Research Papers/Extended Abstracts

Perception of Undergraduates of Faculty of Agriculture, University of Ruhuna Towards Online Examinations: Lessons Learnt During the *Covid-19* Pandemic

K. M. C. Fernando[1*], W. K. N. S. Dias[1], W. M. C. J. Wijekoon[2], & A. A. M. Subodinee[3]

Department of Crop Science[1], Department of Soil Science[2], Department of Food Science and Technology[3]

Faculty of Agriculture, University of Ruhuna, Mapalana, Kamburupitiya, Sri Lanka

Corresponding author: *menaka@crop.ruh.ac.lk*

Abstract

An online assessment is simply defined as an evaluation of a person's knowledge, skills and capabilities by utilizing available web-based innovations. Conducting online examinations as a summative assessment tool was immersed with tremendous value during the *Covid-19* pandemic period. The objective of the present study was to investigate the experience of undergraduate students of the faculty of Agriculture, University of Ruhuna with regard to online assessments. Primary data were collected through an organized survey as a Google form from the 41st and 42nd batches of students who sat for the online examinations. Altogether 208 students responded to the survey. The data were analyzed using Minitab version 17 statistical software. Descriptive and inferential statistics were used in analyzing data. More than 80% of students who responded to the survey confirmed that they had enough time to prepare for the online examination and received guidelines prior to the examination. The most frequently used electronic devices for online examination was Smartphone and personal Laptop whiles the usage of personal desktops and tablet PC were minimal. About 65% of the respondents in the 42nd batch and 74% responded students in the 41st batch used Smartphones during the online examination. Many students used various virtual platforms to communicate with invigilators including emails, Zoom, WhatsApp, Microsoft Teams and Google Meet platform. The major issues encountered during the online examination were related to network connections, power interruptions and slow & unresponsive LMS. About 65% and 51% of the responded students from the 42nd and 41st batches accepted that the questions were clear enough and understandable to answer within the allocated time while nearly 50% of respondents of both batches agreed that online examinations were a fair way to evaluate students' performances. More than half of the respondents of both batches accepted that online examinations are better than the conventional types of examinations. However, according to the Pearson Chi-Square, there is no significant association between the batches and their attitude towards the online examination. According to the results of the study, it can be concluded that undergraduate students' perception of the Faculty of Agriculture was more favorable towards online examinations.

Keywords: *Conventional Type Examinations, Online Examination, Perception*

Introduction

Education is a fundamental human necessity. It is extremely important for a country's progress. Education is the state's obligation, and the government makes every effort to deliver it on an ever-increasing and exciting scale in line with national resources (Rahman & Uddin, 2009). Recognizing the student's comprehension of the subject matter is crucial, given its significant value. This epidemic shifts the pattern or mode of learning away from traditional face-to-face classrooms and towards totally digital and virtual learning. All traditional techniques of instruction and evaluation have given way to online learning via websites and online meeting platforms such as Zoom or Google Meet (Iskandar, Ganesan & Maulana, 2021).

Digitization and automation have improved the productivity and efficacy of systems and processes across many industries, including higher education. Online learning, e-learning, electronic teaching aids, and digital examinations are not new concepts. Many countries have had little success with online invigilated tests (Butler-Henderson & Crawford, 2020). Hybrid learning allows educators to combine traditional face-to-face learning techniques with organized online systems (Osaili et al., 2023). Examination modalities show limited score variation, and online assessments provide diverse strategies to combat cheating. Students tend to express positive opinions about online exams, while staff members favour them due to their ease of administration and logistical advantages. The effectiveness of online examinations can be significantly influenced by the user interface of the system, which can either facilitate or hinder the process (Butler-Henderson & Crawford, 2020).

The Faculty of Agriculture, University of Ruhuna and most of the other higher education institutes faced many challenges during the *Covid-19* pandemic situation which was followed by the economic crisis. During that challenging period, maintaining the quality of academic programs and completing the academic years without any delay was extremely challenging. In order to access the timelines while maintaining the quality of work, modern approaches were needed. As online learning becomes more popular in formal educational settings and in personal growth, online examinations are becoming recognized as one of the most efficient evaluation techniques. Online tests are beneficial in both blended and conventional modes of learning and, when utilized correctly, help both learners and the learning process (Adanır et al., 2020).

This principle similarly applies when gauging the student's understanding of assessments. The modalities of examination or evaluation do not alone determine students' study behavior, but Students' perspectives on evaluation procedures are equally important for the final grade of the examination

(Struyven, Dochy & Janssens, 2005). Researchers indicate that, in general, students tend to hold positive perceptions, whereas academic staff members have expressed more varied opinions regarding online assessment methods (Or & Chapman, 2022).

Efficient online formative assessment has the potential to cultivate an approach centered on both the learner and assessment, achieved through formative feedback and increased learner engagement in valuable learning experiences. Consistently implemented genuine assessment activities and interactive formative feedback emerged as crucial attributes that can effectively tackle challenges to the validity and reliability of online formative assessments (Gikandi, Morrow & Davis, 2011).

