

Quality Assurance

Research Papers/Extended Abstract

Enhancing Quality Assurance in Medical Education Using Artificial Intelligence-Based Personalised Student Feedback System: 'Sisu Athwala'

Seneviratne, H.M.T.W.*, Manathunga, S.S. & Idirisinghe, I.A.W.W.

Department of Pharmacology, Faculty of Medicine, University of Peradeniya, Sri Lanka

***Corresponding author**: thilanka.medi@gmail.com*

Abstract

Mentoring and feedback play crucial roles in medical education, addressing various issues including exam performance, study techniques, stress management and personal preferences and is an integral component of quality assurance in medical education. However, time constraints and limited human resources pose significant challenges in providing personalised guidance to students. This study aimed to explore the utility of an AI-based personalised feedback system in addressing the needs of medical students at the University of Peradeniya, Sri Lanka. The study was conducted at the Department of Pharmacology. Students provided self-evaluations including previous exam results, study techniques, and stress coping strategies. An AI system, powered by GPT-4 large language model using a retrieval augmented generation pipeline, engaged in conversations with students, systematically addressing each point. The AI's responses were grounded on a curated database of existing literature on feedback. Expert human student counsellors evaluated the system's performance across multiple domains, including its ability to address key points, provide insightful suggestions, offer sufficient details, personalise feedback, use varied language expressions and introduce novel perspectives. Evaluator responses were largely positive. All evaluators agreed that the system effectively addressed key points of students' strengths in study performance, clearly identified weaknesses and offered insightful and novel suggestions for improvement. The majority of evaluators (70-90%) agreed that the system provided clear guidance on exam preparation, offered sufficient detail to guide effective study techniques and personalised feedback to address individual needs. Eighty percent of evaluators agreed that the system utilised varied language and expressions effectively. The AI-based personalised feedback system- 'Sisu Athwala' demonstrated promising results in providing comprehensive, tailored guidance to medical students. This approach shows potential in addressing the resource constraints faced by educational institutions while maintaining high-quality, personalised student support. Though not a replacement for human counsellors, this AI system could serve as a valuable complementary tool in medical education, enhancing the accessibility and consistency of student feedback and, also offers a scalable solution to enhance mentoring efforts, contributing to overall quality assurance in medical education.

Keywords: *Artificial Intelligence, Medical Education, Personalized Student Feedback System, Quality Assurance*

Introduction

The landscape of medical education is rapidly evolving, driven by advancements in technology and the increasing complexity of healthcare delivery. As medical students navigate their educational journeys, they face numerous challenges, including mastering vast amounts of information, performing well on assessments, managing stress and developing effective study techniques (Abdulghani et al., 2011). Traditional methods of feedback and counselling often fall short in addressing the diverse needs of students, leading to a demand for innovative solutions that can provide personalised support. In this context, artificial intelligence (AI) has emerged as a promising tool to enhance the educational experience and outcomes for medical students (*A Blueprint for Using AI in Psychotherapy*, 2023; Patil & Rasave, 2021). This paper presents the development and implementation of an AI-assisted system designed to provide tailored feedback to medical students, focusing on key areas such as Multiple-Choice Question (MCQ) and Short Answer Question (SAQ) performance, stress management and optimal study strategies.

Objective

This study was aimed, to design and implement an AI-assisted system using Retrieval Augmented Generation (RAG) to provide customised feedback to medical students at the University of Peradeniya, to address individual student performance, stress management, and study strategies; to assess the effectiveness of the AI system in improving students' performance on MCQs and SAQs; to ensure that the feedback is relevant and addresses specific areas of difficulty; to evaluate the effectiveness of the feedback system to effectively address key points of students' strengths in study performance, identify weaknesses and offer insightful and to offer novel suggestions for improvement.

Methodology

This study was conducted at the Department of Pharmacology, University of Peradeniya. Students provided self-evaluations including previous exam results, study techniques, and stress coping strategies.

The core components of this system include a Large Language Model (LLM), which is accessed through an application programming interface. LLMs, designed to process and generate human-like text, are foundational for interpreting user inputs and generating contextually relevant responses. To support efficient and relevant information retrieval, the system employs an embedding model. The embedding model transforms text data into high-dimensional numerical representations known as vectors, capturing the semantic essence of the content. These vectorized representations are then stored in a specialised vector database, which allows for the efficient querying and retrieval of relevant information based on cosine similarity for fast and accurate responses during real-time interactions. Additionally, open-source orchestration libraries are utilised to integrate these components seamlessly.

In the design of the RAG pipeline, experts in the medical education field developed a structured instruction set focusing on improving MCQ marks, SAQ marks, stress reduction methods and optimal study techniques.

To generate user queries, students were provided with a structured questionnaire to gather information about their concerns regarding MCQ marks, SAQ marks, stress level and study techniques.

The responses from this questionnaire were processed using a technique known as Representative Vector Summarization (RVS). It is a method that condenses the most salient points of the collected responses into a smaller set of representative vectors. By summarising the key information in this way, the system ensures that the most critical concerns of each student are distilled and captured accurately, minimising noise or irrelevant details. This user query was processed using the Open AI Application Programming Interface (API), specifically utilising the GPT-4-turbo LLM. The AI-generated outcome underwent post-processing to structure and refine the response, ensuring clarity and relevance.

Students were invited to use the newly developed ‘Sisu- Athwala’ tool. Volunteered students were given the chance to chat with the tool at their own pace inquiring into their strengths, weaknesses and plans for enhancing performance.

To evaluate the output of the tool, expert human student counsellors assessed the quality of the responses across several key metrics. These included the system’s ability to address the primary concerns outlined in the query, offer insightful and actionable suggestions, provide sufficient depth and detail in the feedback, and to personalise the response to each student’s unique situation. Additional metrics of evaluation included the diversity of language expressions used in the AI responses and the system’s ability to introduce novel perspectives or recommendations that went beyond generic advice. The feedback from these evaluations informed iterative improvements to both the prompt design and post-processing steps.

Results

During the design and development of the feedback system, significant new insights were gained, particularly in optimising how the AI-generated responses could be made more personalised and relevant to each student's concerns. One of the key learning was the importance of refining the prompt templates and embedding techniques to capture details from student queries.

The output of the 'Sisu-Athwala' tool was promising was on par with the Pendleton model of feedback. Sisu-Athwala always made sure to involve the student equally in the discussion instead of giving ideas alone. By prompting open ended questions, AI tool motivated the students to express their ideas freely.

In each step of discussion, the AI tool tried to address a certain issue at a time and then move to the next issue. Therefore, it gave only a small chunk of information at a time. This is a very good characteristic of an AI tool which makes the student more engaged in the feedback session.

Whenever AI is suggesting an option during the discussion, it gave clear examples which can be easily understood. Also specific remedial options were given following identifying defects. When suggesting to engage in an activity, it gave clear sources that can be used to achieve that particular task.

Evaluations by the human student counsellors were largely positive. All evaluators (100%) agreed that the system effectively addressed key points of students' strengths in study performance, clearly identified weaknesses, and offered insightful and novel suggestions for improvement. The majority of evaluators (70-90%) agreed that the system provided clear guidance on exam preparation, offered sufficient detail to guide effective study techniques, and personalised feedback to address individual needs. An 80% of evaluators agreed that the system utilised varied language and expressions effectively.

Discussion

Several studies have explored the use of AI in educational settings. For instance, AI-driven tutoring systems have been developed to assist students in various subjects, including mathematics and language learning (Baumgart & Mamlouk, 2022; Koedinger et al., 2013). These systems typically employ rule-based algorithms or machine learning models to provide personalised instruction and feedback. Despite these advancements, existing AI systems in medical education often face limitations. Many rely on pre-defined rules and lack the flexibility to adapt to individual student needs (Miner et al., 2019). Additionally, the feedback provided is sometimes generic and not sufficiently tailored to address specific areas of improvement. Furthermore, these systems may not adequately

address the psychological aspects of learning, such as stress management and study techniques, which are crucial for medical students (Muhammad, 2023).

Traditional AI tutoring systems often provide one-size-fits-all feedback, failing to account for the unique learning needs and preferences of individual students. Many existing systems focus primarily on cognitive skills, neglecting the affective and metacognitive aspects of learning, such as stress management and effective study strategies. Rule-based systems can be rigid, offering static feedback that may not evolve with the student's progress or changing needs. The feedback provided by traditional methods can be delayed, reducing its effectiveness in facilitating immediate learning and improvement. The AI-based personalised feedback system- 'Sisu Athwala' demonstrated promising results in providing comprehensive, tailored guidance to medical students. This approach shows potential in addressing the resource constraints faced by educational institutions while maintaining high-quality, personalized student support. Though not a replacement for human counsellors, this AI system could serve as a valuable complementary tool in medical education, enhancing the accessibility and consistency of student feedback and also offers a scalable solution to enhance mentoring efforts, contributing to overall quality assurance in medical education.

Conclusion

The AI-based personalised feedback system- 'Sisu Athwala' demonstrated promising results in providing comprehensive, tailored guidance to medical students. This approach shows potential in addressing the resource constraints faced by educational institutions while maintaining high-quality, personalised student support. Though not a replacement for human counsellors, this AI system could serve as a valuable complementary tool in medical education, enhancing the accessibility and consistency of student feedback and also offers a scalable solution to enhance mentoring efforts, contributing to overall quality assurance in medical education.

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Research Papers/Extended Abstracts

Voluntary Discontinuation and Timely Completion Rates of Undergraduate Programs: A Case Study in the Faculty of Agriculture, University of Ruhuna, Sri Lanka

Mudalige, S.K.K.[1], Gunawardena, O.B.[2*] & Atapattu, N.S.B.M.[3]

Non Academic Establishment Division[1], Farm[2], Department of Animal Science[3]
University of Ruhuna, Matara, Sri Lanka.
***Corresponding author:** oshang997@gmail.com*

Abstract

A higher timely-graduation rate with lower dropouts, either voluntarily or involuntarily, are among the prime concerns of any undergraduate programme. A clear understanding of the reasons for voluntary discontinuation of programs is needed to minimize such incidences. The objectives of this study were to analyze the rates of and reasons for the voluntary discontinuation and to determine the timely-graduation rates of the undergraduates who followed the degree programs in the Faculty of Agriculture, University of Ruhuna. The study collected information about the students who left three-degree programs; namely BSc Agricultural Resources Management and Technology (AT), BSc Green Technology (GT), and BSc Agribusiness Management (AB). Of the total of 140 students who had discontinued the programmes during five academic years from 2012 to 2016, 100 students could be contacted over the phone. The faculty has experienced a 40% decline in student enrollment from 2012-2016. Of the total of 1085 students enrolled during five academic years, 140 (12.9%) had discontinued the programs midway, mainly in the first semester (72.8%), followed by the second (10.71%), and third (7.1%) semesters. Some left even at the fourth (6.42%) or fifth (0.71%) semesters. The discontinuation rate showed no clear trend across academic years or degree programs. According to the results, 50% reported that they left the programs to follow job-oriented professional courses such as Medical Laboratory Technicians, Pharmacists, Nursing Officers and Public Health Inspectors. Another one-third (34%) had left the program directly for a job. Three per cent of the respondents admitted that they enrolled on the program without knowing what the programme would exactly be and the academic environment they would experience. They reported discontinuing the program after realizing the gap between their expectations and reality. Another 2% were dissatisfied with university subculture related activities, while for 1%, personal commitments such as marriage was the reason for programme discontinuation. All reported that they are happy with the programme-discontinuation decision. The first-time graduation rate of the faculty was 82±9.6. The GT (90.5%) had a higher first-time graduation rate than AT (78.9±0) and AB (78.1±7.0). It was revealed that financial difficulties

and insecure job prospects for the graduates are the primary causes of programme discontinuation. The study highlights the need for strategies to increase the timely graduation rates.

Keywords: *Completion, Discontinuation, Drop Outs, Program, Undergraduates*

Introduction

Out of the total number of undergraduates enrolled for a programme, a majority meets the stipulated requirements for graduation within the minimum permissible time. Though some of the others complete the programme taking longer time, a proportion of enrolled students opt to discontinue the programme. Higher timely programme completion rate and lower discontinuation rates are among the prime expectations of all. Larsen *et al.* (2013), defines programme discontinuation as the act of departing from a university without completing the degree requirements. A student might choose to leave university voluntarily due to financial difficulties or personal challenges. Voluntary discontinuation decisions are promoted by the external incentives such as availability of appealing job prospects. Situation where a student has to discontinue a programme against his or her wish is referred to as involuntary discontinuation. According to Tinto, (1975) involuntary discontinuation cases primarily stem from poor grades, often linked to inadequate academic integration. Sometimes, involuntary discontinuation instances are referred to as dropouts.

Concerns over voluntary discontinuation of undergraduate programs are growing both globally and locally. Discontinuation of an undergraduate programme has a range of negative impacts on individual students and their immediate families. Behr *et al.* (2020) discuss that on a personal level, discontinuation is often perceived as a reflection of personal failure and a waste of time and financial investments. Sosu and Pheunpha (2019) mentioned that from a societal standpoint, discontinuation could be seen as a misuse of tax resources since an individual dropping out occupies a university spot that could have been filled by another student. Programme discontinuation has negative impacts on the national human resource development. Moreover, it diminishes the efficient utilization of resources in state-funded higher education institutions.

Programme discontinuation needs particular attention under Sri Lankan conditions where the education in state universities is free of charges. However, as Bedregal-Alpaca *et al.* (2020) pointed out, undergraduates in state universities express several worries, ranging from questioning the universities' efficiency, and the quality of academic programs and the management system, which

could potentially harm the institution's reputation. Such negative concerns can also be a contributory factor for discontinuation decisions.

Systematic studies on this issue are required to introduce strategies to minimize the discontinuation of programs by undergraduates who have enrolled in programs. The results of such analysis are useful not only for specific Faculties/Universities but also for wider policymakers as well. This study firstly analyzed the reasons and rates of the voluntary discontinuation of the programs by the undergraduates who followed degree programs in the Faculty of Agriculture (FoA), University of Ruhuna. Furthermore, programme completion rates at different attempts were also studied.

Methodology

The study followed two stages. In the first stage, information about the students who followed all three-degree programs namely; BSc Agricultural Resources Management and Technology (AT), BSc Green Technology (GT), and BSc Agribusiness Management (AB) was collected from records available in the FoA and the Students' Affairs Branch. Collected information included the number of students in each academic year, the number of students who had left the program each semester, and the number of students who graduated at the first, second, third, and fourth attempts. Records of the total number of 140 students who discontinued the programmes showed that they are from all over the country. Considering the time and resources required for meeting all of them physically, in the second stage, those students were contacted over the phone. A pre-tested questionnaire containing both structured and open-ended questions was employed to investigate the reasons for abandoning the program. Information about the students of four academic years starting from 2011/2012 was collected. Therefore, the experimental procedure can best be identified as a mixture of qualitative-exploratory and descriptive types. After cycles of attempts, 100 (71.4%) students were able to be contacted over the phone. For this study, degree programmes and academic years were considered as the independent variables while dropout rates, timely-completion rate and the reasons for discontinuation were considered as the dependent variables. Descriptive statistics were used to interpret the results.

Results and Discussion

Over the period from 2012 to 2016, a total of 1085 students had enrolled for three undergraduate programs offered by the FoA. The mean annual student enrollment for AT, AB, and GT programs were 134 (range 112-162), 47 (range 36-59) and 36 (range 21-62), respectively. Surprisingly, the student enrolment at the FoA has reported a 40% decline during the period concerned. The reduction was as high as 66% for GT, followed by 66% and 39%, respectively for AB and AT programs. The

reasons for the above sharp decline in student enrolment for all programs are not known. However, it needs to be noted that the situation has been improved substantially during the recent annual-enrolment-cycles.

Aggravating the situation, even among those who enrolled, as high as 12.9% (140 students) of the undergraduates had opted to leave the program midway at various stages of their respective academic programs (Table 1). The highest percentage of program discontinuation was reported in the first semester (72.8%) followed by the second 10.71% and third 7.14% semesters. In line with our findings, Christie *et al.* (2004) also reported that the majority of discontinuation decisions are taken during the first year. Though the tendency to leave the program declined gradually as the program progressed, some undergraduates had left the program even at the fourth (6.42%) or fifth semester (0.71%).

Discontinuation of the programs has numerous negative implications. Firstly, abandonment of the programme, after being competitively selected on the Z score of the GCE (A/L) examination, can be considered a deprivation of an opportunity for other students who qualified to follow the programs. Since education in Government Universities in Sri Lanka is free of charge, midway discontinuation of an undergraduate program can be viewed as a waste of public resources as well. Thirdly, apart from wasting their productive time and resources, those who left the programs might have missed or delayed the opportunity of becoming a graduate. The rate of discontinuation showed no clear trend. For example, the highest percentage of discontinuation (19.3%) was reported in 2012 while that of 2015 was the lowest (6.4%). Among AT and GT students, the discontinuation rate was highest in 2012 while the same was highest in 2016 for AB. Among AB students, the discontinuation percentage was as high as 30% in 2016.

The study could get the views of 100 out of 140 (71%) students who had discontinued their programs. Around one third (34% of them had left the program to engage in a job. Some of them followed courses while doing a job. An Australian study (O'Keefe *et al.,* 2011) showed that a majority of undergraduates who discontinued the programs opted to transfer to alternative programs which are more aligned with their career paths. In the present study, 50% reported that, after leaving the undergraduate programs, they enrolled to follow job-oriented professional courses, particularly in the field of health sector. The most popular such choices include Medical Laboratory Technicians (21%), Pharmacists (12%), Nursing Officers (12%) and Public Health Inspectors (5%). However, it needs to be noted that none of them enrolled for other undergraduate programs. All the above choices guaranteed Government employment at the end of successful completion with an allowance during the training period. Christie *et al.* (2004) suggested that discontinuation decision on a degree program is a result of a complex interaction among a number of student-related, social and institutional factors.

Discussions with those who left the undergraduate program for a job or job-oriented professional non-degree course, revealed that the decision, though mainly influenced by financial consideration, was taken after taking many aspects into careful consideration. An overwhelming majority said that they had to select the situation of guaranteed non-graduate level employment opportunity against the degree which offers no guarantee of an employment after four years of time, effort and resources. All the participants interviewed declared that they were quite happy with the decision they have taken.

Only 3% said that they enrolled the program with little knowledge about what they were supposed to study and in which set-up. Those respondents further said that they discontinued the program, having realized the gap between what they expected and what was experienced. 2% of the respondents were not happy with some activities they had to comply with "University subculture" such as political involvements, protests and pasting posters etc. Personal commitments such as marriage 1% were of minor reasons for program discontinuation.

Table 01: Voluntary programme discontinuation and degree completion rates of three undergraduate programs.

Degree Program	Registered	Discontinuation %	Graduation at proper attempt %	Graduation 2nd attempt %	Graduation 3rd attempt %	Graduation 4th attempt %	Yet to graduate
AT	673	12.03	78.92	6.82	0.74	0.29	7
AB	233	17.16	78.14	2.57	0.85	0.43	3
GT	179	10.61	90.5	0.55	0.55	0	0
Total	1085	12.90	82.0	4.79	0.73	0.27	10

Successful completion of all required examinations and other conditions within the minimum permitted time period is considered the timely graduation or first time-graduates (Table 01). The first attempt graduation percentage was 82±9.6. Though the situation we observed is similar to the timely graduation rate reported by Tentsho *et al.,* (2019) for Thailand (81%), attention should be paid to increase this percentage. A US study (Letkiewicz *et al.,* 2014) has shown that students who live or work on campus, have a better academic record and who met with a counselor or advisor are more likely to complete the program without overstaying. The first-time graduation level of GT (90.5%) was higher than that of AT (78.9±10) and AB (78.1±7.0). All the GT students who had not discontinued the program have successfully completed the program after 3rd attempt. However, 7 AT and 3 AB students were yet to complete their respective program, even after the 4th attempt.

Reasons for the higher timely-graduation rate of GT students are not clear and thus warrant further studying. Enabling better academic and personal guidance and supervision, batch size was lower for

GT and AB programs than that of AT. In general, the Z score at the entry of the university was higher for GT for the time period considered in this study. Same time, higher variability in Z score among the students was a common feature for all programs. A comprehensive review by Aciro *et al.*, (2021) reported no relationship between entry level performance and graduates' academic performance. Therefore, lower entry level qualifications, in terms of Z score cannot be presented as the major reasons for a lower timely completion rate. Meanwhile, Kyoshaba, (2009) and Aspelmeier *et al.*, (2012) concluded that university-level academic performance is influenced by a range of factors including the parents' educational background, family size, type of high school attended, and the socio-economic status of the student. Therefore, strategies that aim at increasing timely-graduation rate should ideally be based on a range of considerations.

Conclusion

This study found a higher midway voluntary discontinuation rate for all three-degree programs for the period considered in this study is mainly due to financial reasons, over which the university administration has little or no control. Strategies need to be introduced to improve the timely program completion rates, particularly that of AT and AB students.

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Research Papers/Extended Abstracts

Scaling of Assessment Marks: A Case in the Faculty of Science, Eastern University, Sri Lanka

Elango P.

Department of Mathematics, Faculty of Science, Eastern University, Sri Lanka

***Corresponding author**: elangop@esn.ac.lk*

Abstract

Scaling of marks or standardizing is a moderation process for the assessment marks to make a decision about the boundary points between the students' marks and the grades on a course. Scaling for assessment marks is done for the entire students of each course offered by the faculty. Scaling is not used to adjust for an individual student's marks, and the scaling is not used to adjust the final mark at the programme level when awarding a degree for the programme. In other words, scaling is used only to change the grade that contributes to the overall grade point average for the entire students for a particular course. In this study, the scaling methodology adopted by the Faculty of Science, Eastern University, Sri Lanka to assign letter grades for the raw marks obtained by the undergraduates for all the general degree courses was considered. The faculty prepared this scale grading table by reducing two or three marks from the minimum marks for each grade and then maintaining similar intervals in the original table. There were four different columns (tables) for the scaling of marks. Based on the average marks of a particular course, the appropriate column was selected and the grades were assigned. By applying the scale grading table, when the average marks were very low, the lower letter grades were improved to better letter grades while when the class average was high, there were no significant changes occurred in the letter grades awarded.

Keywords: *Assessment Marks, Class Average, Letter Grades, Scale Grading Table*

Introduction

Scaling of marks is the systematic adjustment of marks for an entire cohort of students for a course/module in order to ensure the final marks better reflect the achievement of the students. Scaling is in practice in many universities in many countries. The universities published the policies of scaling in their university webpages for the students and the general public. The Oxford University allows the scaling of marks on a paper is only appropriate when the examiners can supply evidence for at least one of the following scenarios (University of Oxford, 2023).

a. A paper was more/less difficult than in previous years

b. An optional paper was more/less difficult than other optional papers taken by students in a particular year

c. A paper has generated a spread of marks which is not a fair reflection of student performance on the University's standard scale for the expression of agreed final marks.

The Oxford University uses the following algorithm methods for scaling:

- Simple addition – a fixed number of marks is added to either (i) a particular assessment component of a script, or (ii) the final script mark, as long as no scaled marks are then greater than the total marks available for the script.

- Simple subtraction – a fixed number of marks are subtracted to either (i) a particular assessment component of a script, or (ii) the final script mark, as long as no scaled marks are less than 0.

- Multiplication by a factor – all marks on a script are multiplied by a particular factor (for example 0.96).

The decision to adjust marks using scaling is made by a Board of Examiners for Units (BEU) after considering specific statistical data. If the marks count towards a classification, the external examiner (an academic from a similar department at another UK university) must be consulted and their views are considered by the BEU (University of Bath, 2024). In Cardiff University, the decision to adjust marks using scaling is made by an Examining Board exercising its collective academic judgment after considering specific statistical data. The Policy is very clear that it should not be used to change the marks to achieve an 'ideal' distribution of results. The scaling is used to either increase a spread of students across the mark range or to re-align a high or low average attainment (Cardiff University, 2023). This university follows some simple scaling methods mentioned below.

- Addition of marks – an agreed percentage is added to each mark.
- Multiplication by a factor – each mark is multiplied by an agreed factor.

Further to the above simple methods, the university follows some other methods of scaling are given in their scaling policy.

In the University of Edinburgh, the Board of Examiners advises the correct method to use for the scaling. For that purpose, this university follows the following methods (University of Edinburgh, 2024):

- Angoff Linear Interpolation Method: in this method, the minimum pass mark value and the excellent mark value are changed. For example, for an undergraduate course, the University fixed the minimum pass mark value as 40 and the excellent mark value as 70. The scaling process will decide the new values, for example, as 35 and 65. The students' marks adjusted accordingly.

- Percentage Adjustment: This method is used to adjust marks within a mark range by a percentage, either positive or negative, in order for the marks to be scaled up or down.

- Linear Adjustment: This method will adjust marks within a range by a specified number, either positive or negative, in order for the marks to be scaled up or down.

The University of Southampton's scaling policy (University of Southampton, 2023) stated the time for the scaling. This stated that a discussion of whether or not to undertake scaling will often occur before Pre-Boards meet, recommendations to scale and a discussion of the rationale for scaling will be made by Pre-Boards. Scaling decisions must be confirmed by the relevant Boards of Examiners. The minutes of the Board of Examiners must include a written explanation of the reasons for scaling and the mechanisms used to undertake scaling. The university accepted the following scaling practices:

- Add a fixed number (for instance 3) of marks to all marks on a particular assessment component, as long as no scaled marks are then greater than 100;

- Subtract a fixed number (for instance 5) of marks from all marks on a particular assessment component, as long as no scaling marks are then less than 0;

- Multiply all marks on a particular assessment component by a particular factor (for example 0.96).

In the literature, the comparison and scaling of student assessments for several subjects was studied by Manly, (2018) and proposed the average marks to be used to grade the students. This paper proposed a method of comparing subjects based on cumulative sums of differences between subject marks and student mean marks.

McLachlan, & Susan, (2001) considered the methods of aggregation. They suggested that the arithmetic means should not be calculated during aggregation and the ways of converting scores to grades were discussed. They suggested that the median should be calculated as the measure of overall performance, not the arithmetic mean (McLachlan, & Susan, 2001).

A study of the influence of the system called 'SCALING' used in Anglo-Saxon universities done by Aunon et.al (2020) on the marks of the students in engineering school. On some occasions, procedures for conditioning the initial marks obtained by a student group in a first phase of evaluation process must be modified up or down. The SCALING system is the official modification of the students' marks in the different groups, subjects, courses depending where it is applied. This modification is done through statistical adjustments, mathematical models or other criteria. Scaling of marks is studied and some methodologies of scaling are presented in the previous publications (Adams, & Wilmut, 1981; Bose & Choudhury, 1955; Daley, & Seneta,1986; Daley, 1995; Gunawardana et al., 2022).

This study assessed the implementation of the scaling process at the Faculty of Science, Eastern University, Sri Lanka. The faculty observed that the academic performance of the general degree under graduates of the Faculty was very low and many students struggled to complete their degree programme on time. In addition, the academic performance of the first year students was very much lower than the expected grades. Considering this situation, the faculty introduced a scaling method for all the general degree courses. It prepared a table with four columns with the raw marks mapped to letter grades. The appropriate column for each course was selected based on the average marks of the students who sat for the particular course. This study considered one first year course offered to three different batches and analyzed the changes in the letter grades assigned to the students.

Methodology

Algebra is a two credit course taught at the first year, first semester for the physical science students at the faculty. The raw marks of the first year, first end semester examinations for the three different batches of the students were considered. The faculty initially used Table 1 as the grading table for assigning the letter grades against the raw marks and considered it as the original grading table.

Table 1: Original grading table

Marks	Grade	Marks	Grade
≥ 75	A+	45 - 49	C+
70 – 74	A	40 - 44	C
65 - 69	A-	35 - 39	C-
60 - 64	B+	30 - 34	D+
55 - 59	B	25 - 29	D
50 - 54	B-	≤ 24	E

To avoid the higher failure rate in the end semester examinations, the faculty introduced a scaling method to upgrade the failing grades. For this purpose, the faculty prepared a grading table with four column of raw marks with the assignment of letter grades. Based on the average marks of the class in the end semester examination raw marks, the appropriate column is selected and assigned the relevant letter grades. The scale grading table used by the faculty at present is given in Table 2. The faculty prepared this scale grading table by reducing two or three marks from the minimum marks for each grade and then maintaining similar intervals in the original table.

Table 2: Scale grading table

Grade and Grade Points		Average Marks of the Class			
		60 – 100	55 - 59	50 - 54	35 - 49
		Marks Ranges to be mapped			
A+	4.00	80 – 100	80 - 100	80 - 100	80 - 100
A	4.00	75 – 79	74 - 79	73 - 79	71 - 79
A-	3.70	70 – 74	68 - 73	65 - 72	64 - 70
B+	3.30	65 – 69	61 - 67	58 - 64	57 - 63
B	3.00	60 – 64	55 - 60	50 - 57	49 - 56
B-	2.70	55 – 59	50 - 54	46 - 49	45 - 48
C+	2.30	50 – 54	46 - 49	42 - 45	40 - 44
C	2.00	45 – 49	41 - 45	38 - 41	37 - 39
C-	1.70	40 – 44	37 - 40	33 - 37	32 - 36
D+	1.30	35 – 39	32 - 36	29 - 32	28 - 31
D	1.00	25 – 34	23 - 31	21 - 28	20 - 27
E	0.00	00 – 24	00 - 22	00 - 20	00 - 19

The raw marks for the first year, first semester course on Algebra were analyzed considering three batches of students: 2018/2019, 2019/2020, and 2016/2017. The class average of the first two batches was law while the class average for the 2016/2017 batch was high. Initially, letter grades were

assigned to each student's raw marks using the original grading table. Subsequently, letter grades for each batch were assigned based on the scale grading table currently in use for the grade assignments.

Results

The letter grades for the raw marks of the 2018/2019 batch were assigned using both tables. Since their class average was in the range of 35-49, the last column of the scale grading table was used to assign the letter grades. The distribution of assigned letter grades for 2018/2019 batch using both grading tables is illustrated in the Figure 1.

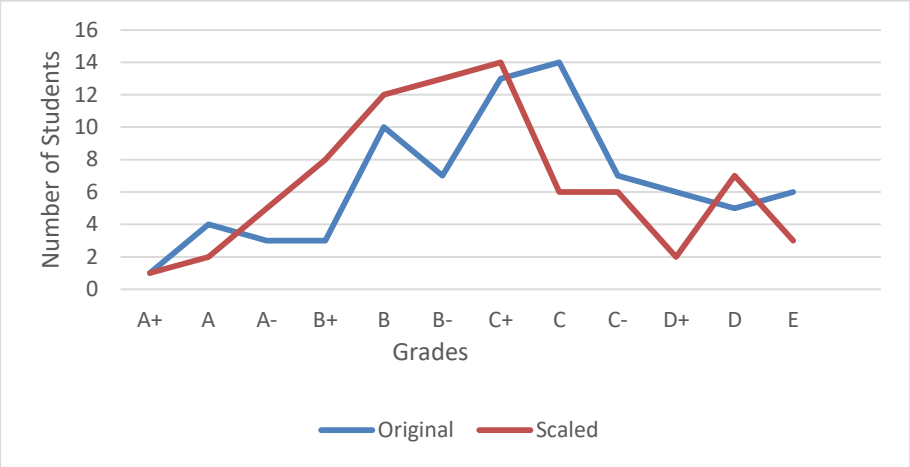

Figure 1: Distribution of grades for the intake batch 2018/2019.

There was a decrease in the number of letter grades at "C"/below when the scale grading table was used while there was an increase in the number of letter grades at "C"/above.

Since the letter grade C has a GPA value of 2.0 and the minimum GPA required for the award of a degree is 2.00, a student should obtain an average of C grade in all the courses. Considering this fact, the letter grade C was considered as the passing grade in this analysis. When the original grading table was used, 30.34% of students obtained the letter grades below the C, while it was reduced to 22.78% when the scale grading table was used.

Next, the raw marks for the 2019/2020 batch of students were considered. Their average marks have fallen in the range of the last column of the scale grading table. The letter grades for this set of raw marks were awarded using both the original grading table and the scale grading table and presented their letter grade distribution in the Figure 2.

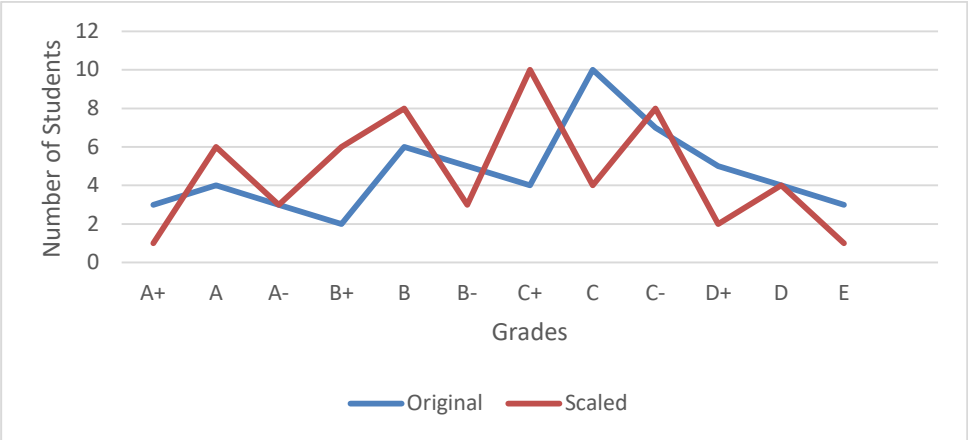

Figure 2: Distribution of grades for the intake batch 2019/2020.

Similar to the above, there was a decrease in the number of letter grades at "C"/ below when the scale grading table was used except a slight increase in the C- grade. Further, there was an increase in the number of letter grades at "C"/above except the letter grades A+ and B-. Further, when the original grading table was used, 33.93% of students obtained the letter grades below the C and it was reduced to 28.57% when the scale grading table was used.

Finally, the raw marks of the 2016/2017 batch were considered and its class average was higher than the other two batches. The class average for this batch has fallen in the range 55-59 and the second column of the scale grading table was used to award the letter grades. The grades assigned according to both the original grading table and the scale grading table were presented in Figure 03.

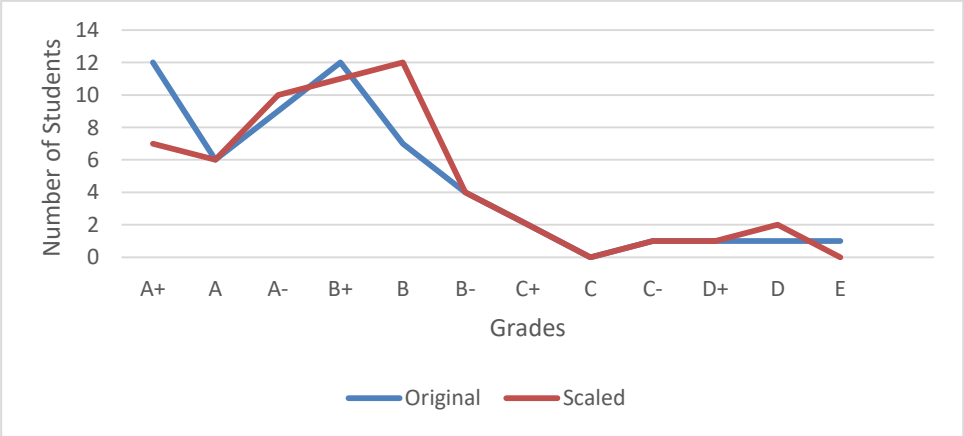

Figure 3: Distribution of grades for the intake batch 2016/2017.

There was a decrease in the number of letter grades below the C grade except for the D grade. In addition, there was an increase in the number of letter grades above the C grade except for the grades A+ and B+. Further, there was no change in the percentage of students obtaining the letter grades below the C grade which is equal to 7.14%.

Conclusion

When the class average of raw marks is very low, the scale grading method decreases the number of letter grades below C while increases the number of letter grades above C. In contrast, when the class average is high, applying the scale grading method does not significantly alter the letter grades obtained by the students. Therefore, it is recommended to apply the scale grading method only when the class average is low.

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Research Papers/Extended Abstracts

Fostering Gender Equality in Higher Education: Integrating Outcome-Based Measures into Review Manuals to Enhance the Quality Assurance in Sri Lankan State Universities

Shivany, S.[1], Dilogini, S.[1], Jegashini, K.[1*] & Thasika, T.[2]

Department of Marketing[1], Department of Human Resource Management[2]
Faculty of Management Studies and Commerce, University of Jaffna, Sri Lanka
***Corresponding author:** jega2709@gmail.com*

Abstract

The field of higher education in Sri Lanka is undergoing significant changes to align with global standards and foster inclusive growth. However, a notable gap exists among universities in measuring gender equality and fostering inclusive growth through a quality assurance process. The purpose of this paper is to address the gap in measuring gender equality through quality assurance review manuals published by the University Grants Commission (UGC) for reviewing programmes and institutional performances. The goal is to emphasise the necessity of incorporating gender equality measures into academic evaluation frameworks and to propose strategies for implementing these measures to foster a more inclusive and equitable educational environment. A qualitative study utilised document analysis of manuals to uncover gaps in the quality assurance criteria for gender equality at state universities in Sri Lanka. To gain deeper insights, six focus group discussions were conducted with stakeholders, exploring their perspectives on gender measures in quality assurance. The manuals overlook crucial steps for promoting gender equality in higher education, such as equal facilities, gender-sensitive curriculum, increased women's participation, professional advancement, work-life balance, and anti-harassment policies. Stakeholders emphasised the need for ten essential criteria as themes: policy implementation, representation, access to resources, curriculum inclusivity, support services, grievance mechanisms, career progression, work-life balance, students' experience, and outcome-based measures. Integrating these ideas into institutional processes can foster a truly equitable academic community, improving the educational experience for all students and staff. Greater progress toward gender equality can be made by higher education institutions in Sri Lanka by addressing these gaps and putting the suggested standards into practice. In the end, this will improve academic performance while fostering a society that is more inclusive.

Keywords: *Gender Equality, Higher Education, Outcome-based Measures, Quality Assurance, Review Manuals*

Introduction

The equitable treatment, involvement, and access of people of all genders in higher education institutions is referred to as gender equality in higher education This includes providing equal opportunity for enrolment, retention, academic performance, and leadership responsibilities. Universities can play a significant role in advancing gender equality, diversity, and inclusion in society. Universities, however, continue to be gendered and gendering institutions (Rosa & Clavero, 2022). The promotion of social responsibility in higher education institutions can be significantly enhanced by quality assurance, therefore gender equality concerns should not be divorced from high-quality work. As argued in the article, quality assurance includes monitoring programs to make sure students are receiving skills and competencies which are relevant to society while ensuring that higher education institutions are free from prejudice and gender bias. Grünberg, (2011) asserts that several strategies can promote gender equality in higher education including developing gender-sensitive curricula, encouraging gender studies, increasing women's involvement in decision-making, removing obstacles to their professional advancement, ensuring a work-life balance for staff members, and implementing anti-harassment policies.

Globally, there is a growing recognition of the need for gender equality in all sectors, including higher education. Gender equality in higher education is crucial for general efficacy, justice, and quality of academic settings and the larger social milieu. The advancement of justice and fairness, academic excellence, institutional performance, access and participation, professional and academic development, societal inequality, legal and ethical compliance, inclusive learning environments, and global competitiveness are all impacted by gender equality in higher education. which at the very least call for addressing the gender segregation of study fields, creating curricula that are sensitive to gender, encouraging gender studies, increasing women's participation in decision-making and removing barriers to their career advancement, ensuring work-life balance for employees, and enacting anti-harassment policies (Grünberg, 2011).

The United Nations Sustainable Development Goals (SDGs), particularly Goal 4 (Quality Education) and Goal 5 (Gender Equality), highlight the importance of gender equality for equitable quality higher education. A significant amount of SDG 5 literature is devoted to the topics of gender inequality, discrimination against women, and women's empowerment in the higher education field. According to Xiaoxue et al. (2017), women are still underrepresented in key community, business, and government leadership and decision-making roles. Although significant progress has been made, women still occupy less than 50% of senior and middle management positions worldwide, with less than one-third of these roles held by women (UN Women, 2018). Ineffective hiring procedures, unfavourable

institutional environments, and unconscious bias are significant obstacles preventing women from assuming leadership roles. In the long run, addressing these problems from a management standpoint might facilitate reaching SDG 5 targets.

A study by Miroiu & Mihaela, (2003), has shown that numerous graduate and undergraduate programs ignore, neglect, exclude, or marginalise the relevance of women's experiences, demonstrating a pervasive gender-blindness. Students have the opportunity to opt out of gender-specific classes, such as gender and politics or gender economics since they are elective. Pupils who don't have this deep-rooted comprehension of how events and policies impact men and women differently are not prepared to deal with the range of demands that the population will face in the workplace (Verge & Alonso 2019).

Research indicates that numerous graduate and undergraduate curricula “ignore, overlook, exclude” the relevance of women’s experiences. Female academics typically handle the majority of “institutional housekeeping”, which includes curriculum development, teaching, and student counselling while holding more disadvantaged positions (Virginia, 2004; Winslow, 2010). The specialised bodies within universities tasked with guiding the implementation of these policy instruments, known as equality units, are understaffed, and underfunded, and remain relatively peripheral within the organisational structure. Gender is far from being mainstreamed across higher education institutions' policies (Verge & Cabruja, 2017). Their literature review and cross-country analysis reveal that top-level academic environments in Bangladesh, China, and Finland are predominantly male-dominated, creating a significant barrier to achieving equal academic leadership. This phenomenon is often referred to as the "glass ceiling" in the literature (Blackmore et al., 2015; Husu, 2000; Morley, 2013; Westoby et al., 2021). The underrepresentation of women and the dominance of men in academic leadership are evident (Kohtamäki et al., 2024).

A recent narrative review by Westoby et al. (2021) thoroughly examined the current state of women academics in British higher education, highlighting that women's leadership capacities and skills are crucial (Morley, 2013). Nonetheless, gender bias within academia is a global issue (Aiston & Fo, 2021; Blackmore et al., 2015; Morley, 2013), as discussed from various perspectives in Bangladesh, China, and Finland (Kohtamäki et al., 2024).

Despite the small number of gender-related academic leadership studies in these countries, the significance of gender-neutral academic leadership is recognized in research as an unresolved societal problem. A study identifies two common gender research themes across the three countries: country-specific studies addressing cultural, historical, and structural obstacles and contexts, and practical,

individual-level obstacles to becoming academic leaders. All three countries face similar challenges in these areas (Kohtamäki et al., 2024).

Two other possible explanations come to light: first, reviewers simply do not understand the gender perspective (Riegraf & Weber, 2017), which is often confused with gender balance (European Commission, 2017); second, audit panels do not consider gender equality to be a relevant theme of high-quality work, or they prioritise what they think is most important (Stensaker, 2000) due to time constraints. Gender mainstreaming implementation is contingent upon assumptions of what constitutes legitimate and credible activity. Therefore, by neglecting themes related to gender equality, quality assurance leaves gender disparities unchecked and helps to maintain the gendered micropolitics of academia (Morley, 2001; Whittington & Smith-Doerr, 2008). Higher education institutions are more likely to consider gender equality goals if their evaluation work is gender-sensitive, because the standards being evaluated highlight aspects of institutional performance that are politically valued (Dahler, 2007).