The main objective of this study was to explore the undergraduates' perception towards online examinations as a non-conventional method of conducting examinations.

Methodology

Online examinations for undergraduate students of the Faculty of Agriculture were conducted on Learning Management System (LMS) platform. The proctoring procedure was not followed during the examination. MCQ type questions and structured essay/essay type questions were used to evaluate students. MCQ type question papers were organized as quizzes on scheduled date and time. A single invigilator per ten to fifteen students was appointed to handle issues related examination. Each and every invigilator received information such as email address and telephone number of students assigned for him/her. A specific email address was provided for every invigilator to communicate with students during the examinations. Students were requested to scan answer scripts of structured essay/essay type questions which carry Timestamp to show the location where they sat for the examination and the time they finished the examination paper. After that, students uploaded their answer scripts to the LMS within the given time period and sent their answer scripts as PDF documents to the respective invigilator. At the end of the examination of the particular semester, students were requested to post hard copies of answer scripts of all subjects to the administrative office of the Faculty.

Primary data were collected via a structured questionnaire shared as a Google form using the academic email accounts of the students. The 41st batch (3rd year) and 42nd batch (2nd year) undergraduates of the Faculty of Agriculture, University of Ruhuna were selected as the population of the study as they sat for the online examinations. The sample of 208 consists of undergraduates from three different degree programs; BSc in Agricultural Resource Management and Technology (BSc. ARMT), BSc in Agribusiness Management (BSc. ABM) and BSc in Green Technology (BSc. GT) of two batches. The purposive sampling was used as the sampling technique. The data were analyzed with descriptive

statistics and Pearson's chi-square test using Minitab version 17. Descriptive statistics such as frequencies and percentages were used to present data in MS Excel. The ethical clearance was obtained for the present study from the Research Ethics Committee of the Faculty of Agriculture, University of Ruhuna (Ref No. RU/AG/019/2023).

Results and Discussion

Out of the targeted 238 student population of the 42nd batch (2nd year), 107 students while out of 193 of the 41st batch (3rd year), 101 students responded to the questionnaire. According to the analysis, the majority of the respondents are from the BSc in ARMT degree program which is 54.33%, followed by BSc in ABM degree program and BSc in GT degree program. Among those two batches, most respondents represent the 42nd batch which is 51.44% of the total responses.

Table 1: Description of Study Group

Degree Program	42nd Batch		41st Batch	
	Number	**Percentage (%)**	**Number**	**Percentage (%)**
BSc. ARMT	61	29.32%	52	25.00%
BSc. AB	20	9.61%	19	9.13%
BSc. GT	26	12.50%	30	14.42%
Total	107	51.44%	101	48.56%

According to the responses of the 42nd batch students, they have prepared for the online examination very thoroughly. All BSc. AB and BSc. ARMT students have taken the mock exam except 3 (0.03%) students from the BSc. GT degree program that had not completed the mock examination. Every respondent from the 42nd batch had gone through the examination guidelines prior to the commencement of the actual examination. Among students of all three-degree programs, 19% of students mentioned that they had not sufficient time for preparation. When considering the 41st batch students, only about 4% had not taken the mock examination as an examination preparation method, yet all students have gone through the examination guidelines. Further, seven students from all three batches mentioned that the time was not sufficient for them to prepare appropriately for the online examination.

In order to complete the online examination, 65% of students from the 42nd batch frequently used smartphones, while 42% frequently used personal laptops. The usage of personal desktops and tablet PC was limited (less than 1%). From the 41st batch of students, similarly, most of the students (74%) frequently used smartphones while personal laptop was used only by 50% of the students to complete

the online examination frequently. The personal desktop was used only by one student and the tablet PC was not in use among the 41st batch respondents. Bandara, Wijesinghe & Sanuja (2022), reported that the main factors for discouraging students in online examination in the Faculty of Fisheries and Marine Science and Technology, University of Ruhuna, are lack of required devices such as laptops and desktop computers to participate in the online examinations, as well as unavailability of smartphones or cameras to in the proctoring process during the online examinations.

According to Chung, Subramaniam & Dass (2020), the availability of digital learning tools was important to implement virtual education in Malaysia. During the pandemic of *Covid-19*, many students attempted online assessment through various virtual education tools during the closure of Universities (Tai et al., 2023).

The major issues encountered during the online examination were related to network connections (48% from the 42nd batch and 33% from the 41st batch), power interruptions (24% from the 2nd year batch and 19% from the 3rd year batch), slow and unresponsive LMS (38% from the 2nd year batch and 19% from the 3rd year batch), distractions from the surrounding environment (26% from the 2nd year batch and 22% from the 3rd year batch). Device breakdowns and communication issues with examiner/ invigilator followed by a few technical issues were identified as minor constrains (Table 2).

Table 2: Percentage Distribution of Respondents from 41st and 42nd Batches for the Problems Encountered During Online Examinations.