Similarly, gendering quality work should facilitate interactions between quality assurance organisations and pertinent external parties in the field of gender equality policy, perhaps yielding fresh insights that support the ongoing enhancement of quality frameworks. It is also important to remember that the 2030 agenda for SDG for gender-sensitive follow-up and evaluation procedures at all levels. Thus, including gender in quality assurance could increase its influence on society. For instance, the Times Higher Education University Impact Rankings began assessing how well 2019 institutional performance met the SDGs, particularly the gender equality SDG number five. In addition to being a fundamental human right, SDG 5 acknowledges that gender equality is also necessary for creating inclusive societies, fostering economic growth, and attaining sustainable development.

They thus offer an ideal environment for investigating how quality assurance might be re-examined from the standpoint of gender equality. To start or continue the gender mainstreaming work within higher education institutions' regulation and governance, core activities (research, teaching, outreach, and cooperation), support and management processes (Peterson, & Jordansson, 2022). These guidelines serve as a reminder to higher education institutions that gender perspectives should be applied to all organisational levels and policies. Additionally, corresponding self-assessment exercises have been developed to assist higher education institutions in identifying strategies for change and bringing gender inequalities to light through statistical and in-depth qualitative analyses of the organisation.

Various strategies that can enhance an organisation's ability to accommodate individuals who have different inequalities have been proposed, tested, and studied. These strategies include staff training on

bias (Dobbin & Kalev, 2018), grievance procedures (Hassan et al., 2021), focused hiring (Leslie, 2019), and action plans for gender equality (Ní Laoire et al., 2021). When determining which gender equality initiatives can be successful, the context is important (Ní Laoire et al., 2021; Tienari et al., 2002). It is essential to review gender equality sections of manuals used to evaluate university program quality assurance to make sure that these offerings are inclusive and equitable.

Sri Lanka has made commitments to gender equality in higher education through various policies and legal frameworks (Pappu, 2021). UGC, Sri Lanka has been considering quality assurance as important in higher education and ensuring the important criteria, for assessing the performance of programmes and institutions as well as in ensuring quality assurance in higher education. Gender equality lowers biases, ensures fair access and opportunities, fosters a varied and inclusive atmosphere, and improves the overall efficacy of educational institutions which have a substantial positive impact on the quality of higher education (UNPA, 2023). Better academic results, more creative research, and a society are the outcomes of gender equality. Even though the importance of gender equality for inclusive higher education is addressed and strategies are implemented, the assessment of that outcome has not been measured through quality assurance review in Sri Lankan state universities. Gender equality is seriously lacking in the quality assurance review guidelines used in Sri Lanka. It may be essential to incorporate outcome indicators related to gender equality in these guides to ensure and advance inclusivity and fairness in a variety of contexts, particularly in the state universities of Sri Lanka.

Manuals for quality assurance (QA) reviews are essential for establishing guidelines and guaranteeing the efficiency of diverse procedures in a range of sectors. There is a clear lack of integration of gender equality measures in these guides, notwithstanding their importance in forming organisational practices. Numerous facets of quality assurance procedures, such as their efficacy and adherence to industry standards, have been examined in recent research. However, there are few studies that particularly address the gender equality metrics in QA review guidelines. Previous studies have focused mostly on the procedural and technical components of quality assurance, giving little attention to how gender equality is either considered or ignored.

Closing this research gap is essential to guaranteeing that QA review guidelines support gender equity in addition to maintaining high levels of quality. Organisations can improve their QA procedures, create a more welcoming workplace, and eventually increase organisational performance and compliance with gender equity criteria by looking into and implementing gender equality initiatives.

Objectives

- To identify the gap in gender equality indicators that are included in the manual to assess the quality assurance of the performance of programmes and institutions.
- To understand the stakeholder's perspectives on the importance of the status of gender equality and the gap in equality indicators identified in the manuals.

Methodology

A qualitative methodology was used to extensively analyse the gaps in evaluating gender equality within quality assurance evaluations and to determine which gender equality criteria should be added to these assessments. To obtain a thorough grasp of current gender equality initiatives and stakeholder perspectives on them, the research design combined document analysis with stakeholder feedback. A comprehensive collection of programme reviews and institutional review manuals for assessing the quality of the state universities in Sri Lanka was enrolled. The four manuals (undergraduate programme review manual, postgraduate programme review manual, institutional review manual and the manual for measuring the quality of open and distance education) were selected, based on their relevance to quality assurance processes and their accessibility.

A total of twenty-three key informants were identified and six focus group discussions were conducted comprising university administrators, authorities involved in gender equality, and faculty members involved in gender initiatives. These people were selected through the use of purposeful sampling. Through these conversations, various staff-student groups were asked to share their qualitative perspectives on gender bias, perceived hurdles, and the efficacy of current activities aimed at promoting gender equality. The study's use of purposive sampling guaranteed a representative sample of participants, enabling insightful discussion led by a qualified moderator. Open discussions on important issues were facilitated by the semi-structured style, which helped participants get a deeper comprehension of the obstacles and requirements of gender equality in the academic setting.

Thematic analysis of the focus group discussions (FGD) data revealed recurrent themes and important insights that supported the quantitative survey results. This comprehensive strategy sheds light on the challenges encountered by students and staff and produces doable suggestions for strengthening gender equality programs in public colleges. To ensure participant safety, ethical factors like informed consent and anonymity were given top priority. In the end, the FGDs allowed students to share their experiences and offer insightful viewpoints that may lead to significant adjustments in Sri Lankan higher education laws and procedures.

Results

Review of the Manuals

The document analysis of criteria, standards and expected best practices from the state universities for ensuring gender equality showed that the weight given to the gender equality aspects in the quality assurance, perspective is only one criterion. The manuals for assessing the quality assurance in state universities expect policy documents, implementation minutes, and the progress of Gender Equity and Equality. It is about one standard among the 107 standards in the institutional manual to assess the quality assurance of institutional review of state universities (UGC, 2023). Program review manuals used to assess the quality assurance in undergraduate study programmes offered by faculties examine only whether the programme adopts appropriate strategies and executes activities to promote Gender Equity and Equality while deterring Sexual and Gender-Based Violence among all categories of staff and students. Gender Equity and Equality is one of the 136 standards used to measure the quality aspects of undergraduate programmes in state universities (UGC, 2015). Postgraduate programme manuals assess the policy documents on Gender Equity & Equality and Sexual & Gender-Based Violence: student handbook; records of complaints; minutes of the meetings of the department /board of study and other relevant committees; and records of action taken on complaints. This is also one of the 136 criteria used to measure the gender equality aspects in higher education (UGC, 2021). Open and Distance Education programme review manuals review whether the open & distance unit or faculty adopts appropriate strategies and executes activities to promote Gender Equity & Equality while deterring Sexual & Gender-Based Violence among all categories of staff and students (UGC, 2019). These expected best practices come under the description not as a review standard. A methodical analysis of these materials reveals that gender equality is not given enough weight in the standards and criteria used in the manuals which are used to evaluate quality assurance in public universities (Table 1).

The checklist includes items such as meeting minutes, policies, and their execution, however these components alone fail to provide sufficient attention to gender equality in the process of quality assurance.

Documentary evidence is required in the manuals for several components, including policy documents on sexual and gender-based violence (SGBV) and gender equality, records of task forces' or coordinating committees' formation, strategies and action plans that have been put into practice, committee minutes, and reports on the advancement of SGBV and gender equality. They also need student handbooks, complaint records, minutes from relevant committees and departmental boards of study, and documentation of the activities taken in response to complaints. These manuals, however,

fail to highlight important steps that are necessary to advance gender equality in higher education, including equal facilities provision, gender-sensitive curriculum development, gender studies promotion, increased women's participation in decision-making, removal of obstacles to their professional advancement, staff work-life balance, and the implementation of anti-harassment policies.

Table 1: Best practices, expected evidence and standards to measure gender Equity in the programmes and institutional performance in state universities.

[The University/HEI has a comprehensive policy, strategies, and action plans drawn up in line with the UGC-prescribed policy and strategies to promote GEE and deter sexual and gender-based violence (SGBV). **BP:** The University/HEI strives to promote GEE and deter any form of sexual and gender-based violence (SGBV) amongst all categories of staff and students by adopting an appropriate policy and strategies drawn up in line with the UGC-prescribed policy and strategy (on GEE and SGBV) It is spearheaded through a task force or a coordinating body with necessary empowerments and resources for effective policy implementation. **EE:** Policy document on GEE and SGBV; Records on the establishment of a task force/coordinating committee; Strategies and Action Plans drawn and implemented; Minutes of the task force/coordination committee; Reports on the progress made in promoting GEE and deterring SGBV] Institutional review manual: Criterion 1 - (Page: 27)1/107
[The Faculty/Institute complies fully with the institutional policy to promote gender equity and equality (GEE) and deter any form of sexual and gender-based violence (SGBV); it adopts appropriate strategies and executes activities to promote GEE and deter SGBV amongst all categories of staff and students] Programme review manual: Criterion 1 - Programme Management (Page: 21)1/136
[**BP**: policies, strategies and practises relating to Gender Equity & Equality (GEE) and anti-sexual &Gender violence (SGBV) is in place **Standards:** the PGPP has a sound financial management system that complies with national guidelines and enables the PGPU to continue the delivery of the study programme without hindrance. **Examples of sources of evidence**: the policy document on GEE and SGBV: student handbook; records of complaints; minutes of the meetings of the department /board of study and other relevant committees; and records of action taken on complaints.] Postgraduate Programme Review Manual: Criterion 1 - Programme Management (Page: 28)1/136)
[The faculty complies fully with the institutional policy to promote gender equity and equality (GEE) and deter any forms of sexual and gender-based violence (SGBV); it adopts appropriate strategies and executes activities to promote GEE and deter SGBV among all categories of staff and students] ODL Programme Review Manual: Criterion 1 - Programme Management (Page: 29) 0/144

Source: UGC (2015;2029,2021;2023), Manuals to review the Programme and Institutes in the state higher education sector.

Stakeholder Feedback

1. *Policy Implementation*

The research shows that gender equality policies are often undermined by inadequate execution, lack of awareness among academics and staff, and the inability to accurately assess the impact of current monitoring and evaluation methods.

> [While gender equality policies exist, their implementation is often ineffective. Many faculty and staff are unaware of the existing policies, highlighting the need for better communication and training. The current monitoring and evaluation mechanisms for these policies are weak, and lack of a mechanism to assess their real impact.]
>
> [Academic Staff Male]

2. *Representation*

Stakeholder responses highlighted the need to address the gender imbalance in faculty composition, highlighting the frequent preference for male candidates in promotions and the absence of female role models in senior positions.

> [To create a more equitable environment, it is imperative to address the imbalance in the faculty composition. There is a significant lack of female role models in senior positions, which discourages younger women from aspiring to those roles]
>
> [Administrative Staff Female]

3. *Access to Resources*

Female students face disadvantages due to a lack of technology access, professional development programs overlooking them, and insufficient networking events. The existing review procedure fails to address gender equality within organizations, limiting their opportunities for mentorship and the highest leadership.

> [Many female students lack access to necessary technology, which puts them at a disadvantage compared to their peers. Networking events are infrequent and not well-promoted, making it difficult for women to connect with industry professionals and mentors]
>
> [Student Female]

4. Curriculum Inclusivity

Stakeholders emphasized the need for gender-sensitive content in curricula, urging for more female author readings and interdisciplinary approaches. Teaching strategies should encourage critical analysis of gender norms and stereotypes to create a more inclusive learning environment.

> [The curriculum often lacks gender-sensitive content, making it difficult for students to engage with important gender issues. gender studies should be integrated into various subjects, not just standalone courses. It's essential for teaching methods to encourage critical analysis of gender roles and stereotypes among students.]
>
> [Academic Staff Male]

5. Support Service

Female students require mentorship programs and counselling services to enhance personal and academic development. However, inadequate access to gender-related services and inadequate support systems highlight gaps in higher education.

> [Female students need mentorship programs, but we also need more organized ways for them to interact with mentors. Access to counselling services that address gender-specific issues is often inadequate and needs improvement.]
>
> [Student Counsellor Male]

6. Grievance Mechanism

Students said that the review manuals lack in measuring clear grievance filing instructions, causing confusion among students. The absence of anonymous reporting and fear of retaliation further discourage reporting, highlighting the need for more accessible grievance procedures.

> [Many students are unaware of the procedure because the manuals do not sufficiently measure these clear instructions on how to file grievances. Without mechanisms for anonymous reporting, many individuals may hesitate to come forward, fearing retaliation]
>
> [Academic Staff Male]

7. Career Progression

The review manuals lack measuring clear promotion criteria, creating uncertainty among female staff and contributing to gender imbalance in leadership roles. Emphasis on women's

professional development opportunities is also lacking, highlighting the need for more defined criteria.

> [The manuals do not measure the clear criteria for promotions, leaving many female staff uncertain about what is required for advancement. There's a noticeable lack of emphasis on professional development opportunities tailored for women.]
>
> [Reviewer Male]

8. Work Like Balance

The institutional framework lacks childcare support, affecting staff and students' ability to balance academic and familial responsibilities. Programs with 'A' grades still lack basic facilities for women, indicating a disconnect between institutional ratings and actual gender equality support.

> [Childcare support is noticeably absent; on-campus facilities or subsidies would make a significant difference for working parents. These are not measured in any review process. The programmes which got 'A' grades don't have basic facilities for women]
>
> [Academic Supportive Staff Female]

9. Student Experience

Female students often feel overlooked in discussions, with male peers dominating topics. Support disparities exist, with male students receiving more assistance. Unspoken gender norms create challenges, underscoring the need for equity and inclusion strategies.

> [I often feel overlooked or interrupted, especially when the topic is dominated by male students. I've noticed that male students often receive more support for projects and funding. Peer relationships can be challenging, as there are often unspoken gender norms that dictate who gets to speak or lead]
>
> [Student Female]

10. Outcome-Based Measures

The review manuals lack a framework for impact assessments, making it challenging to evaluate gender equality initiatives' effectiveness and benchmarking standards, limiting opportunities for improvement and best practices sharing within higher education.

[There's no framework in the manuals for conducting impact assessments, which makes it challenging to determine if our gender equality initiatives are working. we can't compare our gender equality efforts with other institutions, which limits our opportunities for improvement]

[Administrative Staff Male]

Discussion and Conclusion

The manuals reveal a significant gap in requirements for documentary evidence on gender equality and Sexual and Gender Based Violence in higher education institutions, neglecting critical measures like equal facilities and gender-sensitive curricula, despite their importance in creating an inclusive academic environment. The current documentation requirements overlook gender studies, women's participation in decision-making, barriers to professional advancement, and work-life balance policies limiting the potential for meaningful change. The manuals lack robust anti-harassment policies, hindering gender equality efforts. To progress, review processes should incorporate these elements, ensuring gender equality is a fundamental aspect of institutional practice, supporting the advancement of all students and staff, particularly women. Concerns about the applicability of the current guidelines in evaluating gender equality in higher education were voiced by stakeholders. They stressed that to guarantee significant advancements in this field, it is imperative to include ten essential requirements as themes. They are Policy Implementation, Representation, Access to Resources, Curriculum Inclusivity, Support Services, Grievance Mechanisms, Career Progression, Work-Life Balance, Students' experience, Outcome-Based Measures (Table 2).

Table 2: Thematic analysis of FGD's responses of stakeholders

Stakeholders view (codes)	Subcategories	Themes
Regular audits should be conducted to evaluate compliance with these policies "It's crucial to involve more women in the development and review of gender equality policies." "Accountability measures are necessary to hold departments responsible for implementing gender equality initiatives effectively." "We want policies that are not only written but are actionable and genuinely promote gender equality."	Policy and bylaw, implementation mechanism, standards, international norms Accountability measures Actionable policies Responsible units Review of policies	Policy Implementation
"Our hiring practices ought to "The curriculum often overlooks women's	Leadership diversity Faculty composition	Representation

contributions, which perpetuates the idea that their work is less important." "We see a gender imbalance in student leadership positions; more initiatives are needed to encourage female participation." "Cultural attitudes still influence perceptions of women's roles in academia, creating barriers to equal representation."	Promotion practices Visibility role models Decision making participation Recruitment policies Impact of gender bias Gender representation, curriculum Cultural attitude	
"Access to funding opportunities for female students is limited, making it challenging for them to pursue their academic goals." "There are noticeable disparities in facilities; women often find it harder to secure lab space or resources that their male counterparts readily access." "The support services available, like mentorship programs, are not always tailored to address the unique challenges faced by women in academia."	Funding opportunities, facilities access, support services, technology access, professional development, networking opportunities, childcare facilities, health service, accessibility of information, safe spaces	Access to Resources
"Students should have more opportunities to discuss and engage with gender-related topics in class discussions." "Workshops on gender awareness need to be part of the curriculum to foster a more inclusive environment." "Involving women and diverse voices in curriculum development is vital to ensure that all perspectives are represented."	Gender sensitive content, Diverse authors, interdisciplinary approaches, critical gender analysis, student engagement, gender awareness programmes, curriculum development, assessment practise, case studies	Curriculum Inclusivity
"Networking events should be more frequent and inclusive, allowing women to build connections in their fields." "Workshops on gender sensitivity and leadership are crucial, yet many are not widely advertised or accessible." "Having a dedicated resource centre for gender-related concerns would provide much-needed support and information." "Peer support groups can make a significant difference, but there are currently not enough organized opportunities for this." "In order to guarantee that crisis intervention services	Mentorship, counselling service, career development, networking events, workshop and training, resource centres, peer support groups, crisis intervention, awareness campaign, feedback mechanism	Support Services

are more accessible and responsive,		
"The current guidelines fail to address the need for timely responses to grievances, which can discourage reporting." "There's no mention of training for staff on handling gender-related complaints sensitively, which is crucial for fostering trust." "Stakeholders expressed frustration over the absence of tracking mechanisms to evaluate the outcomes of reported grievances." "Awareness campaigns about the grievance process are notably missing, leaving students and staff uninformed." "The guides fail to take into account the cultural nuances that can	Accessibility, Anonymity, response time, transparency, support for complaints, training for staff, outcome stacking, feedback mechanism, awareness campaign, cultural sensitivity	Grievance Mechanisms
"We need formal mentorship programs for female faculty, but the manuals don't address this essential support." "Leadership training initiatives for women are missing from the guidelines, which could help bridge the gap in representation." "The current documents fail to mention networking opportunities, which are crucial for career advancement."	Promotion criteria , professional development, leadership training , performance evaluation retention rates, barriers identification, work life integration, success planning	Career Progression
"Childcare support is noticeably absent; on-campus facilities or subsidies would make a significant difference for working parents." "The manuals do not review wellness programs that could promote mental and physical well-being among staff and students." "There's a lack of resources for time management, which could help individuals balance their various responsibilities."	Childcare support, wellness programe , support for care givers , workload management, feedback mechanisim	Work-Life Balance
"The support systems in place, like counselling, are helpful, but many students are unaware of how to access them." "Having female role models in faculty positions has encouraged me to pursue my academic goals with more confidence."	Discrimination class participation, access to resource, peer relationship, support system, role models, campus climate extra curricula involvement, awareness of policies feedback and reporting	Student experience

""The manuals don't provide any mechanisms for collecting feedback from students and staff, which is crucial for understanding the real impact of our policies." "There's a significant gap in accountability; without defined roles and responsibilities in the manuals, it's unclear who is accountable for advancing gender equality."	Impact assessment, measurable objectives, bench making, stakeholder feedback, accountability mechanism	Outcome-Based Measures

To promote significant progress toward gender equity, the review process must include the following ten fundamental requirements: career advancement, work-life balance, student-life balance, policy implementation, representation, access to resources, curriculum inclusivity, support services, grievance mechanisms, and outcome-based measures. Through the integration of these ideas into institutional processes, academic institutions can guarantee that gender equality is not just a mandate but a core component of their operational philosophy. This all-encompassing strategy will foster a truly equitable academic community by improving not only the educational experience for all students and staff but also the growth of women.

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Research Papers/Extended Abstracts

Analysing Feedback of Quality Criteria Awareness Workshop for Academic and Non-Academic Staff in the Faculty of Indigenous Health Sciences and Technology at Gampaha Wickramarachchi University of Indigenous Medicine

Daranagama, D.A.N.D.*, Hewage, R. & Pathirathna, Y.H.P.S.S.

Faculty of Indigenous Health Sciences and Technology
Gampaha Wickramarachchi University of Indigenous Medicine, Sri Lanka
***Corresponding author:** nayani@gwu.ac.lk*

Abstract

Gampaha Wickramarachchi University of Indigenous Medicine (GWUIM), established as Sri Lanka's 16th National University in 2021, includes the Faculty of Indigenous Health Sciences and Technology (FIHST) among its four faculties. By December 2023, FIHST had 850 students enrolled across six-degree programs. In November 2021, the Internal Quality Assurance Cell (IQAC) was formed to ensure educational quality. Despite this, IQAC-FIHST found both academic and non-academic staff lack awareness of quality assurance practices. To address this, a Quality Criteria Awareness Session was held on December 23, 2023, covering topics such as program management, design, development, and student support. The aims of this workshop were to make all academics and non-academics of the faculty aware of quality criteria for the study program review, discuss examples of evidence needed to collect from each degree program and identify the responsible persons/bodies/mechanism to collect all documents. A self-administrated questionnaire was used for the data collection. The results showed, of the 25 academics, 58% had inadequate and barely adequate knowledge of quality criteria before the workshop, however, after the workshop 74 % of academics had good understanding about quality criteria. Of the 11 non-academics, 63% had inadequate and barely adequate knowledge of quality criteria before the workshop, however, after the workshop 62% of non-academics had good understanding about quality criteria and 38% had adequate knowledge of quality criteria. Participants expressed a desire for further workshops, prioritising topics such as student assessment, outcome-based education, and computer skills. This feedback indicates a positive shift towards fostering a quality-focused educational environment at FIHST, aligning with the Quality Assurance Framework of Sri Lanka's University Grants Commission. Future workshops are recommended to address specific needs, such as paper setting, academic collaboration, and curriculum revision, thereby enhancing the overall quality and effectiveness of educational programs at GWUIM.

Keywords: *Faculty Development, Higher Education, Quality Assurance, Quality Criteria Awareness*

Introduction

Gampaha Wickramarachchi University of Indigenous Medicine (GWUIM) established as the 16th National University of Sri Lanka in 2021. It consists of four faculties as Faculty of Indigenous Medicine (FIM), Faculty of Indigenous Health Sciences and Technology (FIHST), Faculty of Indigenous Social Sciences and Management Studies (FISSMS) and Faculty of Graduate Studies (FGS). There are three departments in FIHST; Department of Indigenous Health Sciences (DIHS), Department of Technology (DT) and Department of Indigenous Medical Resources (DIMR). Up to December 2023, there are 850 students (2020/2021, 2021/2022) in the faculty under six degree programs as; Bachelor of Science Honours in Yoga and Parapsychology, Bachelor of Science Honours in Health Tourism and Hospitality Management, Bachelor of Health Science Honours in Biomedical Technology, Bachelor of Health Science Honours in Health Information and Communication Technology, Bachelor of Science Honours in Indigenous Medicinal Resources and Bachelor of Health Science Honours in Indigenous Pharmaceutical Technology (University Grants Commission, Sri Lanka, Academic Year 2020/2021-Admission to undergraduate courses in Universities in Sri Lanka).The faculty has established Internal Quality Assurance Cell (IQAC) in 2021 November under Centre of Quality Assurance (CQA) in the University. IQAC-FIHST chaired by the Dean and Assistant Register is the secretary.

The Quality Assurance Agency Council (QAAC) of the University Grants Commission (UGC), Sri Lanka was established in 2007 to review programmes of study offered by various departments of study (Subject Reviews) and the quality of higher education institutions (Institutional Reviews). The Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions has been developed to provide guidance to universities and other Higher Education Institutions (HEIs) who wish to submit their programmes of study for review, under the Quality Assurance Framework of the UGC and the Ministry of Higher Education. There are quality criteria that all institutional members need to know in order to assure the quality of higher education (Gunawardena, 2017). Weerasinghe and Fernando (2017) has identified that quality of academic staff, quality of university facilities, quality of degree programs, quality of university administration, university location and university image affected the overall quality of the education (Weerasinghe and Fernando, 2017).

IQAC-FIHST recognized the significance of the quality assurance, program review and institutional review. As a new university and new faculty, IQAC identified that there is a less awareness about the quality improvement and best practices in higher education among both academic and non-academics. Therefore, IQAC suggested having an initial quality criteria awareness session for all the academics

and non-academics in the faculty in terms of quality assurance in higher education. The aims of this workshop were to increase the awareness about the quality criteria/best practices for the study program review, evidences need to collect from each degree program, and responsible persons/bodies/mechanism to collect all documents among all academics and non-academics of the faculty.

Methodology

Quality Criteria Awareness Session was conducted on December 23rd of 2023 in the faculty by the Director of Quality Assurance cell. Mainly Quality criteria of Programme Management, Programme Design and Development, Human and Physical Resources, Course/Module Design and Development, Teaching and Learning, Learning Environment, Student Support and Progression, Student Assessment and Awards and Innovative and Healthy Practices were discussed. At the end of the workshop, a questionnaire prepared as Google form was distributed. The following questions were asked;

I. Knowledge of quality criteria before participating in the workshop

II. Knowledge of quality assurance after attending the workshop.

III. Would you like to participate in a workshop on quality criterion again?

IV. If the following workshops are available, please indicate the order in which you would like to attend for academic (Outcome based education and Student-centred learning, best practices, Workshop for SER writing, Introduction to Quality Assurance and Accreditation and Students Assessment and Evaluation ex LMS)

V. If the following workshops are available, please indicate the order in which you would like to attend for non-academics (Fundamentals of Computer skills, File handling and file system management and Management protocols and work procedures)

VI. Opinion about the knowledge gained after the workshop

VII. Any Other suggestions to IQAC-FIHST

Feedbacks received from both academics and non-academics were analysed.

Results and Discussion

There were 25 academics (19 permanent and 7 temporary) and 11 non-academics (6 permanent and 5 temporary) participating for the session. Academics were senior lecturers, probationary lecturers and

temporary demonstrators. All are new lecturers to the academic field. Non-academic staff included Assistant Registrar, Management Assistants, Technical officers, Lab attendants and work aids.

According to the analysis of the questionnaire of academics, 58% had inadequate and barely adequate knowledge of quality criteria before the workshop and after the workshop 74 % of academics had good understanding about quality criteria (Figure 1A). Considering non-academic staff, 63% had inadequate and barely adequate knowledge of quality criteria before the workshop and after the workshop 62 % of non-academics had good understanding about quality criteria and 38% had adequate knowledge of quality criteria (Figure 1B). All the participants were willing to participate in another session of quality criteria. Further they assured that the conducted workshop was really helpful to them to understand the quality criteria as their opinion about the knowledge gained after the workshop. Due to new academics and having less experience of the quality of higher education, all academics and non-academic staff members were willing to be aware of how to maintain the quality of higher education.

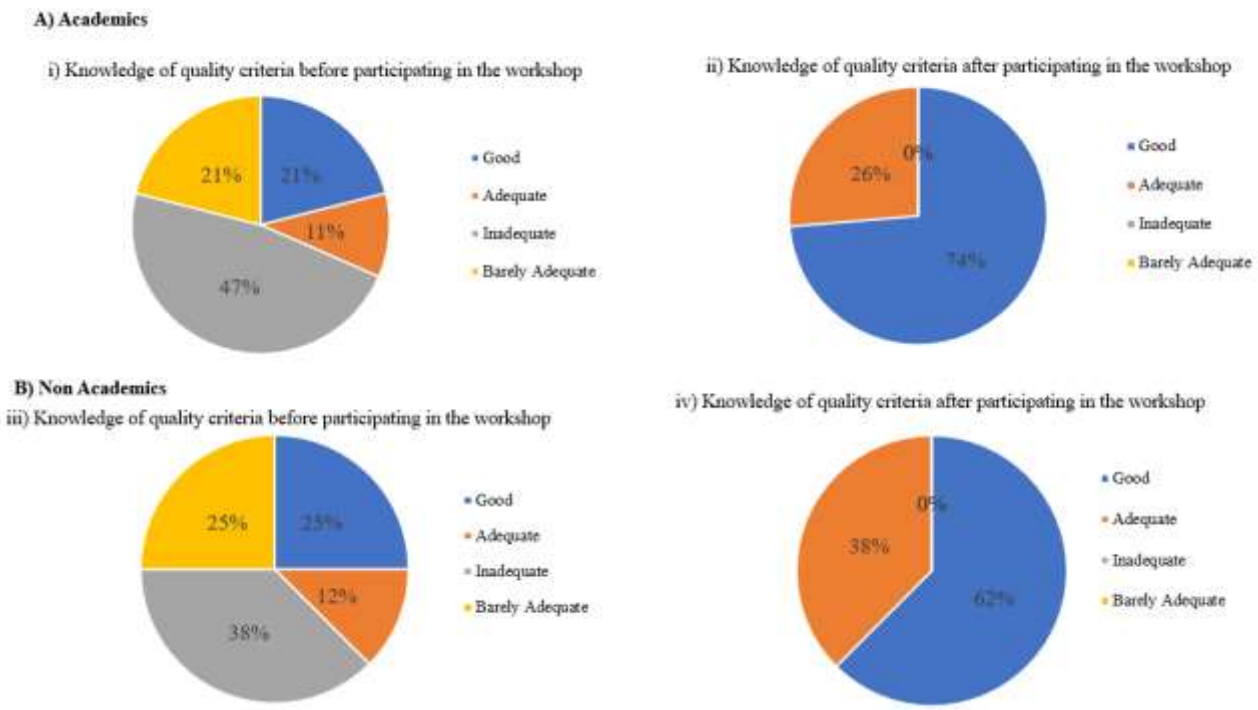

Figure 1: Analysis of feedbacks of questioner before and after the workshop both academics (A) and non-academics (B)

In order to organise the next workshop, their needs were analysed. According to that, 37% of academics gave their priority to student assessment and evaluation workshops (Ex. LMS) and their second propriety lined up in outcome-based education and student centred learning, best practices workshop. It may be due to academics needed to reduce their workload of evaluating Continuous assessment. Considering the non-academics, 50% of them requested to learn the fundamentals of computer skills and 38% management protocols and procedures (Table 1). Further they suggested to

have different workshops to on paper setting, moderation, paper marking workshop, Examination by-laws, regulations and guidelines, workshop on academic collaboration (local & international), how to map learning outcomes, workshops on preparing workload calculations, Lesson plan preparing and how to do curriculum revision. Quality assurance also works best in an environment where the emphasis is on the positive rather than the negative (Lim, 2021). Therefore**,** these results indicated a positive environment to assure quality of FIHST degree programs.

Further, the improvement in participants' understanding of quality assurance processes will increase the confidence of academics teaching and research. Non-academic staff also acknowledged a deeper understanding of their roles in supporting quality initiatives, aligning with Bennett et al. (2000) who emphasise the necessity of comprehensive training for all staff members.

Table 1: Analysis of feedbacks of questioner for next workshop both academics and non-academics

Category	Workshop	Priority of next workshop (%)
Academic	Outcome based education and Student Center learning, best practices	26
	Workshop for SER writing	16
	Introduction to Quality Assurance and Accreditation	21
	Students Assessment and Evaluation ex. LMS	37
Non-Academic	Fundamentals of Computer skills	50
	File handling and file system management	13
	Management protocols and work procedures	38

However, the study identifies limitations, including varying levels of engagement among participants and resource constraints that hindered the workshop's effectiveness. Additionally, the short-term nature of the workshop may not lead to sustained changes in practice, as noted by Knight & Trowler (2000). While the workshop significantly raised awareness of quality criteria, ongoing professional development and institutional support are essential for lasting impact. Recommendations include the establishment of continuous education programs that incorporate regular follow-up sessions, the integration of quality discussions into departmental meetings, and the utilisation of diverse training formats to enhance engagement and efficacy.

Conclusion

Knowledge of quality criteria of higher education was increased after conducting awareness workshops in both academic and non-academic. They were willing to participate in a quality criteria

workshop and both academic and non-academic requested to organise the student's assessment and evaluation workshop and Fundamental of ICT skill workshop respectively, as their next workshop.

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Research Papers/Extended Abstracts

Future Research Directions on Sustaining Diversity in Higher Education: A Systematic Review

Weerakkody, W.A.S.S.

University of Ruhuna

Corresponding author: *shaliniweerakkody@gmail.com*

Abstract

A substantial number of higher education institutions acknowledge the importance of diversity and inclusion and have launched various initiatives aimed at ensuring diversity among students and staff. However, diversity within these organizations is complex and requires continuous effort. This paper reviews current attempts at creating diversity in higher education, pointing out the deficiencies and failures of present approaches and strategies, and proposes future research directions toward more effective and more workable approaches. As such, it aims to give an overview of areas needing further exploration by consolidating studies published recently on perceptions of diversity initiatives, institutional commitment, inclusive teaching practices, and support for LGBTQIA+ and disabled students. The results showed that while many institutions show significant commitment through policies and resources, a gap remains in implementation and execution. Issues that were highlighted range from the lack of educator training to the very formation of gaps in provision of assistance being offered to groups that are marginalized, coupled with the lack of stronger accountability procedures. The current study points out the need to promote more inclusive teaching practices, enhance access for students with disabilities, and address intersectional issues. Future research should focus on how diversity programs can be more effectively integrated and measured for their enduring impact, as well as find new ways to support the success of diverse student groups. Addressing these problems will make it easier for higher education institutions to retain diversity and provide more inclusive learning environments for all students.

Keywords: *Diversity, Future Directions, Higher Education, Inclusion*

Introduction

The role of higher education institutions in encouraging diversity is increasingly recognized as crucial for a dynamic academic community (Smith, 2022). There is a growing expectation that these institutions will foster inclusive settings that can accommodate a diverse student body (Kezar & Gehrke, 2021). An inclusive and diverse classroom better prepares students for the challenges of a globalized job market (Denson & Chang, 2022). At several universities, diversity and inclusion programs include policies, specialized offices, and allocated funding (Miller, 2021). Nevertheless, the effectiveness of these programs differs. Full integration of diversity initiatives into operations is a difficulty for certain institutions, while others have achieved great progress (Kezar & Gehrke, 2021). Despite robust diversity declarations, new research shows that programs may yield varying degrees of success (Smith, 2022). The gap between official promises and real actions is a major obstacle. As Elwick said, "diversity declarations" often serve more of a show than a trigger for change. Research by Valle-Flórez *et al.* shows that many organizations claim to value diversity in theory, this is often not reflected in practice. Also, some minority students feel that their needs are not adequately addressed by these programs, indicating varied experiences among different groups. According to Denson and Chang, 2022, "To truly address these issues, comprehensive research has to be conducted on assessing the outcomes of existing diversity programs and finding ways through which diversity can be kept alive". Future research by Mora *et al.* (2021) and Sharma and Mullick (2020) should focus on how diversity training, inclusive teaching methods, and support networks can further support the underrepresented students. In fact, welcoming policy creation calls for an understanding of the intersectional nature of student identities.

Objectives

The purpose of this article was to map the landscape of diversity initiatives at universities, identify knowledge gaps, and provide recommendations for moving forward. According to Smith (2022), this research contributes to the continuing dialogue on ways of maintaining diversity in higher education; it reflects on current studies and highlights areas for improvement. Increased diversity initiatives at universities are a microcosm of greater social changes. This is expanded from an initial focus on increasing access for underrepresented groups to the creation of inclusive settings. Understanding how far we have come in embracing diversity sometimes requires looking back at our starting point. According to research, students hold varied perspectives on diversity programs.

For instance, based on Ovink and Murrell 2022, some diversity initiatives appear not to consider Black women's lived experiences. Additionally, White students may tend to have a more negative feeling about such programs, suggesting a strong demographic difference in opinion regarding their implementation (Smith, 2022).

Methodology

This research adopted a systematic literature review (SLR) approach, focusing on an in-depth analysis of the existing literature related to higher education and sustaining diversity. The research in this regard tries to underline the current state of knowledge and identify areas that need further research. Desk research was carried out using Scopus as the main database, from which relevant academic materials were obtained.

1. Scope and Goals of Research

These are informed by the following objectives, which guided the SLR approach:

- To review the existing literature on diversity and inclusion within higher education.
- To identify strategies and challenges associated with sustaining diversity.
- To map future research directions in this field.

These objectives were used to develop the search strategy and also to inform the selection criteria of the relevant studies.

2. Database Selection: Scopus

The Scopus was selected as the primary database due to its extensive coverage of peer-reviewed journals related to the particular subject domains. The same relates to education, social sciences, and diversity studies. Therefore, the present database was deemed relevant given its comprehensive scope regarding global research on issues such as higher education and diversity.

3. Search Strategy

A targeted search was conducted on Scopus using keywords that fit the focus of the research. The keywords were designed to identify studies related to diversity in higher education. These included key terms combined in various ways as follows:

"The role of higher education"

"Sustaining diversity"

"Diversity and inclusion"

"Diversity in universities"

"Strategies for educational diversity"

Specific searches were carried out in the titles, abstracts, and keywords of articles to make sure a comprehensive review of existing literature.

4. Inclusion and Exclusion Criteria

The following inclusion and exclusion criteria were applied to narrow the selection of articles:

Inclusion Criteria:

- Articles published in refereed journals from 2014 to 2024.
- Studies relating to the sustainability of diversity in higher education.
- Research papers discussing strategies, challenges, or frameworks regarding the management of diversity initiatives at universities.
- Articles published in English.

Exclusion Criteria:

- Articles not directly related to higher education or sustainability in diversity.
- Studies from sectors or contexts other than educational.
- Materials that are not peer-reviewed, such as conference proceedings or editorials.

5. Screening and Article Selection

Targeted results underwent a two-tiered screening process, as follows:

Initial Screening: This involved the initial screening of articles by title and abstract to identify studies relevant to the research objectives. This helped in eliminating papers falling outside the scope of the review.

Full-text Review: The articles that passed the initial screening stage were further reviewed in full to ensure alignment with the focus of this study, which is the sustaining diversity in higher education. Only those studies that fully satisfied the inclusion criteria were retained for data analysis.

6. *Data Extraction and Analysis*

The selected articles were analyzed for relevant data based on the following schema:

The focus of the study, such as diversity strategies, challenges, or policy frameworks.

Methods utilized in the various studies are qualitative, quantitative, and mixed methods. Significant findings as well as their contribution towards the research area. The various literature review findings were categorized into themes, and hence it allowed for systematic review of the major issues surrounding sustainability of diversity within higher education institutions. Thematic analysis aided in the identification of repetition and gaps in the literature, and hence provided the scope for hypothesizing on possible research direction.

7. Synthesis and Interpretation

These selected articles were synthesized by categorizing the studies into thematic clusters that would, in essence, re-categorize the studies on their topics, such as institutional approaches to diversity, barriers that threaten the sustainability of diversity in educational institutions, leadership's role in diversity initiatives, and finally, best practices to create inclusive environments in higher education. Thematic grouping of this nature allowed better interpretation of the results and pinpointed areas that require further exploration in subsequent research work.

8. Limitation of the Desk Research Methodology

This paper realizes the following limitations associated with desk research:

- The literature review is limited to studies indexed in Scopus and does not represent the results from other databases or unpublished research.
- The findings, because of reliance on secondary data, are confined to the perspectives and methodologies of former researchers, which may introduce biases or deficiencies in the coverage.
- The scope of this review is limited by the selection criteria, and hence, generalization of results may only apply in some contexts, such as geographical location and institutional type.

Desk research, combined with a systematic literature review, provided an overview of the current state of research into sustaining diversity in higher education. It allowed for the structured in-depth study and description of current issues and opportunities, thus suggesting directions for further research by identifying gaps in the literature.

Research Gaps

1. Evidence Gap

There is a notable lack of research on how anti-racism training programs can be integrated into existing university curricula. Theories are abundant, but an actual dearth of data exists to prove their effectiveness.

2. Knowledge Gap

There is a very low rate of knowledge about the individual experiences of minority students, with a lack of comprehensive data on the types of support structures needed and systemic barriers exist. Additionally, many are unaware of how race intersects with gender, socioeconomic position, and immigrant status, contributing to exclusion and discrimination on multiple bases.

Literature Review: Diversity, Equity, and Inclusion in Higher Education

In recent decades, there has been a significant increase in the emphasis on diversity, equality, and inclusion (DEI) at universities and colleges. The main goals of these programs are to make campuses safer and more welcoming for all students while addressing past injustices. Recent research on DEI at universities examined specific themes, including the diversity and inclusion training effectiveness, institutional support for diversity and inclusion, and challenges encountered by underprivileged groups. The review offers an overview of the barriers to implementing initiatives concerning DEI at educational facilities by highlighting key findings and gaps within the literature.

Diversity and Inclusion Training and Institutional Support

Race, gender, and sexual orientation are dimensions of diversity on which higher education institutions have taken major steps to educate students, professors, and staff. Majority of these programs focus on cultural competence, bias reduction, and fostering inclusive behaviors. However, as noted by Valle-Flórez *et al.*, despite these similarities in goals, the success of such programs varies greatly across demographic subgroups and institutional settings.

Research by Ovink and Murrell suggests that perceptions of institutional diversity efforts differ significantly by gender and race. For example, while White women tend to view these programs somewhat positively, Black women are generally less optimistic. This discrepancy may indicate that women, particularly women of color, feel an additional perceived responsibility to promote inclusion. While the institutions attempt to provide an inclusive environment, Ovink and Murrell (2022) propose that certain White individuals expect BIPOC students to be responsible for integration. Such a belief

has the potential consequence of questioning institutions' commitment to the authenticity of DEI, as it would further marginalize students. Notwithstanding these limitations, institutional support remains an important developmental factor for students. Having administrative support for the diversity initiatives depicts an interest in student inclusivity as well as a concern for social justice. This is evidenced by arranging sessions or even providing funds for such activities; one such example of providing students with opportunities and celebrating their successes can be reflected from the fact that the administration had to be convinced about undergraduate conferences, as it was deemed too expensive to begin with.

Institutional Commitment and Role of Diversity Principles

Public statements or value statements are usually used by higher education institutions to declare their commitment to diversity. The stated intent of these statements is to attract prospective students and demonstrate a commitment to diversity, equity, and inclusion. However, these commitments may sometimes serve as marketing tools than as indicators of genuine action (Ahmed, 2007, as cited in Elwick, 2019). According to Ahmed (2007) as cited by Elwick, (2019), organizations that do a good job developing auditable procedures and publish cogent records of their DEI initiatives are more likely to achieve racial equality. The value statements with concrete acts from this vantage point, which is all about responsibility, needs to be ascertained.

How institutions manage and enact these commitments also influences the effectiveness of value statements in advancing DEI. Addressing systemic issues and then engaging in how to be diverse can render institutions incapable of making a difference. Organizations would be creating a kind of "diversity paradox" in trying to evade more fundamental problems of racism and inequality through the promotion of diversity. It follows, therefore, that as one develops a workplace where inclusiveness is encouraged, while value declarations are good, rules and actions must be witnessed to enforce those declarations.