Problems	41st Batch			42nd Batch		
	Mostly	**Rarely**	**No issue**	**Mostly**	**Rarely**	**No issue**
Power Failure	19%	62%	19%	24%	63%	13%
Slow/unresponsive LMS	19%	69%	12%	38%	57%	05%
Slow internet connection	33%	56%	47%	48%	43%	9%
Faulty devices/operational breakdowns	02%	50%	48%	07%	56%	37%
Communication difficulties with invigilators/examiners	04%	42%	54%	05%	47%	48%
Distractions from the surrounding environment	22%	50%	28%	26%	39%	35%

Among the 107 respondents from the 42nd batch, 65% of the students accepted that the questions were clear enough and understandable to answer within the allocated time, while that amount is 51% for the 41st batch. According to 65% of the students of the 42nd batch, the question papers were well-structured with appropriate formatting, figures, *etc.*, while 68% of the 41st batch students proved the same. About 41% of students from the 42nd batch and 64% of the students from the 41st batch agreed that the question paper's structure allowed easy navigation between questions during online

examinations. Furthermore, 50% of students of the 42nd batch and 60% of students from the 41st batch accept that the questions were suitable for the online examination.

When comparing the online mode of examinations with the conventional examinations, 14% of respondents of the 42nd batch mentioned that the online mode was superior to the conventional examination while 41% of respondents said that online exams are good. About 14% of respondents observed no difference between the online mode of examination and the conventional examinations.

Moreover, 23% of respondents are saying that online mode was an inferior way of evaluating students while 8% of respondents said online mode is a terrible way of evaluating students (Figure 1). The students of the 41st batch, who have completed only one semester's examinations via online mode, had a slightly different perspective than the 42nd batch who have completed 2 semesters of online examinations. According to the respondent of the 41st batch, 10% accepted that online mode is a superior way of conducting examinations while 53% said that online examinations are better than conventional examinations. At the same time, 8% of students said that there was no difference between the two types of examination modes while 20% said that the online examination mode is inferior to the conventional examination. However, about 9% of the students of the 41st batch identified online examinations as a terrible way to evaluate students at the end semester (Figure 1). In a study carried out by Kalaf et al., (2021) the online exam was widely preferred by students over the paper exam. Students said that the online tests allowed them to finish the exam at a time that was convenient for them. They were able to choose a time that was less stressful for them. The online exam also gave instant feedback on how they performed.
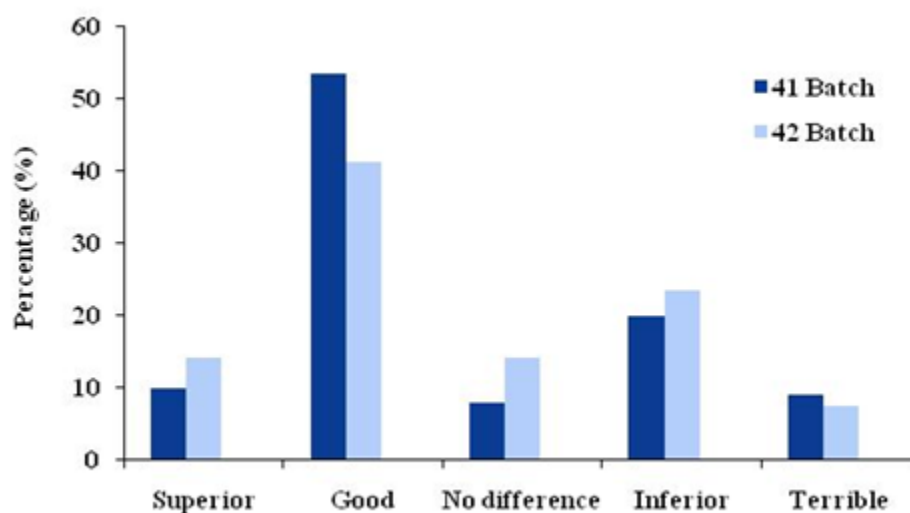

Figure 1: Percentage of Students' Responses Comparing the Online Mode of Examinations with the Conventional Examinations.

The derived *P* values (0.298 for Pearson Chi-Square and 0.293 for Likelihood Ratio Chi-Square) indicate that there is no significant association (*P>0.05*) between the batches and the attitude towards the online examination. Consequently, the findings do not provide substantial evidence to support a dependency between the variables. As those two batches faced different semesters and a different number of final examinations via online mode, their attitude towards online examinations does not associate with each other.

The global pandemic of *Covid-19* had temporarily suspended in-person classes over 850 million students (Han & Sa, 2022).

As a solution, virtual education received more attention and most of the schools and higher education institutes transformed the teaching and learning process to online mode. Many scientists identified positive attitudes and acceptance of students towards online education throughout the world (Alhumsi, & Alshaye, 2021; Lazim et al., 2021; Han & Sa, 2022).

Conclusion

According to the results of the present study, it can be concluded that the responses of two batches are independent regarding their perception towards online examinations. The undergraduate students' perception of the Faculty of Agriculture was more favourable towards online examinations. Moreover, the findings of the present study provide the necessary information to discover solutions for the issues related to virtual education and online assessments in the future.

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