Practices and Training for Inclusive Education

Teaching practices should view diversity as an asset in building an inclusive classroom where all students feel welcome. The only teaching method that can be said to try and fulfill these needs is the one known as Culturally Responsive Pedagogy (CRP): it integrates students' cultural backgrounds into the curriculum. However, there is a significant gap in the application of CRP, mainly due to a lack of proper training for lecturers (Rudhumbu, 2020). This need for proper training is further supported by Sharma and Mullick (2020), Mora *et al.* (2021), who underlined the need for educating university teaching staff to create inclusive policies and practices.

Training professors to adopt CRP and address broader concerns of diversity and inclusion is needed. Institutions and governments should fund training programs for teachers that provide them with the necessary skills on how to work effectively with students from diverse backgrounds. This investment shall ensure effective advocacy and delivery of inclusive teaching methods in classrooms.

Challenges Faced by Underrepresented Groups

University programs aimed at overcoming difficulties typically faced by minorities are rarely effective. For instance, women of color are increasingly questioning the sufficiency of already existing programs directed towards diversity and are calling for the development and enforcement of more inclusive policies. Resource limitations and solid opposition to student-driven diversity initiatives are common obstacles in these organizations. There is also a need for ongoing evaluation and revision of DEI programs, as institutional claims often do not align with the actual experiences of minority students.

Beyond this, LGBTQIA+ students face unique challenges in higher education. As noted by Tinoco-Giraldo *et al.* (2021), though some universities boast advanced policies of promoting non-discrimination and gender equality policies, "there is a gap regarding the recognition of LGBTQIA+ identities and use of inclusive language." More policies and practices should be tailored to the specific needs of LGBTQIA+ students, since there has been "a lack of conversation and initiatives centered around LGBTQIA+ concerns".

Disabilities and Diversity

Another aspect of diversity that highly affects college life is disability and socioeconomic status. According to research, students hailing from low-income families often encounter heightened difficulties, such as financial barriers and a lack of support (Ovink & Murrell, 2022). To tackle these problems, diversity programs should assist low-income Black and Brown students, especially those from rural and suburban regions who are not athletes.

The same challenges apply to students with disabilities, who face additional challenges in the classroom. Higher education institutions are under increasing pressure to meet the needs of students with disabilities by making reasonable adjustments and providing enough support (Heffernan, 2023). Crisol-Moya *et al.* (2023) emphasize the need of providing effective classroom attendance models and providing lecturers with training on the requirements of students with disabilities. These measures are critical for ensuring that these students have equal opportunities to succeed.

Research Gap Identification

Gap between Practical Knowledge and Conflict

Designing Pedagogical Feedback: Higher education is associated with a lack of designs that are diverse and inclusive. There is also a gap between theory and practice because researchers have not satisfactorily answered the question of how different feedback systems would accommodate the needs of diverse students in the literature available to a sufficient degree (Jonsson, 2024).

- Methodological Gap

Cultural and Contextual Impact of Feedback: The studies hardly consider the ways through which cultural and contextual variables impact on the efficacy of feedback. There is a need for methodological diversity in investigating feedback mechanisms, as is obvious now, this leads to a one-size-fits-all strategy that might not work for all students (Jonsson, 2024).

- Empirical Gap

One area in which research is considerably short is the development of effective tactics for bringing racial conversations into rural university classrooms. Empirically, scholars have under investigated the challenges and possibilities that come with such settings (Smith, 2024). The durability or effectiveness of diversity efforts in rural higher education settings has usually been overlooked by researchers.

- Theoretical Gap

First, frameworks for systemic racism: this has been theoretically debated, but there is very little literature on the impact of applying it in education. This gap underscores the importance of theory validation and testing in real-world practice environments (Unsworth, 2023).

Future Research Directions

There are several key areas where further research could be conducted to advance knowledge and practice both in education and rural higher education settings. Most importantly, the development of anti-racism training programs specifically tailored for educators and students should be followed by their long-term evaluation for the elimination of systemic racism from educational and therapeutic setups. In conjunction with this, qualitative research should also be conducted to document the experiences of minority students, outlining institutional obstacles and support systems that work. Indeed, to better understand the problems that marginalized groups are going through, this research needs to go further by developing a better understanding of how race intersects with other identities, such as gender, socioeconomic position, and immigrant status.

Further, there should be studies on new and inclusive instructional feedback methodologies. These should include assessment of the effectiveness of new technologies, such as AI and virtual reality, in improving feedback processes for a diverse student population. As per Jonsson, (2024), comparative studies in various cultural and contextual settings could provide some useful insights into what makes the feedback effective for various student populations. For example, future research into rural higher education should focus on designing and assessing effective communication strategies for integrating race into the classroom, considering the contextual cultural and environmental factors specific to rural settings. There is a further need for long-term studies to evaluate sustainability and effectiveness of diversity programs in these areas, with a view to establishing best practices and scalable solutions.

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Research Papers/Extended Abstracts

A Comparison of Key Characteristics of Undergraduate and SLQF Level 10 Master's Theses: A Case Study in the Faulty of Agriculture, University of Ruhuna

Palliyaguru, O.G.[1*] & Atapattu, N.S.B.M.[2]

Department of Agricultural and Plantation Engineering, Faculty of Engineering Technology[1],

The Open University of Sri Lanka.

Department of Animal Science, Faculty of Agriculture, University of Ruhuna, Sri Lanka[2]

***Corresponding author:** oshadagihan96@gmail.com*

Abstract

Preparation of a thesis has been included into some undergraduate and postgraduate programmes to develop higher order competencies. A thesis, while being strong on scientific merits, should also be free from errors, well-presented and follow the prescribed guidelines. The objective of this study was to analyse the undergraduate (UG) and Sri Lanka Qualification Framework (SLQF) Level-10 Master (M) theses submitted by the students of the Faculty of Agriculture, University of Ruhuna (FoA) in terms of basic characteristics including page numbers, referencing, tables and figures and the level of adherence to the guidelines. Theses submitted by UG (n=169) and M (n=47) students during 2017-2021 were studied. The sum of the pages in introduction, literature review (LR), methodology and results and discussion (RD) sections of M theses (52.8) was significantly higher than that of an UG theses (37.9). The relative volume of those chapters in UG thesis were 9.1%, 38.1%, 18.2% and 34.5%, respectively while the corresponding values of a M thesis were 8.9%, 38%, 13.1% and 39.7%. The total number of pages in chapters and the whole thesis of some UG and even M theses were unusually less. The mean number of pages in the LR section of a UG thesis (14.5) was significantly lower than the minimum page number stipulated by the FOA thesis preparation guidelines. Compared to the total number of tables+figures in the RD section of UG (16.0) and M (20.8) theses, the number of pages in that chapter of UG (13.1) and M thesis (21.0) were low. The number of non-repeating citations used in the RD section of UG and M theses were as low as 6.0 and 12.5, respectively. As high as 27% and 21% of the UG and M theses respectively, had not cited any reference in the RD section. The percentage of journal-articles in the total number of items in the reference list of a M thesis (63.3%) was lower than that of an UG thesis (71.7%). The number of recent journal citations (within 5 or10 year years) in M theses were significantly lower than that of UG theses. Incomplete reference lists, non-listing of cited reference and listing of the uncited references were common both in UG and M theses. The study highlights the importance of careful scrutiny of the thesis by the supervisor and educating students about thesis preparation and evaluation criteria.

Keywords: *Evaluation, Master Level, Theses, Undergraduate*

Introduction

The conduct of research and the submission of a thesis are critical components of both undergraduate (UG) and Master (M) programmes. SLQF (2016) prescribes that SLQF Level 10 M programme and UG honours programme of SLQF Level 6 should contain a research component having minimum of 15 and 5 credits, respectively. An UG research should be carried out under the guidance and supervision of a qualification holder of level 10, 11 or 12 and submitted a report/dissertation subject for evaluation. The SLQF Level 10 M research should be conducted under the guidance of a supervisor holding an equivalent or a higher qualification and should make an original academic contribution to a particular discipline. The candidate should submit a dissertation which is evaluated and accepted.

Preparation and the submission of a thesis based on the research conducted is a major component of both UG and M research. Thesis preparation aims at the meeting of a range of higher order skills that substantially contribute to the graduate profile and programme learning outcomes (PLOs) (Hunter et al., 2007). Furthermore, thesis preparation provides an opportunity to learn writing skills accommodated with scientific language, the skills that students are least likely to develop (Lopatto et al., 2004). The final academic performance of a graduate is also greatly influenced by the grade achieved for the research component.

All undergraduate programmes conducted at the Faculty of Agriculture (FoA), University of Ruhuna, namely BSc (Agricultural Resource Management and Technology), BSc (Agribusiness Management) and BSc (Green Technology) are SLQF Level 6 programmes. A range of courses related research methods, statistics, scientific writing and ICT are conducted during the first 7 semesters to assist the students to undertake research and thesis preparation at the 8th semester. Supervisors are provided with common guidelines to evaluate the conduct of research and thesis. Several SLQF Level 10 M programmes are also offered by the FoA while providing plenty of research-supporting supplementary courses.

Evaluation of the thesis is difficult and complex. Reynolds et al. (2009) suggested a 13-point rubric (BioTap) encompassing various aspects including scientific quality, impact, referencing and formatting as mandatory requirements. Though the evaluation of the quality of both UG and postgraduate theses are critically important both from students and institution perspective, the diverse nature of the topics and the higher number of thesis make the task challenging. In this context this study, aims to understand the basic features and formatting, referencing issues of theses submitted by the UG and M students of the FoA.

Methodology

In this study, the thesis submitted by UG (n=169) and M level (n=47) students during 2017-2021 to the Library, FoA, University of Ruhuna were studied. The undergraduate research component was a 6-credit engagement. The master students followed coursework and two-year research programmes of SLQF L 10. The credit value of the research component was between 25 - 30.

The number of pages and the number of tables and figures in introduction, literature review, results and discussion were recorded. The intext citations and the reference list were also studied to determine the total number of citations in different sections, the types of references and the year of the references cited.

The references cited were categorised as; journals, books, web resources, conference proceedings, reports, monographs, PhD Dissertations, MSc Dissertations and M. Phil Dissertation. Data were summarised using descriptive statistics. Mann-Whitney U test was employed to analyse the data using SPSS version 23.

Results and Discussion

The characteristics of a typical UG and M level theses are presented in Table 1. A typical UG thesis contained 3.5 page introduction (9.1%), 14.5 page literature review (38.1%), 6.9 page methodology (18.2%) and 13.1 page results and discussion section (34.5%). The corresponding values of a M thesis were 4.7 (8.9%), 20.1 (38%), 6.9 (13.1%) and 21. 0 (39.7%) Though definite levels have not been established, it is generally accepted that the percentage volume of the introduction, literature review, methodology and results and discussion and conclusion sections of a thesis should be within the range of 10-15%, 20-30%, 10-20%, 30-40% and 5%-10% (Open AI 2024). Both UG and M theses had relatively smaller introduction chapters at the expense of more voluminous literature review. Relative contributions of other two characters were within the accepted norms.

The sum of the pages in those chapters of a M theses (52.8) was significantly higher than that of an UG theses (37.9). Except for the materials and methods chapter, the number of pages in the other chapters of a M thesis were significantly higher than that of an UG thesis. However, as indicated by the minimum number of pages, some UG and even M theses contained an unusually less number of pages in chapters and in the whole thesis. For example, the minimum number of pages in the RD section of an UG and M thesis were as low as 3 and 4, respectively. Furthermore, the mean number of pages in the literature review section of a UG thesis (14.5) was significantly lower than the stipulated minimum page number of 20 in FoA UG thesis evaluation guidelines. Though minimum page limits have not been given, it is worthwhile to check whether short methodology sections, particularly in M

theses and unusually short results and discussion chapters in both UG and M theses are proportionate to the assigned credit values and the time devoted and adequately contribute to meeting the intended learning outcomes.

The number of tables+figures in the results and discussion section of a M theses were significantly higher than UG theses. UG thesis evaluation guidelines also require the results and discussion section should contain at least 5 tables+figures. Though, mean number tables+figures met that requirement, it should be noted that some UG and theses even M theses had only 2 tables+figures. Compared to the total number of tables+figures in the R and D section (16.0 and 20.8 for UG and M), the number of pages in that chapter (13.1 and 21.0 for UG and M) was found to be low. The number of non-repeating citations used in the R and D section of UG (6.0) and M (12.5) theses were also low. Alarmingly, the R and D section of some UG and even M theses had not cited a single reference. These findings indicate that both UG and M students have given more emphasis on presenting results using tables and figures with less emphasis on interpreting and discussing.

Table 1: A comparison of the features of an undergraduate and Masters (SLQF L 10) thesis of the Faculty of Agriculture, University of Ruhuna.

Features	**UG**	**Master`s level**	**UG**	**Master`s level**	**Mann-Whitney U Test P value**
	Mean(range)	**Mean(range)**	**Median**	**Median**	
Introduction					
No of Pages	3.47 (1-12)	4.68 (2-18)	3.00	4.00	0.005
No of Tables	0.08 (0-3)	0.43 (0-4)	0.00	0.00	0.006
No of Figures	0.25 (0-5)	0.31 (0-4)	0.00	0.00	0.663
No of Tables + Figures	0.33 (0-7)	0.75 (0-8)	0.00	0.00	0.141
No of citations	10.04(0-51)	12.70 (0-56)	9.00	10.50	0.190
Non-repeating citations	8.23 (0-46)	9.77 (0-37)	7.00	9.00	0.431
Literature review					
No of Pages	14.48(2-35)	20.18 (6-39)	14.00	18.50	0.000
No of Table	1.22 (0-8)	3.45(0-20)	1.00	2.50	0.000
No of Figures	1.92 (0-15)	2.25(0-10)	1.00	1.00	0.777
No of Tables + Figures	3.15 (0.-16)	5.71 (0-26)	2.00	4.00	0.007
No of citations	59.33 (4-209)	65.47 (2-210)	52.00	48.50	0.884
Non-repeating citations	37.92 (4-157)	43.50 (2-173)	34.00	36.50	0.873
Materials and Methods					
No of Pages	6.91 (1-21)	6.93 (1-24)	6.00	6.00	0.181
No of Tables	1.40 (0-8)	1.29 (0-5)	1.00	1.00	0.780

No of Figures	3.79 (0-73)	2.06 (0-15)	2.00	1.00	0.039
No of Tables + Figures	5.20 (0-73)	3.35 (0-16)	3.00	2.00	0.034
No of citations	2.32 (0-22)	3.58(0-24)	1.00	1.00	0.265
Non-repeating citations	1.79 (0-14)	2.54(0-14)	1.00	1.00	0.203
		Results and Discussion			
No of pages	13.10 (3-40)	20.97(4-47)	11.00	20.00	0.000
No of Tables	4.24 (0-31)	9.37(0-42)	2.00	6.00	0.000
No of Figures	11.72 (0-155)	11.47(0-51)	9.00	10.00	0.783
No of Tables + Figures	16.00 (2-155)	20.85(2-57)	13.00	18.50	0.007
No of citations	8.22 (0-80)	17.50(0-71)	5.00	13.50	0.000
Non-repeating citations	6.04(0-50)	12.54(0-48)	4.00	8.50	0.003
		Whole Thesis			
No of pages	37.98 (13-76)	52.79 (29-88)	37.0	50.50	0.000
No of Tables	6.99 (0-34)	14.56 (1-42)	5.5	13.50	0.000
No of Figures	17.69 (0-241)	16.10 (0-54)	14.00	14.00	0.71
No of Tables + Figures	24.68 (6-241)	30.67 (5-72)	21.00	29.50	0.002
		Reference list			
Total references	41.81(10-176)	58.25(12-233)	35.00	46.50	0.063
Journals	29.95(2-119)	36.91(0-172)	25.00	22.50	0.892
Monographs	0.01(0-1)	0.00(0-0)	0.00	0.00	0.352
Websites	2.34(0-33)	2.85(0-18)	1.00	2.00	0.080
Books	2.46(0-19)	5.31(0-22)	1.00	3.50	0.000
Symposia etc	1.36(0-8)	2.54(0-16)	1.00	1.50	0.020
Master thesis	0.13(0-40)	0.41(0-6)	0.00	0.00	0.106
MPhil thesis	0.01(0-1)	0.00(0-0)	0.00	0.00	0.352
Doctoral thesis	0.20(0-3)	0.35(0-4)	0.00	0.00	0.269
Reports	4.99(0-30)	9.66(1-29)	4.00	7.00	0.000
Journals last 5 yrs	8.35(0-41)	4.14(0-20)	6.00	3.00	0.000
Journals last 10 yrs	15.25(0-53)	11.54(0-70)	13.00	9.00	0.002

Except in the introduction and literature review section of the PG theses, figures were more frequent in other chapters of both UG and M theses. M theses contained a significantly higher number of tables+figures (30.6) than UG theses (24.6). Both UG and M theses, tables and figures were more abundant in the R and D section. Interestingly, though maximum values have not been given, some UG thesis had as high as 241 tables+figures.

All UG and M theses had cited and listed at least some references. As expected, the reference list M theses contained significantly more references than the UG thesis. Surprisingly, of the total number of items listed in the reference list, journals accounted for 71.7% in UG theses, compared to 63.3% in M thesis. Meanwhile, percentages of books and reports in the reference list of M theses (9.1% and 16.6%) were higher than that in UG theses (5.7% and 11.9%). The number of recent journal citations (within 5- or 10-year) in M theses were significantly lower in M theses than in UG theses. FoA guidelines for thesis evaluation recommends that of the total items cited, 30% should be within the last ten years. Having 36.5% of citations in the last ten years, UG theses met this minimum standard. However, the percentage of recent citations (last ten years) in M theses was only 19.7%. Incomplete reference lists, non-listing of cited reference and listing of the uncited references were common both in UG and M theses.

Mudalige et al. (2018) showed that undergraduates of all three degree programmes at the FoA obtained a significantly higher semester grade point average for research component than that in other semesters. Moreover, almost 50 % of the students had achieved A+ or A while another 30 % had achieved A- for their research project. Weaknesses that the current study identified in UG theses highlight the importance of more careful attention on educating students about thesis preparation, evaluation criteria and, assessing the UG thesis by the supervisors.

Conclusion

Findings of this analysis raise the concerns about the standards of both UG and SLQF level 10 Masters theses. In terms of many aspects, huge variation was detected. Both UG and M theses were found to pay more emphasis on presenting results than interpreting and discussing them supported by recent literature. Attention of both students and supervisors in preparation and assessing the thesis are needed to improve the standards of both UG and Master level theses.

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Research Papers/Extended Abstracts

Assessing Library Website Quality on User Satisfaction: A Case Study at the University of Ruhuna

Britto, K.K.S.* & Jayasekara, L.A.L.W.

Department of Mathematics, University of Ruhuna, Wellamadama, Matara, Sri Lanka

***Corresponding author:** nadishanishalidi97@gmail.com*

Abstract

Library websites have become crucial for accessing resources and services in the modern world. Therefore, the quality of these digital platforms has become increasingly significant in shaping users' experiences according to existing literature. This study aimed to propose a model to explore the factors which are affecting the library website quality (QoW) and user satisfaction at the University of Ruhuna. For this purpose, a survey was carried out among 591 undergraduates in the University of Ruhuna through a structured questionnaire with a five-point Likert scale. The data were collected through the survey which was analyzed using statistical tests, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modeling (SEM). Factor analysis revealed three main factors influencing the website quality: information quality (QoI), usability quality (QoU), and service interaction quality (QoSI). A structural equation model was employed to investigate the model fit with the three hypotheses to clarify the relationships among these constructs. The findings of the study reveal that QoSI, QoU, and QoI exert a positive and significant influence on library user satisfaction. Additionally, the structural equation model of QoW was significant, accounting for 79.9% of the total variation in user satisfaction. Notably, users ranked QoI as the most critical factor, though it exhibited the lowest satisfaction level among the three dimensions. These results provide valuable insights for university library administrators, highlighting the need to prioritize improving information quality by aligning resources and services more closely with user expectations, and by enhancing and diversifying information access services.

Keywords: *Information Quality, Library Website Quality, Service Interaction Quality, Usability Quality, User Satisfaction*

Introduction

In view of the rapidly changing online perspective, website quality analysis has become more essential to businesses, educational organizations, and researchers equally. Various researchers, such as Barnes and Vidgen (2000), Loiacono et al. (2002), and Napitupulu (2017), have developed frameworks for measuring the website quality, emphasizing dimensions such as usability, information quality, and service interaction quality, with user-centered evaluations playing a pivotal role in these assessments. A comprehensive approach to analyzing complex relationships among variables is provided by Structural Equation Modeling (SEM), recommended by Anderson and Gerbing (1988). In the last few decades, several studies highlighted the importance of SEM in examining determinants of user satisfaction by Alam and Mezbah-ul-Islam (2023), and Koo et al. (2011).

In Sri Lanka, many studies have been done on evaluating the effects of quality of library website on user satisfaction. Ramanayaka et al. (2018) have studied in the context of library websites in Sri Lanka with the main purpose of exploring the relations between different dimensions of website usability and their impact. Illangarathne (2018) has identified determinants of users' satisfaction with e-library services in academic libraries in Sri Lanka.

Even though the University of Ruhuna library website offers vital information to facilitate research, education, and academic achievement, a survey of the literature indicates that no previous study has explicitly investigated the effect of the website's quality on user satisfaction. The objective of this study was to identify the factors associated with library website quality and to develop a model that assesses the impact of website quality on user satisfaction at the University of Ruhuna, utilizing Structural Equation Modeling (SEM). This study is important as it provides actionable recommendations for optimizing the library website to improve user satisfaction by creating a more supportive and effective learning environment for undergraduates at University of Ruhuna.

Methodology

Research Approach and Design

Research Hypothesis

The following hypotheses were formulated based on the research gap and objective.

H1 : Service interaction quality (QoSI) of library website positively influences user satisfaction

H2 : Information quality (QoI) of library website positively influences user satisfaction

H3 : Usability quality (QoU) of library website positively influences user satisfaction

Data Collection

A structured questionnaire using a five-point Likert scale was employed to collect primary data. The population of this study comprised the users of the library website at University of Ruhuna, Sri Lanka, and the sample was determined by using the stratified sampling technique to ensure proportional representation of the population. It was found that the ”rules of thumb” in sample size specification in SEM models include, the minimum sample size rule, and the minimum number of cases per parameter (10:1 rule) (Bentler, Chou 1987).

Factor Analysis

Factor Analysis is a variable reduction method that reduces the set of observed variables in terms of fewer latent factors.

The main objective of factor analysis's EFA technique is to determine the underlying correlations between the variables under evaluation. Researchers frequently use it to find a set of latent constructs underlying a battery of measured variables while developing a scale, a collection of questions intended to measure a certain study topic. The EFA is necessary to identify underlying factors for a set of measured variables.

Choosing the Number of Factors

Several criteria have been proposed for choosing the number of factors (m). There are four criteria will be taken into consideration,

1. Choose m equal to the number of factors necessary for the variance accounted for to achieve a predetermined percentage, 80%.

2. Choose m equal to the number of eigenvalues greater than the average eigenvalue.

3. Use the screen test based on a plot of the eigenvalues of the sample covariance matrix or correlation matrix. If the graph drops sharply, followed by a straight line with a much smaller slope, choose m equal to the number of eigenvalues before the straight line begins.

4. Test the hypothesis that m is the correct number of factors, $H_0: \Sigma = LL' + \varphi$, where L is $p \times m$.

Confirmatory factor analysis (CFA) was performed to predetermine the factor structure and verify the reliability and validity of the constructs.

Structural Equation Modeling

A comprehensive statistical method called Structural Equation Modeling (SEM) implies researchers investigate and examine the relationships between observable variables and underlying latent constructs. A confirmatory method is commonly employed by researchers when using Structural Equation Modeling (SEM). This approach begins with hypothesizing relationships between key study constructs and creating a 'model' of interactions between variables. In contrast to standard regression, SEM can incorporate latent variables concepts that are not directly measured but inferred from observed indicators using measurement models. Researchers then examine the observed data to confirm the directionality and significance of these interactions, providing a deeper understanding of the relationships among the constructs.

Results and Discussion

Descriptive Statistical Perspective

The questionnaire with a five-point Likert scale was distributed among the 591 library end users to capture demographic information, including faculty, gender, and level of study. According to this analysis, 55.7% of the respondents were female and 44.3% were male. The highest number of respondents came from the Faculty of Humanities and Social Sciences, accounting for 17.6%, while the Faculty of Fisheries and Marine Sciences & Technology had the lowest representation at 5.9%.

Exploratory Factor Analysis

Exploratory factor analysis (EFA) is a technique for determining the statistical characteristics of an unknown scale (Tabachnick et al., 2013). In this study, the factors in a principal component analysis with VARIMAX rotation were identified using the Kaiser criterion. Eigenvalues were used in the EFA for determining influencing factors. As a result, three factors affecting the library website quality which are usability quality, service interaction quality, and information quality were appropriate.

Reliability Verification

Cronbach’s alpha is a measure of internal consistency reliability commonly used to assess the reliability of scales or measures within a research study. The resulted Cronbach's Alpha values of the constructs (QoSI=0.796, QoI=0.910, QoU=0.909, and QoW=0.839) were higher than the suggested threshold of 0.70, indicating a model with good internal consistency and dependability when it comes to relationship measurement.

Validity Test

Bartlett's test of sphericity is used to ensure the data has adequate correlations among the variables. All of the KMO values (QoSI=0.748, QoI=0.936, QoU=0.932, and QoW=0.722) for data validity are near to 1, and it has been found that all Bartlett's tests were significant at 5% level of significance.

The values of composite reliability (CR) (QoSI=0.801, QoI=0.910, QoU=0.911) higher than the threshold level of 0.60 and the values of Average Variance Extracted (AVE) (QoSI=0.504, QoI=0.501, QoU=0.533) higher than the threshold level of 0.50. Additionally, each indicator shows loading greater than 0.50 ($p < 0.001$) on the corresponding components. They remained in the measurement model since their factor loadings were significant. Factor analysis showed that all the items were loaded on the factors from 11.438 to 0.257 where the eigenvalue of the Rotation sums of Squared Loadings was from 5.405 to 3.955 for three factors which were higher than the threshold of one (Andaleeb and Simmonds, 1998), indicating three variables were significant for conducting factor analysis.

Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a statistical technique commonly used to test the measurement model by assessing the relationship between observed variables and latent variables. Every item in each construct of the initial measurement model for Library Website Quality (QoW) is greater than 0.6 and hence, the item reduction process was not carried out. As a result, the SEM-produced Modification Indices (MI) table was used to analyze the redundant elements in the initial measurement model. Finally, the re-specified measurement model for Library Website Quality (QoW) was obtained by deleting items which had a correlation coefficient greater than 0.15 as considered highly connected.

Structural Equation Model

A structural equation model generated through AMOS was used to test the relationships. The fit indices for the model were within the acceptable range (Hair et al., 2010): CMIN/df =2.512, the goodness-of-fit (GFI) =0.939, TLI =0.959, CFI =0.966, SRMR =0.0346, and RMSEA =0.051.

The squared multiple correlation was 0.799 for library website quality, this shows that 79.9% variance in library website quality is accounted for by service interaction quality, information quality, and usability quality.

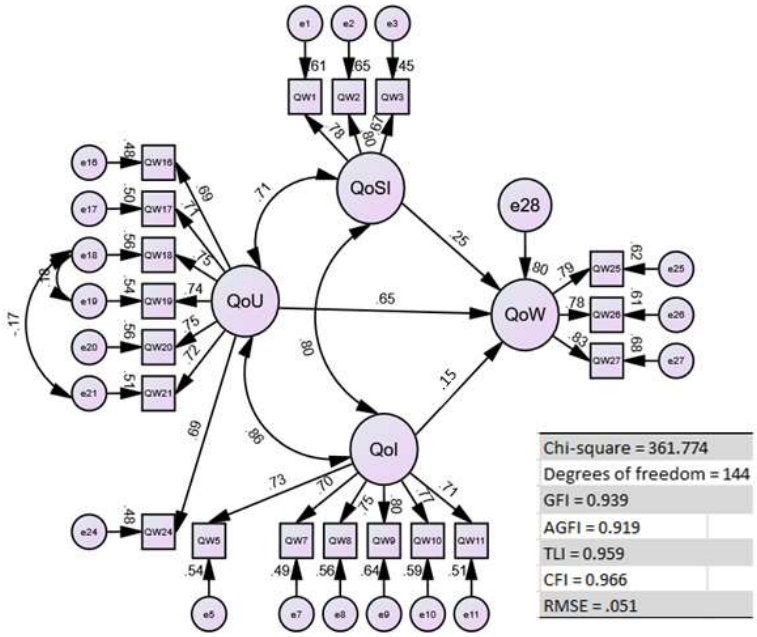

Figure 1: Structural equation model for library website quality (QoW)

The measurement equation models identified are;

Service Interaction Quality(exogenous)

QW1 = 0.78*QoSI + 0.61

QW2 = 0.80*QoSI + 0.65

QW3 = 0.67*QoSI + 0.45

Information Quality(exogenous)

QW5 = 0.73*QoI +0.54

QW7 = 0.70*QoI + 0.49

QW8 = 0.75*QoI + 0.56

QW9 = 0.80*QoI + 0.64

QW10 = 0.77*QoI + 0.59

QW11 = 0.71*QoI + 0.51

Usability Quality(exogenous)

QW16 = 0.69*QoU + 0.48

QW17 = 0.71*QoU + 0.50

QW18 = 0.75*QoU + 0.56

QW19 = 0.74*QoU + 0.54

QW20 = 0.75*QoU + 0.56

QW21 = 0.72*QoU + 0.51

QW24 = 0.69*QoU + 0.48

Quality of library website (endogenous)

QW25 = 0.79*QoW + 0.62

QW26 = 0.78*QoW + 0.61

QW27 = 0.83*QoW + 0.68

The structural equation for the quality of the library can be written as;

QoW = 0.15*QoI + 0.25*QoSI + 0.65*QoU

Hypothesis Testing

Finding the independent variables that have a significant relationship with the dependent variables is the objective of hypothesis testing. SEM was used for this study to examine the hypotheses. Through other factors declared in between the other two variables and direct influence from one variable to another, SEM reveals information about the predicted impact. AMOS 26.0 was used to conduct this investigation.

Table 1: Hypothesis testing results for library website quality (QoW)

Hypothesis	**Path Coefficient**	**S.E**	**C.R**	**p-value**	**Decision**
H1: QoSI → Satisfaction	0.259	0.060	3.789	0.000	Highly Significant
H2: QoI→ Satisfaction	0.157	0.017	9.235	0.000	Highly Significant
H3: QoU→ Satisfaction	0.652	0.093	7.752	0.000	Highly Significant

The findings of testing the current study hypotheses are shown in Table 3.7. The 'Decision' column presents the outcome of the p-value, which indicates if the hypothesis was supported or not. According to the standardized coefficient beta values, user satisfaction was significantly impacted by the service interaction quality, information quality, and usability quality of the library website. The coefficient

beta values mean that a 1% increase in the service interaction quality, information quality, and usability quality of the library website is predicted to result in a 2.19% increase in user satisfaction respectively.

Conclusion

This study aimed to investigate the factors of the University of Ruhuna library's website quality that influence user satisfaction, addressing a notable gap in the literature, as previous research has not specifically explored the impact of these factors on user satisfaction within the context of the University of Ruhuna, particularly using advanced techniques involving SEM. The primary analysis was conducted through a descriptive perception. This study found strong internal consistency in each construct, as indicated by Cronbach's alpha, and adequate correlations among variables, confirmed by Bartlett's test of sphericity. Moreover, this study revealed that information quality (QoI), usability quality (QoU), and service interaction quality (QoSI) are the three main factors influencing library website quality throughout factor analysis. According to hypothesis testing using SEM, the University of Ruhuna Library's user satisfaction was significantly and positively influenced by the quality of information, service interactions, and usability as demonstrated by the significant results of the SEM approach.

As a recommendation, library authorities should prioritize improving information quality and expanding access facilities in line with user expectations to address the lowest satisfaction level among the three factors to enhance the necessary skills to succeed in the academic achievements of university students. Future studies can expand the scope of this study by comparing its results with those of other universities' libraries to pinpoint best practices and potential areas for development. Moreover, the comprehensive impact assessment can be conducted to measure the direct influence of academic achievement on broader educational outcomes such as student retention, graduation rates, and career success.

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Research Papers/Extended Abstracts

Establishment of a Peer Support Group at the Department of Medical Laboratory Science, Faculty of Allied Health Sciences, University of Ruhuna.

Kumari, A.M.E.K.[1*], Kaushalya, R.H. [1], Bandara, W.V.R.T.D.G. [1], Sandamali, J.A.N. [1] & Kotapola I.

Department of Medical Laboratory Science[1]
Faculty of Allied Health Sciences, University of Ruhuna
***Corresponding author:** erandikak95@gmail.com*

Abstract

Peer support learning is recognized as an effective educational tool. It enables students to share knowledge, experiences and resources to gain academic success. Traditionally, in the Sri Lankan university culture, students rely on an informal method of peer learning known as 'Kuppi classes', where groups of students gather to study together, often in an unstructured manner. These informal peer study sessions often lack organization and consistency and possess less efficacy. Considering these facts the Department of Medical Laboratory Science (MLS), Faculty of Allied Health Sciences (FAHS) established a Peer Support Group aiming to provide an organized platform that encourages academic and emotional support for the students in challenging modules. This initiative was implemented in response to the programme review recommendations for the faculty. High-performing peer students, temporary demonstrators, and unit coordinators were appointed as the resource persons. Repeat and re-repeat students in 2019/2020 and 2020/2021 were taken as the peer learning group. Peer learning sessions were designed aiming at the areas that students found challenging. The programme was conducted in hybrid mode. According to the resource persons, there was an active student participation since it provided structured sessions tailored to their academic needs. Attendance for the sessions varied from 8-92%. Feedbacks from the participant students were collected. In this manner, the first Peer Support Group was successfully established at the Department of MLS, FAHS, University of Ruhuna, providing insights to expand the programme with respect to other needy modules. Student feedback and examination results will be evaluated to assess the effectiveness of the Peer Support Group activities in future.

Keywords: '*Kuppi Classes', Peer Support Group, Safe Learning Environment, Under Graduates*

Introduction

Peer support refers to a kind of support that comes from individuals who share similar life experiences or challenges. Peer support learning is accepted as a successful educational tool. This provides a platform for students to share knowledge, resources, and experiences. Further, peer support group activities are effective in building resilience, connectedness and a sense of possibility among students. These activities have been proven to improve academic performance and reduce feelings of isolation accompanying the academic struggles of students. A SWOT analysis conducted in the Department of Community Care at the Unnan City Hospital, Japan, has indicated that implementing Near Peer Learning offers a multidirectional approach such as improving the educational experience and optimizing patient management (Nishikura et al., 2023). A study conducted at Cincinnati College of Medicine, USA, has shown that peer support learning could create a safe learning environment by promoting student growth, enhancing independent thinking, and allowing learners to seek help when needed (Humphrey et al., 2022). A pilot study conducted at the Faculty of Medicine and Health Sciences, McGill University, Quebec, Canada has shown that near-peer teaching has gained extreme popularity in medical education by giving a comfortable learning environment to the students and improving scores in examinations (Sioufi et al., 2022).

Traditionally, in the Sri Lankan university culture, students rely on an informal method of peer learning known as ‘Kuppi classes’, where groups of students gather to study together, often in an unstructured manner. Most of the time these ‘Kuppi’ sessions can provide some academic support but, due to the lack of proper guidance, organization and consistency, do not fulfil a deeper understanding of the subject. This can lead to surface-level learning focusing on short-term exam preparation rather than fully grasping the concepts. This informal guidance limits their effectiveness due to the absence of a structured framework and the varying levels of knowledge among participants. The informal nature of ‘Kuppi’ sessions can create peer pressure and this may reduce individual learning. Without the guidance of a faculty member or a more knowledgeable peer, there is a risk of misinformation being shared during ‘Kuppi’ sessions. These limitations highlight the need for a more formal and structured approach to peer support.

Establishing official peer support groups enhances academic performance by providing a structured learning environment where students can share knowledge, resources, and experiences. Considering these facts the Department of Medical Laboratory Science (MLS), Faculty of Allied Health Sciences (FAHS) established a peer support group aiming to provide an organized platform that encourages academic and emotional support for the students. This initiative is further in line with the programme review recommendations for the faculty.

Objective

This study was aimed to establish a Peer Support Group at the Department of MLS, FAHS, University of Ruhuna.

Methodology

The Internal Quality Assurance Cell of the FAHS, made an open request to all departments to create Peer Support Groups. Under the permission of the Dean of the Faculty and the Head of the department, it was decided to implement this as a best practice in the department.

Written permission was obtained from the head of the department to establish Peer Support Groups. It was decided to implement this programme with respect to a module with a higher failure rate and to officially appoint good performing students (based on the results), demonstrators and unit coordinators as resource persons for the peer support group. Repeat and re-repeat students of the relevant modules were selected as the peer learning group. An initial discussion was conducted with the peer learning group to make awareness and get their consent to participate. Peers were instructed to have a second discussion with the group to identify the nature of support they needed, areas to be covered, their convenient times to participate etc. Based on the suggestions the required activities were identified, a schedule was prepared for peer group activities and permission of the head of the department was obtained to conduct the schedule. All scheduled activities were conducted under the guidance of the head and the unit coordinator. Attendance for each of the sessions was marked. At the end of the sessions the students' feedback over the Peer Group activities was obtained.

Results

A high failure rate had been observed in Biochemistry modules and therefore the Peer Support Group was established focusing Biochemistry modules namely: Enzymes, Bioenergetics and Hormone action (EBH) and Metabolism and Regulatory Mechanisms (MRM). A total of 20 Repeat and re-repeat students in 2019/2020 and 2020/2021 were taken as the peer learning group. The module coordinator, two temporary demonstrators, and four peer students were appointed as resource persons for the peer support group. The temporary demonstrators and the students were selected based on their academic performance in the biochemistry modules. Students requested to conduct lecture discussions on selected topics, past paper discussions and tutorial discussions as Peer Support Group activities and based on their suggestions a schedule with 11 sessions was prepared. Approval from the head of the department was obtained to conduct sessions. Sessions were conducted in hybrid mode. Information was shared and communication was made through a special WhatsApp group created among peer learning groups, resource persons and the head of the department.

All sessions were conducted on schedule successfully. Students' attendance for the sessions ranged between 8-92%. According to the resource persons, the students actively participated in the sessions. At the end, considering students' request an additional session was also conducted.

Feedback of the participant students was obtained.

Conclusion

A Peer Support Group was successfully established at the Department of MLS, FAHS, University of Ruhuna, providing insights to expand the programme with respect to other needy modules.

Student feedback and examination results will be evaluated to assess the effectiveness of the Peer Support Group activities in future.

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Research Papers/Extended Abstracts

Regular Course Evaluations to Internalize Best Practices into the Learning Environment

Alwis, G.*, Kalansuriya, P., Diyoni, R. & De Silva, T.

Internal Quality Assurance Cell, Faculty of Medicine, University of Ruhuna

***Corresponding author**: alwisgayani@yahoo.com*

Abstract

Regular course evaluation, based on the feedback obtained from students, is an important evidence-based approach to improve quality in the higher education system, which is important for curricular changes or modifications. The aim of the course evaluation surveys is to identify strengths and weaknesses of different courses in the MBBS degree program and to assess the possibility of internalizing good practices to improve the courses. Three Google Form based course evaluations were conducted centrally through the Internal Quality Assurance Cell (IQAC), Faculty of Medicine (FoM), University of Ruhuna (UoR). The Heads of three departments and students of three batches from pre-clinical, para clinical and clinical phases were separately invited for course evaluations immediately after their main examinations conducted from May 2023 to March 2024 in the FoM, UoR. The Faculty Board approved a self-administered questionnaire, which was used for data collection, consisting of curriculum content, assessments, learning environment and facilities. The pre-clinical department, having the highest response rate at 52.4%, was followed by the clinical department at 40.6%, and the para-clinical department at 28.5%. Most of the students across all departments felt that the areas covered in the curriculum were adequate, with pre-clinical (97.9%), para-clinical (81.1%), and clinical (97.2%) departments receiving positive feedback. The number of lectures delivered to cover the curriculum was also well-received, with over 90% of students in each department finding it adequate. The course evaluation highlights different needs and feedback across pre-clinical, para-clinical, and clinical phases. In the pre-clinical phase, students find the curriculum is generally adequate. In the para-clinical curriculum, students find excessive content and insufficient practical focus. In the clinical phase, the course evaluation received good responses; however, students recommended integrating more topics and clinical exposure. The areas identified through students' feedback were directed to the departments for necessary measures to improve the courses.

Keywords: *Course Evaluation, Student Feedback, Curriculum Improvement, MBBS Degree Programme, Internal Quality Assurance*

Introduction

Regular course evaluation is an important evidence-based approach to quality improvement in higher education by evaluating curricular, teaching-learning activities, assessments, learning environment and facilities (Abrahams, & Friedman, 1996). It has been recognized as one of the accreditation requirements in the University system as a best practice to be internalized for a better understanding of the learning environment for course improvement based on student concerns (Schiekirka et al., 2015). Effective course evaluations are linked with curricular changes or modifications. However, the lack of acceptable response rates by students is considered one of the challenges in the course evaluation process (Goodman, Anson, & Belcheir, 2014: Fleming et al., 2015).

The MBBS degree programme in the Faculty of Medicine (FoM), University of Ruhuna (UoR) consists of 15 different courses involving 15 departments, which are categorized under three phases; phase 1 (pre-clinical), phase II (para clinical) and phase III (clinical) running for 5-year MBBS degree programme. The course evaluations are implemented centrally through the Internal Quality Assurance Cell (IQAC). One-course evaluations from each phase are conducted annually and the summary reports of the findings are sent to the Head of the respective department through the Dean, FoM for necessary measures to further improve the teaching-learning activities.

The aim of the course evaluation survey is to identify strengths and weaknesses of the learning environment of different courses and to assess the possibility of internalizing good practices to improve the courses based on the feedback obtained from students.

Methodology

The Heads of the three departments were invited for course evaluations including one from each phase immediately after their main examinations conducted from May 2023 to March 2024 in the FoM, UoR. Of the six batches currently studied in the FoM, three batches were separately invited for the survey. The students of the pre-clinical batch (n=143) after their 2nd MBBS examination, the students of the para-clinical batch (n=74) after their 3rd MBBS Part 1 examination, and the students of the clinical batch (n=71) after the final MBBS examinations were recruited separately for the Google Form-based course evaluation survey.

The self-administered questionnaire used in course evaluations was developed by the Medical Education and Staff Development unit and approved by the Faculty Board, FoM. The questionnaire was modified depending on the requirements of the selected department. The questionnaire consisted

of three main sections; areas of the curriculum covered by the department, assessments carried out by the respective department and coordination and facilities provided by the department.

Then the approved questionnaire was converted into a Google Form and the links were shared among the students of each batch separately through the WhatsApp groups. The questionnaires were circulated by the IQAC immediately after their respective examinations, but before releasing the results to minimize any bias. A two-week period was given to respond to the questionnaire, and a reminder was circulated through the student representatives of IQAC and the batch representatives of each batch requesting to fill the Google Form. The purpose and importance of the survey was informed to the students before sharing the Google Forms. The participation of the students for the survey was voluntary. All data were collected anonymously. A detailed report was sent to the Heads of the respective departments through the Dean, FoM for necessary measures for concerns raised by the students.

The self-administered questionnaire consisted of curriculum content, assessments, learning environment and facilities. Under the section of curriculum content and teaching/learning; the overall content of the curriculum, methods and effectiveness of the different teaching- learning activities like self-directed learning, collaborative learning, creative and critical thinking, team work, and lifelong learning, conducted by the department were evaluated. The difficulty level and effectiveness of the assessments were evaluated under assessments. Satisfaction regarding the communications with the departments and the lecturers, and facilities available in the departments were evaluated. Because of the differences in the three different questionnaires based on the individual courses, only the questions that are similar to all three-course evaluations were included in the analysis of this study. Student feedback was analyzed by consolidating responses, with ‘strongly agree’ and ‘agree’ categorized as ‘agree’ and ‘strongly disagree’ and ‘disagree’ categorized as ‘disagree,’ and ‘yes’ as ‘agree’ and ‘no’ as ‘disagree’ providing a clearer picture of overall satisfaction and areas for improvement. Responses from the three student batches were analyzed separately as quantitative and qualitative data using Microsoft Excel. Data were presented as frequencies and percentages. Percentages given in the results were calculated from the total number of responders by the IQAC, FoM, UoR.

Results

The detailed response rate for each question across all phases of the current study is mentioned in Table 1. The quantitative data analysis revealed varying response rates across departments, with the pre-clinical department having the highest response rate at 52.4%, followed by the clinical department at 40.6%, and the para-clinical department at 28.5% (Table 1). Most of the students across all

departments felt that the areas covered in the curriculum were adequate, with pre-clinical (97.9%), para-clinical (81.1%), and clinical (97.2%) departments receiving positive feedback. The number of lectures delivered to cover the curriculum was also well-received, with over 90% of students in each department finding it adequate. Similarly, students rated the overall quality of tutorial and ward classes highly, with the para-clinical department receiving the highest positive feedback (98.6%) for quality. Assessments were generally viewed as easy across all departments, with over 87% of students agreeing (Table 1).

Additionally, coordination and facilities, including lecture and practical class completion, were rated positively, with over 94% agreement in all categories. In terms of employing a mix of diverse delivery methods, the majority of students in all stages reported a positive experience, with over 94% in each group confirming the use of these methods. Regarding feedback received during formative assessments, there is a significant improvement from the preclinical to the clinical stage. The clinical students reported receiving feedback at a perfect rate of 100%, compared to 77.9% in pre-clinical and 76.9% in para-clinical stages. Similarly, the usefulness of the feedback increased, with 82.6% of pre-clinical students finding it helpful, rising to 94.7% and then 100% in para-clinical and clinical stages, respectively. Additionally, the provision of course specifications and learning objectives before the course commencement was consistently high across all stages, with the clinical representing a perfect 100% rate.

Table 01: Frequency distribution of course evaluations of three courses from the students of three batches of the three phases (pre-clinical, para clinical and clinical) of the MBBS degree programme.

	Pre-clinical (%)			**Para clinical (%)**			**Clinical (%)**		
Number of Students	273			260			175		
Number of Responses	143			74			71		
Response Rate (%)	52.4			28.5			40.6		
Areas covered by the curriculum of the department under evaluation									
Phase(Department)	**Pre-clinical (%)**			**Para clinical (%)**			**Clinical (%)**		
Questions	**Not Adequate**	**Adequate**	**Too Much**	**Not Adequate**	**Adequate**	**Too Much**	**Not Adequate**	**Adequate**	**Too Much**
Overall areas covered by the curriculum of the department under evaluation.	0.7	97.9	1.4	0	81.1	18.9	1.4	97.2	1.4
Number of lectures delivered to cover the curriculum.	3.5	95.8	0.7	9.3	90.7	0	1.4	95.8	2.8
Number of (Tutorial/Ward) classes conducted.	2.8	88.1	9.1	0	98.6	1.35	7.1	88.6	4.3
	Agree	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**
Overall quality of classes conducted helped students' learning.	90.2	9.8	0	98.6	0	1.4	94.4	5.6	0

(Tutorial/Ward, etc.)									
Self-directed learning	92.8	0	7.2	78.1	20.5	1.4	98.5	0	1.5
Collaborative learning	96.3	0	3.7	69.4	34.7	1.4	92.9	0	7.1
Creative and critical thinking	89.6	0	10.4	59.7	34.7	5.6	91.3	0	8.7
Assessments carried out by the respective department									
	Difficult	**Easy**	**Too Easy**	**Difficult**	**Easy**	**Too Easy**	**Difficult**	**Easy**	**Too Easy**
Continuous assessments and Exams	12.6	87.4	0	11	89	0	8.5	91.5	0
	Agree	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**
Guidance received during your lectures/tutorials /other teaching sessions was adequate to face the relevant MBBS exam.	80.4	18.9	0.7	97.3	0	2.7	85.5	10.1	4.3
Coordination and Facilities									
	Agree	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**	**Agree**	**Neutral**	**Disagree**
Scheduled lectures were completed.	98.6	1.4	0	97.3	2.7	0	94.4	4.2	1.4
Scheduled (Practical/ Ward) classes were completed.	97.9	2.1	0	97.3	2.7	0	94.3	5.7	0
The teachers in the department were helpful and facilitated learning.	97.1	2.1	0.7	100	0	0	98.6	1.4	0
Adequate prior notice was given regarding lectures, tutorials, practical classes and assessments.	93	7	0	91.8	6.8	1.4	85.9	17.2	1.4
	Yes	**No**		**Yes**	**No**		**Yes**	**No**	
Does the department use a mixture of diverse delivery methods (blended learning) to maximize student engagement with the course?	97.1	2.9		94.5	5.5		97.2	2.8	
Did you receive feedback on your performance, during formative assessment?	77.9	22.1		76.9	23.1		100	0	
Was the feedback useful to improve your performance?	82.6	17.4		94.7	5.3		100	0	
Did you receive Course specifications/learning objectives before the commencement of the course?	93.4	6.6		98.6	1.4		100	0	

Discussion

The course evaluation highlights different needs and feedback across pre-clinical, para-clinical, and clinical phases. In the pre-clinical phase, students find the curriculum is generally adequate, though they suggest incorporating explanations that are more detailed and improving practical demonstrations. The para-clinical curriculum received certain criticism for excessive content and insufficient practical focus, with requests for more concise lectures and enhanced clinical relevance. In the clinical phase, the course evaluation received good responses; however, students recommended integrating more topics and improving equipment and clinical exposure.

The study identified several best practices that enhance the learning experience. Most of the students across all phases found the curriculum coverage to be adequate, and the completion of scheduled lectures and practical/ward classes were consistently high, ensuring smooth course progression. The use of blended learning methods was effective in engaging students, with over 94% reporting positive feedback. Formative assessments showed marked improvement, with feedback being increasingly useful, particularly in the clinical phase. Teacher support was another key strength, with students across all phases appreciating the guidance and facilitation provided. Additionally, students felt well-informed, receiving adequate prior notice for classes and assessments, contributing to better academic preparedness.

To internalize these best practices, consistent implementation across all phases of the MBBS program is essential. Regular communication and collaboration with department heads will ensure the standardization of effective blended learning methods, timely feedback, and thorough guidance from teachers (University Grants Commission Sri Lanka, 2019). Routine formative assessments, accompanied by actionable feedback, will enhance student performance (Ozan and Kıncal, 2018). Additionally, maintaining clear and advanced notice of classes and assessments will promote an organized learning environment. Continuous monitoring and student feedback will be utilized to refine these practices for sustained improvement (Al-Bashir, Kabir and Rahman, 2016). However, low response rates by students are considered one of the limitations in the interpretation of the course evaluation process (Chapman and Joines, 2017).

Conclusion

In general, course evaluations across pre-clinical, para-clinical, and clinical phases underscore the need for better interactive sessions, more practical demonstrations, and improved assessments to align with exam conditions and support student learning effectively. The areas identified through students' feedback were directed to the departments for necessary measures to improve the courses.

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Models/Concepts

for

Quality Assurance

Research Papers/Extended Abstracts

Presentation Evaluation Guidelines: AI and ChatGPT – An Initial Study at the Department of English and Linguistics, University of Ruhuna

Arsakulasuriya, C.M.*, Wijayawardhana, R.M., Harischandra, D.V.N. & Rathnayake, P.N

Department of English and Linguistics, Faculty of Humanities and Social Sciences
University of Ruhuna
***Corresponding author**: alwisgayani@yahoo.com*

Abstract

The use of Generative AI in humanities and the social sciences education in Sri Lanka has raised significant concerns in higher education discourses in Sri Lanka. The use of Generative AI is an issue categorically in a discipline such as English studies given that authenticity and originality are critical to develop skills in textual and linguistic analyses. This mixed-methods research is an ongoing, collaborative project by the Staff Members of the Department of English and Linguistics of the Faculty of Humanities and Social Sciences of the University of Ruhuna on the feasibility of adopting an assessment methodology/criterion for oral presentations considering undergraduates' expectations for quality education in the humanities and social sciences within emerging trends of Generative AI such as ChatGPT and Gemini. This study is important to ascertain the validity and reliability of the testing and evaluation procedures in assessing the undergraduate performance in the modules offered within the curricula of BA (Hons) in English and BA (General) in Arts degree programmes. Considering the policy level implications of the study, policy document analysis will be employed as a primary research method along with the data gathered from open-ended interviews with practitioners, researchers and lecturers involved in the curricula of the Department. The qualitative data thus gained will be triangulated with quantitative data gathered from a questionnaire administered among the undergraduates of the Department as key stakeholders of the university education system. The study will argue for a pedagogic necessity for adopting alternative assessments based on criteria that primarily assess the undergraduates' presentation skills, its relevance within the discourse on quality assurance in the higher education sector and the establishment of a policy framework on using Generative AI in pedagogical activities in a responsible and ethical manner. Finally, based on the best practices explored during the study on creating a framework on presentation-based alternative assessments as followed at the Department of English and Linguistics, the researchers will present recommendations to be implemented at the national level.

Keywords: *Assessments, Generative AI, Higher Education, Language Policy, Oral Presentations*

Introduction

The Department of English and Linguistics of the University of Ruhuna having been established in 2015 fulfilled the void of English Literature and Linguistics education in the South of the Nation in terms of State Tertiary education in Sri Lanka. The Department simultaneously offers course units/modules ranging from Teaching English as a Second Language and World Literatures in English, where 'presentations' are synonymous with the Departmental academic trajectory. In this context, the evaluation of 'presentations' be it creative responses as in the case of literature studies or linguistic engagements as part of continuous assessments is an arduous task, in that, presenting' is not only a subjective act, when it is culminated with the subjective creative arts, it is complex only to be further exacerbated by a subjective presenter as an evaluator. This extant complex context is further problematised by the evolution of Artificial Intelligence (AI) and Chat GPT assistance in the writing task – effects of which are inevitable owing to the rapid development of modern Information Technology, where, in the case of written submissions numerous applications (apps) and research is being conducted into its effect on the act of 'writing' and the notion of 'originality' and 'plagiarism'. The nature and scope of presentations thus allude to plagiarism, AI assistance and ChatGPT inadvertently, for, most often than not, the focus is on the 'presenting' primarily with the 'presentation' secondary. This working paper thus is an ongoing case study in the Department's collective effort of introducing a Departmental guideline for the evaluation of presentations recognizing the said rapidly shifting elements of Information Technology shaping writing which is often projected as the presentation (slides) per se.

While 'plagiarism' is a recognised and duly evaluated aspect of the evaluation of writing, the technical reference to nuances of presentation and its evaluation needs to be explicitly recognised as aspects that rupture the notion of 'original work'/ 'original submission'. Furthermore, while numerous IT platforms are of use in the detection of 'plagiarism' and its percentage, the explicit reference and acknowledgment of these recent developments in the field of presenting and its effect on presentations are yet to be cited as mitigating factors in the larger process of the evaluation of presentations. The Department offers two Course Modules for the Final Year students made mandatory as per the Faculty Guidelines, namely, Dissertation and Industrial Training both of which mandate 20 percent of the final mark allocation for presentations in the form of viva-voce. As such, the need for a presentation evaluation guideline is imminent.

Taking this complex context into account, the Department in preparation for the larger curriculum review due in 2025 at the Faculty of Humanities and Social Sciences is in the process of preparing a Departmental Guideline to be used in the evaluation of presentations – mandatory as part of the

Continuous Assessment (CA) process. With this as the aim, this case study explores the current context of presentation evaluation, the challenges faced by evaluators in the evaluation process, the implications of the lack of a specific reference to evaluation indicators, the indicators of disqualification, the views and notions of stakeholders in the process ranging from IT perspectives to literature/linguistic facilitators, the humanistic aspects of evaluation of this subjective endeavour albeit in the larger task of formulating a Departmental guideline for presentation evaluation.

Objectives

This study aims to analyse presentation-based assessments as a response to the influence of Generative AI tools, considering undergraduates' expectations for quality higher education in the humanities and social sciences. The researchers aim to develop a policy framework to be used both at university level and national level to ensure standards in the humanities and social sciences education in Sri Lanka. Therefore, this research aimed to identify the best practices for adopting presentation-based assessments as valid and reliable evaluation procedures to enhance undergraduates' skills that align with their expectations for quality higher education.

Methodology

The study employs a mixed-methods approach, incorporating both qualitative and quantitative research methods to collect and analyse data. Policy documents related to quality assurance in higher education will be examined to identify directives given to practitioners to identify the validity/authenticity of students' submissions. The analysis of policy documents will focus on directives concerning the assessment of higher education students' performance in oral/viva-voce presentations. The documents under review include:

1. Manual for Review of Undergraduate Study Programmes of Sri Lankan Universities and Higher Education Institutions (2015)

2. Internal Quality Assurance in Universities: Different Approaches, Policies and Procedures (2007)

3. Plagiarism Prevention Policy and Interpretative Guidelines (2022) University of Ruhuna

Policy document analysis serves as a research method to understand the nature and sources of complex problems (Cardno, 2018, p.625). It allows researchers to explore the underlying principles and intentions within policy frameworks. In this context, policy is considered a crucial component of the higher education sector, as it provides guidelines for practice and acts as a mediator between theory and praxis.

However, as Cardno (2018) suggests, policy document analysis alone may not be sufficient to research complex issues in the higher education sector, due to potential selectivity bias in selecting documents. The researchers will conduct open-ended interviews with practitioners, researchers, lecturers and students as stakeholders in the higher education sector to address this limitation.

Additionally, a questionnaire with close-ended questions will be distributed among students, who are key stakeholders in the State University system. The questionnaire aims to collect quantitative data on students' awareness and satisfaction with assessment criteria utilised in oral/viva-voce presentations.

Finally, the data collected will be triangulated to ensure the validity and reliability of the findings throughout the research process.

Results and Discussion

The study is ongoing and is in the white paper stage, where the data is simultaneously being collected for analysis. However, as an overview and as tentative assertions the following have been identified:

- There is an imminent need for the formulation of a policy document on presentation evaluation at the Departmental level, given that the nature and scope of the subject matter of the Department calls for regular presentation as continuous assessment criteria.

- The reference to and acknowledging of ChatGPT and AI developments as having an impact on presentations is vital in the shaping of the above policy document.

- Plagiarism and its conceptualisation should be broadened to encompass presentations at the Departmental level deviating from the traditional assumption of plagiarism being associated with written work.

- Citation of sources in a presentation which includes ChatGPT and AI in the event of its usage as being mandatory.

- The establishment of a code of conduct and framework of ethics of using Generative AI such as ChatGPT if/when required to apply to pedagogical activities.

This study further argues that the acknowledgement of such developments in the field of Information Technology must take place in the examinations/evaluation guidelines of the Department and in turn Faculty, where appropriate measures are taken to address the incorporation of such developments in the evaluation process. The study further asserts that not acknowledging such developments

contributes to a sense of redundancy where there is an incongruence of evaluation processes in line with student activities and the 21st century learning environment.

This study suggests that legal implications will be minimised in the future if a clear policy document addressing the issue of ChatGPT and AI in relation to the evaluation of presentations is in place given that such presentations are as highlighted mandated in the Final Year evaluation process. Furthermore, the evaluation space of presentations is not one-sided elaborations but rather spaces of dissemination of knowledge where the possibility of plagiarism through non-academic citation can be asserted, thus calling for a legal policy document stipulating penalisations in the event such non-academic instances arise.

This study additionally calls for the inclusion of external observers, i.e. industry professionals to be on the evaluation panel adding not only a sense of transparency to the evaluation process but also contributing to further research through the input of such external observers/evaluators in the process.

Conclusion

This ongoing study argues for a strong macro-level restructuring of policy directives on the type and scope of continuous assessments administered in the modules offered to the undergraduates at the University of Ruhuna given that inadequate academic discourse on the inclusion or exclusion of emerging trends in Generative AI such as ChatGPT and Gemini. The study aims to present an overarching analysis of the presentations as an alternative to take-home written assignments to evaluate the undergraduates' accomplishment of Intended Learning Outcomes of the corresponding modules. The study aims to analyse the best practices followed by both academics and undergraduates in such oral presentations to assess the undergraduates' accomplishment of skills, knowledge and attitudes and mindset. This study will then analyse larger implications of applying the lessons learned from the best practices at the University of Ruhuna to the national level. The study also aims to present a legal and ethical framework for using Generative AI in production and dissemination of knowledge with special reference to the current policy level directives issued to the academics and administrators in Sri Lanka, striking a balance between opening avenues to enhancing skills and knowledge in the digital age and preserving unique, core values of each discipline in the higher education sector in the country.

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Models/Concepts

Conceptualizing an Integrated Service Quality Model (ISQM) for University Libraries

Arachchige, J. J.G.

Library, Faculty of Engineering, University of Ruhuna

***Corresponding author**: jagathga@lib.ruh.ac.lk*

Abstract

The rapid evolution of academic libraries necessitates ongoing refinement of service quality models to address contemporary demands. Traditional evaluation methods face challenges such as inconsistent data collection and limited direct user feedback. Consequently, there is a shift towards outcome-based assessments, which focus on the quality of services from the user's perspective. This article explores whether current service quality evaluation models for academic libraries meet today's complex measurement requirements. A comprehensive literature review was conducted to identify and analyze existing models used for evaluating academic library service quality. Databases such as ProQuest, Google Scholar, Shodhganga, and E-LIS were consulted, providing access to a broad range of peer-reviewed articles, theses, and reports. The models identified were subjected to qualitative analysis to examine their content, evaluation criteria, focus, framework, application, strengths, and weaknesses. This analysis offered insights into each model's effectiveness and limitations in the context of modern academic libraries. Key models evaluated include the Balanced Scorecard (BSC), European Foundation for Quality Management (EFQM) model, SERVQUAL, SERVPERF, and LibQUAL+™. Each model offers unique perspectives on service quality but shows varying degrees of effectiveness depending on the context. For instance, though the BSC and EFQM provide comprehensive frameworks for strategic planning and organizational performance, they require significant adaptation for library settings. On the other hand, models such as SERVQUAL and LibQUAL+™, which focus on user satisfaction and service quality, are more prevalent in the library sector but face criticism for relying heavily on subjective perceptions. Based on the findings, the article proposes a new Integrated Service Quality Model (ISQM) for academic libraries. This model integrates elements from existing frameworks to address their limitations and align with the evolving needs of academic institutions. Emphasizing a user-centered approach, technological integration, and outcome-based evaluation, ISQM aims to exceed stakeholder expectations. The model represents a significant advancement in creating a comprehensive and adaptable framework for assessing and enhancing library service quality. Further research is needed for effective implementation to develop a comprehensive framework for evaluating modern university library quality.

Keywords: *Academic Library, ISQM, Library Quality Models, Service Quality Measuring, Service Quality Tools*

Introduction

University libraries are rapidly evolving, driven by technological advancements, shifting user expectations, and the increasing importance of digital resources. Libraries now serve as dynamic hubs that provide access to a wide array of resources, both physical and digital, offer research support, and meet the diverse needs of students, faculty, and staff. This shift has led to a growing emphasis on service quality and performance measurement, moving away from traditional input-based assessments that focused on financial, human, and material resources.

Historically, library evaluations centered on inputs such as funding, staffing, and collection size, with larger collections seen as indicators of quality (Bottrill & Boraden, 1994). However, these assessments largely reflected the perspectives of library providers and were criticized for not capturing actual performance (Turk, 2007). By the late 20th century, process measures like operational efficiency began to be incorporated, assessing metrics such as circulation counts and visitor numbers. Despite these improvements, evaluations remained provider-centric and often failed to engage users meaningfully (Xi & Levy, 2005).

The 1990s marked a shift towards outcome-based approaches, emphasizing the library's contribution to institutional goals. Models like the Goal Attainment and Strategic Constituencies Models influenced library evaluation practices, stressing alignment with stakeholder expectations and measuring success through outcomes (Lindauer, 1998). However, traditional evaluation methods still face challenges, including inconsistent data collection and insufficient user feedback (Franklin et al., 2009).

Given these challenges, it is crucial to assess whether existing service quality models for academic libraries meet today's needs. This article reviews common evaluation models, examining their components and potential for developing a more comprehensive framework. The aim is to align library evaluation practices with the evolving role of university libraries and the demands of modern academic institutions.

Methodology

A comprehensive literature review was conducted to identify existing models for evaluating academic library service quality. The review involved searching databases such as ProQuest, Google Scholar, Shodhganga, E-LIS, and other open-access platforms. These sources were chosen to provide access to a broad range of peer-reviewed articles, theses, and reports relevant to library service quality evaluation. Each identified model underwent qualitative analysis, focusing on its key features, including content, evaluation criteria, perspective, framework dimensions, application, strengths, and weaknesses.

This analysis helped assess the effectiveness and limitations of each model in the context of modern academic libraries. Based on the insights gained, a new framework is proposed for evaluating library service quality, designed to address the gaps in existing models and better meet the needs of contemporary academic institutions.

Results

The study reviewed several models for evaluating library service quality, highlighting their strengths and limitations in the context of academic libraries.

Balanced Scorecard (BSC): Developed by Kaplan and Norton in 1992, the BSC evaluates performance across four areas: financial, customer, internal processes, and learning and growth. While libraries like those at the University of Hull and Leeds University have used BSC for strategic decision-making, its complexity and the need for adaptation limit its broader application in academic libraries.

European Foundation for Quality Management (EFQM) Model: Introduced in 1991, the EFQM model focuses on continuous improvement and customer satisfaction. Though used by European academic libraries, the model's broadness and lack of quantitative support make it challenging to apply without significant modifications.

SERVQUAL Model: SERVQUAL, created by Parasuraman, Zeithaml, and Berry in 1988, measures service quality by comparing customer expectations with perceptions across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. It is widely adopted due to its adaptability but has been criticized for relying on subjective user expectations, which can vary and complicate analysis.

SERVPERF Model: SERVPERF, developed in 1992 by Cronin and Taylor, focuses solely on performance, simplifying assessment by excluding customer expectations. While efficient, it lacks critical customer input necessary for a comprehensive evaluation.

LibQUAL+™ Instrument: Based on SERVQUAL, LibQUAL+™ was developed by the Association of Research Libraries (ARL) in 2000 to evaluate library services using a 22-item survey. Though globally adopted for its quantitative and qualitative insights, it faces criticism for relying on subjective user perceptions. Despite this, LibQUAL+™ remains a standardized and widely used tool in academic libraries.

Each model offers valuable perspectives, but their limitations suggest the need for a more tailored approach to library service quality evaluation. The table 01 provides a summary of the main features of the existing service quality models reviewed.

Table 01: Main features of service quality models used for libraries

Model	Origin	Focus/ Perspective	Framework/ Dimensions	Application	Strengths	Weaknesses
SERVQUAL	Parasuraman, Zeithaml, and Berry	Assesses service quality by identifying gaps between customer expectations and perceptions	5 Dimensions: Tangibles, Reliability, Responsiveness, Assurance, Empathy	Widely used in libraries and other service industries	Comprehensive measure of user perceptions and expectations	May not fully capture the unique aspects of academic library services
LibQUAL+	Association of Research Libraries (ARL)	Measures the gap between user expectations and perceptions, emphasizing library service quality	3 Dimensions: Affect of Service, Information Control, Library as Place	Widely adopted for benchmarking and continuous improvement in academic libraries	Allows for peer comparison and benchmarking	Focuses on user perceptions, which may not address all aspects of service delivery
Information Systems Success Model (ISSM)	DeLone and McLean	Evaluates the success of library information systems	3 Dimensions: System Quality, Information Quality, Service Quality	Adapted for evaluating technological and service aspects in libraries	Comprehensive evaluation of both technological and service aspects	Limited application to digital library services

SERVPERF	Cronin and Taylor	Measures service quality based solely on performance without considering customer expectations	Same 5 dimensions as SERVQUAL, but focuses only on performance	Used to measure library quality and user satisfaction with some adaptations	Simplifies evaluation by focusing on actual performance	May overlook the importance of user expectations
LibQUAL+ Lite	Shortened version of LibQUAL+	Provides a more concise assessment of library service quality	Retains core dimensions of LibQUAL+ but with fewer survey items	Easier to administer and less time-consuming for respondent	Simplifies the assessment process	Reduction in survey length may limit depth of analysis
Library Performance Indicators (LPI)	Various sources	Focuses on specific aspects of library services, such as usage and satisfaction	Customized indicators based on specific library contexts	Used for evaluating collection usage, user satisfaction, service efficiency	Allows for customized evaluation	May lack comprehensiveness compared to integrated models
Balanced Scorecard (BSC)	Kaplan and Norton	Strategic planning and management system	4 Perspectives: Financial, Customer, Internal Processes, Learning & Growth	Adapted for evaluating performance in libraries	Provides a holistic view and aligns with strategic goals	Complex and resource-intensive to implement
Digital Library Service Quality (DLSQ) Model	Developed specifically for digital libraries	Evaluates the quality of digital library services	Focuses on Access, Usability, Content Quality	Tailored to the unique characteristics of digital libraries	Specific to digital environments, ensuring relevance	May not be applicable to traditional library services
European Foundation for Quality Management (EFQM) Model	European Foundation for Quality Management	Focuses on customer orientation and continuous improvement	Principles include self-assessment, learning, innovation, teamwork, and CSR	Used in libraries across Europe for service quality assessment	Emphasizes continuous improvement and customer focus	May require adaptation for library-specific contexts
Quality Maturity Model (QMM)	Wilson (2013)	Focuses on developing a quality culture within libraries	7 facets of quality culture measured against 5 maturity levels	Helps in planning improvement strategies based on maturity level	Aligns with strategic planning and organizational alignment	Adaptation and application may be complex
FALU Model	Alharbi (2012)	Outcome-based model assessing library services' impact on personal performance	Examines relationship between library usage and personal performance	Focused on personal performance impact on students and staff	Outcome-based approach linking services to performance	May be narrow in focus, requiring specific conditions

Ahmad's Model	Ahmad (2016)	Focuses on digital library service quality	3 Quality Features: Environmental, Delivery, Outcome	Focused on assessing third-party digital services	Emphasizes internal and external factors	Limited to digital library services, may not cover all quality aspects
ISO 11620	International Standard	Measures service quality in university libraries	Based on standardized metrics and criteria	Provides a formal, standardized framework for quality measurement	Offers a systematic approach to quality	Implementation can be time-consuming and challenging
Hossain's Service Performance Index	Hossain	Focused on service performance	6 Zones: Service performance, excellent, improvement, standard, problematic, alarming	Prioritizes resource allocation based on performance	Supports targeted improvement efforts	May oversimplify complex service quality issues

Discussion

The discussion focuses on various models for evaluating library service quality, highlighting their strengths, weaknesses, and applicability to academic libraries.

The Balanced Scorecard (BSC) and the European Foundation for Quality Management (EFQM) models are two well-established frameworks in performance management. The BSC, developed by Kaplan and Norton, evaluates organizations through four key perspectives—financial, customer, internal processes, and learning and growth. It has been adopted by several academic libraries, such as those at the University of Hull and Leeds University, for strategic decision-making. However, the complexity and resource requirements of BSC can be barriers, especially for smaller libraries. Extensive data collection and staff training are necessary to balance the model's four perspectives, making it less accessible for institutions with limited resources.

In contrast, the EFQM model emphasizes continuous improvement through a more flexible and qualitative approach, dividing evaluation into "Enablers" (such as leadership and processes) and "Results" (such as customer and business outcomes). The model's focus on stakeholder satisfaction is highly relevant for academic libraries, where user experience is crucial. However, the broad scope of EFQM can lead to challenges in measuring precise improvements, as it lacks the quantitative rigor of other models.

The Quality Maturity Model (QMM) offers a more specialized approach, focusing on service quality and internal capacity building. It provides libraries with a roadmap for continuous improvement, making it ideal for institutions seeking long-term growth. The QMM is particularly effective for aligning library goals with strategic planning, enhancing organizational resilience.

SERVQUAL, introduced by Parasuraman, Zeithaml, and Berry, remains one of the most widely used models for evaluating service quality in libraries. It assesses user experiences across five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. While SERVQUAL is useful for understanding customer satisfaction, it relies heavily on subjective user expectations, which can vary widely, thus complicating the evaluation process. SERVPERF, a simplified version of SERVQUAL, focuses solely on performance, eliminating the expectations element, but it may overlook crucial feedback that helps improve services.

LibQUAL+™, an adaptation of SERVQUAL for academic libraries, assesses service quality through three dimensions: Service Affect, Information Control, and Library as Place. Developed by the Association of Research Libraries (ARL), it is widely used to benchmark libraries against their peers. Its use of the "Zone of Tolerance" concept helps libraries identify acceptable service levels and gaps, but it shares SERVQUAL's reliance on subjective user perceptions.

The FALU Model, developed by Alharbi, focuses on the impact of library services on academic performance. This outcome-based approach is particularly relevant in academic libraries, where supporting student and faculty success is a priority. By assessing factors such as collection quality and library facilities, the FALU Model provides insights into how libraries contribute to academic achievement.

Ahmad's Model (2016) targets digital library services, a growing area of importance. It evaluates both internal and external factors related to digital resources, offering a specialized framework for libraries with significant digital holdings. However, its focus on digital services limits its broader applicability.

Lastly, ISO 11620, an international standard for library service quality, provides a comprehensive evaluation framework but can be difficult to implement due to its complexity and resource demands. Similarly, Hossain's SPI offers a practical, performance-based tool for identifying areas for improvement, helping libraries prioritize services and allocate resources effectively.

Conclusion

In conclusion, even though various models offer valuable frameworks for evaluating library service quality, each has limitations in terms of complexity, adaptability, and user feedback. Libraries must select models that best align with their specific goals, resources, and user needs. The analysis shows that tools like SERVQUAL, SERVPERF, and LibQUAL+™ provide useful insights. However, they struggle with capturing subjective user expectations and adapting to the specific needs of academic libraries. Broader models like the BSC and the EFQM require significant adaptation and may be too complex for many libraries.

The study highlights the need for a comprehensive framework that integrates multiple perspectives, addressing the limitations of existing models and aligning with the evolving role of academic libraries. A more balanced and adaptable approach is required, one that considers both strategic alignment and user-centered outcomes. This framework would enable libraries to assess and improve their services effectively, meeting the needs of modern institutions and their stakeholders.

Recommendations

A conceptual framework like the Integrated Service Quality Model (ISQM) could combine the strengths of various models to offer a comprehensive and flexible approach tailored to academic libraries. ISQM can be developed with more research and testing. The ISQM should incorporate the following key features.

1. Integration of Existing Models: ISQM incorporates SERVQUAL's five dimensions—tangibles, reliability, responsiveness, assurance, and empathy—and adapts LibQUAL+'s library-specific focus on service effect, information control, and library as place.

2. Dimensions of ISQM: Key areas assessed include service delivery, information resources, user experience, technological infrastructure, and staff competence. These dimensions reflect the diverse aspects of library services, from resource quality to user satisfaction.

3. User-Centered Approach: Emphasizing user feedback, ISQM ensures library services meet the expectations of students, faculty, and researchers. Surveys and focus groups play a vital role in this continuous feedback loop.

4. Benchmarking and Improvement: ISQM promotes benchmarking against best practices and peer institutions, fostering innovation and ongoing service enhancement.

5. Customization: The model is adaptable to the unique needs of different libraries, ensuring relevance across varied academic contexts.

6. Technological Integration: ISQM includes the latest Gen AI advancements to improve resource management, personalized services, and user interactions.

7. Outcome-Based Evaluation: Focuses on the impact of library services on academic success, research output, and user satisfaction.

ISQM offers a flexible, comprehensive approach that integrates technology and user feedback to enhance library services.

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Models/Concepts

Studying the Alignment between University Education and Labour Market Needs: Focusing on Technology Graduates' Employability in Sri Lanka

Adikaram, K.K.N.B.[1*], Rajawatta, K.M.W.[2] & Kumari, K.G.P.[3]

Department of Multidisciplinary Studies[1,3], Department of Bio-Systems Technology[2]
Faculty of Technology, University of Ruhuna, Sri Lanka
***Corresponding author:** nilanthi@fot.ruh.ac.lk*

Abstract

The employment market is evolving and offers graduates opportunities, yet poses challenges as well. To operate any job market efficiently, satisfying job providers and job seekers are essential. It will be mostly determined by the suitability of employment in terms of both the quality of the candidate and the work position's requirements. This concept paper outlines how the planned study examines the employment suitability of graduates with an emphasis on Sri Lanka technology graduates. The case study approaches will be followed using the technology graduates of the University of Ruhuna, Sri Lanka by assessing the theoretical framework of expectancy theory. The findings offer significant insights into the opportunities and challenges that are faced by the technology graduates. The findings of the study aim to understand the demand for technology graduates in the job market and necessary skills to be aquired by technology graduates. Difficulties that Sri Lankan policymakers and educators experience in matching technology education with labour market demands are highlighted in this study. The recommendations provided in this study aim to bridge the gap that exists between market demands and academic standards. Future research need to address the limitation of this study focusing on a single university and faculty by gathering data from other universities in various fields of study.

Keywords: *Employment, Graduates, Policymakers, Technology*

Introduction

Even though there has been prodigious growth in tertiary education over the last decades, most graduates are struggling to find a good job in which the employers are expecting -quality and qualified employees. The relationship between higher education and labour market requirements is quite problematic since both expect a win-win situation based on their skills and requirements. However, the employment landscape for technology graduates is situated at an exciting nexus of innovation and opportunity in an era characterized by fast technological improvement (Chaibate et al., 2019; Lynch & Osterman, 1989; Oliver & Jorre, 2018). Therefore, graduates in technological professions are leading the way in this digital frontier as they have the knowledge and abilities necessary to shape the future. Introducing new curricula to the education system meet timely requirements of the job market in any country (Wong et al., 2014). The impact and the input generated from such efforts will be significant in developing nations (Ariyawansa, 2008). Universities, among other institutions, play a significant role in producing the workforce to the economy needs. However, it believes there is a disparity between the supply and demand of qualified workers among Sri Lankan graduates (Ariyawansa, 2008; Gunawardena, 1993). Hence undertaking a relevant curriculum is an essential requirement of those universities.

Accordingly, the Sri Lankan government included Technology Studies in the Advanced Level Stream to admit qualified students to the university system. To date, the university system has produced over 2000 technology graduates to the country's workforce. However, a widespread issue in Sri Lanka is the skill gap among graduates, where the graduates' skill levels and the skill levels recognized and demanded by employers do not match when the graduates enter the corporate sector. Particularly in technology-related subjects, the education environment has been greatly impacted by the quick development of technology. With an emphasis on insights from Sri Lanka, this study seeks to evaluate the employability of technology graduates.

Therefore, it is important to assess both their employment relevance and employment potential. Additionally, it is unclear if these graduates are equipped to meet the complex and diverse needs of the contemporary work environment. Moreover, recent graduates including technology graduates typically confront a wide range of opportunities and challenges when they begin their employment especially due to prevailing economic crisis and political instability. This in-depth investigation is carried out to ascertain to what extent Sri Lankan universities meet the requirements of the technology job market. The issue is determining whether the technology graduates generated by Sri Lanka's university system are sufficiently prepared to satisfy the demands of the modern workplace, as well as their job relevance and potential.

Literature Review

This study aimed to combine higher education, technology education, quality graduates and technology graduates employment in Sri Lanka. These will be evaluated based on key elements of expectancy theory namely expectancy (performance will improve with further effort), instrumentality (enhanced performance is attained, a certain consequence will occur) and valence (the expected value or significance of a result).

Higher Education

University education is regarded as the core of higher education in Sri Lanka and has a greater impact on producing employees for the economy (Ariyawansa, 2008). Other than producing quality graduates that meet the labour market demand, these students have greater chances to learn while working as permanent or temporary employees. Hence, higher education is different from secondary education which enables students with sufficient knowledge and skills (instrumentality) that are easily transferable to the workplace (Chillas, 2010). The scholars highlighted the mismatch between degrees and job prospects, particularly for graduates in the Social Sciences and Humanities (Ariyawansa, 2008). Hence, these students have low expectations of their motivation to pursue relevant jobs described as the theory of expectancy. According to overseas studies, there is a higher rate of employment among undergraduates from other nations. The educational environment in Sri Lanka is distinct from that in a few other international nations since giving high valence for degrees confirms the high perceived value for higher education.

Technology Education

Technology education has been identified as crucial in modern curriculum, irrespective of the level of students in primary, secondary or higher education. Studies were conducted on technology education in countries particularly developed nations and countries famous for using high technology (Weng & Li, 2018). According to Weng and Li (2018) there are positive outcomes on the development of technology education as well as many challenges for technology education in early childhood in the Chinese education system.

In Sri Lanka, technology education is considered as a pivotal aspect of higher education to cope with global markets covered with technological advancements. Hence, the Sri Lankan government has introduced a technology stream to admit qualified students to the university system who align with technological advancements.

Moreover, the theory of expectancy provides a valuable and meaningful framework for motivating graduates to match their skills with the labour market requirements. As depicted by the expectancy component in expectancy theory, the belief of an individual may lead to achieving the desired performance level (Donnelly & Gamsu, 2019). Therefore, the component of expectancy is also vital for technology graduates concerning their beliefs. They will be more engaged in their studies if they believe that their degree in technology will lead to successful training. Hence, this can be implemented through industrial training, curriculum revisions, and practical training that closely matches labour market requirements. Besides, the component of instrumentality reveals that the perception of skills and qualifications that they gained through their degree will directly relate to employment opportunities and employers may think technology graduates have enough skills to enhance their survival in the organisation (Berggren, 2010). Further, the value associated with anticipated results also directly affects the balance of labour market requirements and graduate expectations. For instance, the success of prior graduates, employment trends, and demand for technology graduates influence how people value technology degrees.

Quality Graduates

Producing quality graduates is a key responsibility of a university. Jackson (2016) discussed the role of universities in providing quality educational experiences for undergraduates and they believe they can achieve better performance as a result of quality education from universities which relates to the theory of expectancy. Moreover, universities may tailor their degree programs to labour market needs by motivating undergraduates to focus on successful employment (Pradela, 2015). Notwithstanding, the quality of school education including primary and secondary education is growing steadily in developing countries parallelly with economic growth and income. Hence, the quality of higher education is highly imperative to overcome the mismatch between qualified graduates and labour market requirements by shaping quality (Boccanfuso et al., 2015). Students and their families also place more weight on potential benefits from higher education when they believe the quality of higher education compared with the early stages of their educational life.

Graduate Employment

According to Sudarshana (2015), undergraduates generally had poor employment rates and preferred jobs in the private sector. One of the main reasons for that is career decisions of graduates are mainly influenced by the value assignment for certain occupations. Therefore, graduates from Sri Lanka have a strong preference for careers in the private sector indicating a high value for jobs in the private sector as confirmed by the expectancy theory. A significant barrier to meeting employment objectives was recognized as language proficiency, particularly in English which leads to lower job expectancy

among undergraduates. Both undergraduates and graduates may become less motivated during their educational journey if they think these language barriers will make it difficult to get better employment (Ciriaci & Muscio, 2014). According to Chandrasiri (2008), graduate unemployment is a structural issue that necessitates both supply-side and demand-side remedies revealing the low instrumentality of graduates as they think their qualifications are not suited to industry requirements. Economic expansion and government support are required on the demand side, but colleges should produce graduate output that is more market-oriented on the supply side.

Although the topic has been extensively studied in developed nations (Lynch & Osterman, 1989, Oliver & Jorre, 2018) there are limited studies that could be found on the subject in developing nations (Kassal, 2021). More importantly, it is hard to find in-depth research available in developing countries. This study is distinctive since it was carried out at the beginning of the introduction of a new course curriculum to the university system. Hence the finding may be timelier, relevant and essential to making decisions on measuring the effectiveness of the implemented educational reforms.

Methodology

According to Black (1994), qualitative research is better suitable for comprehending the nature, advantages, and interactions of factors. Hence, this study used the qualitative research approach as the objective is to investigate the research problem in depth. To gather relevant data, unstructured, open-ended face-to-face interviews were conducted. The sample for this study could be purposefully selected, and interviews will be done with two main parties, namely the employment organisations where the graduated students are working and the technology students who graduated and are currently employed. It would be advantageous to have access to the appropriate participants through the professional contacts that researchers as university lecturers may provide. Additionally, a pilot study was conducted to determine the study's viability (Kim, 2011). Prior to data collection, key informants will be contacted in order to gain a deeper understanding of the field of study.

Sinhala is the mother tongue of the participants; thus, the interviews were conducted in Sinhala. Interviews were captured on audio. Following verbatim transcription, the interviews could be translated. Considering the qualitative nature of the data, a thematic analysis was conducted to find pertinent topics (Braun et al., 2012).

Discussion and Conclusion

Universities must play a significant role in producing skilled and talented professionals for the country among the many educational institutions operating within. Exploring the employment appropriateness of graduates from national universities will therefore be the main focus of this study. Since the study

considered two aspects of matching the job suitability of graduates, from employers and employees aspects, the findings could assist in identifying each party's expectations, obstacles, and the mismatching of requirements, if any. Therefore, this exploration may prompt researchers to investigate effective strategies for university-industry collaboration in the technology sector.

This study may contribute to the limited literature on qualitative studies of job market analysis in developing nations. The findings might help job providers and job seekers to understand each other's expectations, which would help them to meet one another's needs. The policymakers would be directed to establish appropriate standards and assign relevant rules and regulations for the ultimate benefit of society.

In conclusion, there is a need for a more all-encompassing strategy to educate technology graduates, emphasising not only hard capabilities but also soft skills and information particular to the business. The study also underlines the value of industry-academic partnerships and internships in bridging the employment-education gap. By resolving these problems and putting the study's suggestions into practice, stakeholders in Sri Lanka may better prepare graduates in technology to fulfil the demands of the nation's dynamic job market and greatly advance the country's economic growth and development.

Future studies may overcome the fundamental limitation of qualitative studies, which is the inability to generalise the findings, by utilising additional research methodologies, such as quantitative and mixed methods. The finding may direct both employees and employers to find and fulfil their requirements. The university student in particular may be knowledgeable about what employers want. They might therefore be more concerned with having the qualifications necessary to meet market demand. In addition, the employers would be aware of what their workers expected from them and would accommodate them accordingly.

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