

Technological Disadvantaged Students' Perception of Blending Learning in the COVID-19 Era – A Case of Cost Accounting 2 Students in South African University

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Abstract. The COVID-19 lockdown compelled higher education institutions to embrace the use of technology in the teaching and learning process more frequently than previously. The student cohorts enrolled in higher education institution under study in this paper, come from a technologically challenged background. This is largely because the technology was not used as a learning aid in students' previous schooling. The purpose of this study was to look into how students from a technologically disadvantaged educational background perceive blended learning in their Cost Accounting 2 level 2 learning at a selected higher education institution, especially during the COVID-19 pandemic. A quantitative approach was used to accomplish this because it allows surveys to be delivered to the entire impacted population while also reducing sampling error. Due to the COVID-19 pandemic, online questionnaires were used to collect information from participants. The participants expressed that blended learning is efficient and effective for learning Cost Accounting 2. The findings also show that using a learning management system makes learning more exciting for students and improves their learning experiences. Connectivity was identified as a barrier to this mode of learning. According to the study, constant reminders of any uploaded information on the system used, as well as improved connectivity, will speed up the process. In general, students, regardless of educational background, are enjoying this new mode of learning to such an extent that it could be introduced to the basic education level as well.

Keywords: Students' perception · Blended Learning · Coronavirus (COVID-19) · Cost Accounting 2 · Disadvantaged technological background

1 Background

Blended learning as a teaching and learning mode at the selected Higher Education Institution (HEI) is unknown to students from a technologically disadvantaged educational background. As a result, there is a pressing need to examine the impact of blended learning on students who attend schools where technology-aided learning aids are scarce or non-existent. In order to be ready for the fourth industrial revolution (4IR), higher education institutions must improve their technology infrastructure, implement new teaching and learning methods, and remove barriers to innovation [9]. This knowledge society's need for increased education, training, and innovation is also addressed in Chapter 9 of the National Development Plan [17]. Students today need to be prepared for the everchanging work environment of the twenty-first century, which means higher education institutions must adapt their teaching and learning methods to meet this demand [13]. In contrast, the students enrolled in the university studied in this paper come from a less technologically advanced background. Most of this can be attributed to the fact that students have never used technology as a learning tool before.

The COVID-19 lockdown compelled higher education institutions to use technology more frequently in the teaching and learning process [8]. In March 23, 2020, the South African government announced a nationwide lockdown that would go into effect on March 27, 2020. Emergency Remote Teaching and Learning (ERTL) was employed to keep academic teaching and learning safe [5]. Learning by doing, or BL, was the goal at the HEI that was chosen for this project. The well-known method of face-to-face communication was put on hold while the shift was made due to the pandemic.

In an effort to alleviate some of the difficulties students may face, the HEI under consideration gave students laptops and data. Students from rural and semi-urban areas were the majority at the chosen HEI, which are classified as quintile one to three [10]. A school's quintile level is affected by the socioeconomic status of the community in which it is located [18]. Schools in South Africa are categorized into five quintiles, which are used to allocate resources. Quintile one is the "worst," and Quintile five is "the least bad," in terms of poverty. Eight districts in the province where the selected HEI is located are among the poorest in South Africa [18].

2 Research Question

The current study is underpinned by the following research question:

How do students in Cost Accounting 2 feel about blended learning at their chosen HEI?

3 Literature Review

Factors that influence the students perceptions of BL.

3.1 Perceptions and Attitude Towards BL

Human perception is the process by which physical stimuli are decoded and converted into meaningful information [19]. It is a way for us to make sense of our thoughts and emotions. To put it another way: perception is the transformation of information obtained from the environment via our sense organs into an experience of things, events, sounds, tastes, and so on [19]. Mental processes that analyse and interpret sensory information, while avoiding ideas and behaviours that result from detected input.

Perception is shaped by a variety of factors, including the information provided, the individual's background, goals, and the expectations placed on them by others. After gathering data, the perceiver formulates a hypothesis to explain what is going on. When it comes to higher mental processes, perception is the ability to see the world, anticipate what will happen, and respond appropriately [24]. We can learn more about how the participants view and expect the future of blended learning at the selected HEI in South Africa by examining their perceptions, as stated in the second statement. It is not only physical stimuli that influence perception, but also memories and experiences, according to [7]. According to this hypothesis, perceptions are formed as a result of social experiences and interactions in the home, school, and religion.

People's views are shaped by their prior experiences [3]. Since students, lecturers, and digital material all interact with one another in the current blended learning environment, the physical stimulation they receive has the potential to alter their perspectives. Blended learning will be viewed differently by students and lecturers alike depending on these and other considerations. As a result, the study will examine students' views on the BL concept in Cost Accounting 2.

3.2 Blended Learning (BL)

In the knowledge delivery industry, blended learning is one of the top ten emerging trends, according to the American Society for Training and Development [23]. It's difficult to define blended learning, but the most common term refers to the combination of online and in-person learning [25]. While there have been some changes in the methods used and the needs of the audiences, the fundamental differences between online (web-based) learning and face-to-face learning remain [26]. In contrast to traditional face-to-face learning, which emphasizes human-to-human interaction, 100% online learning, also known as distant learning, necessitates more self-paced learning and learner-material interactions. Face-to-face and online learning environments have been merged due to technological advancements that allow human interaction in both synchronous and asynchronous online contexts [5].

For the purpose of this study, we wanted to learn more about students' views on blended learning, as well as their perceptions of the facilities available, and their ongoing engagement with blended learning. The findings from this study could help Cost Accounting 2 teachers improve the quality of their course by using a blended learning model to affect knowledge. As a result of students' feedback, e-learning upgrades can be made by analysing the strengths and weaknesses of the current system. In a recent survey, it was found that online learning is becoming increasingly popular among students who have already tried it out for the convenience and time savings it offers over traditional classroom settings [2].

3.3 Students from Technological Disadvantaged Backgrounds

Colonization and apartheid were particularly harsh on the country's educational system. The disparities of class, race, and gender in South African society have influenced higher education in the country [5]. People are marginalized according to their social class and group membership. Due to apartheid's establishment of historically disadvantaged institutions (HDIs), the disparate educational requirements of the erstwhile Bantu homelands were met [1].

To fill the deficit created by the racial apartheid state, the democratically elected government instituted a quantile-based subsidy system. Since the inception of the system, there have been a considerable number of Eastern Cape Province (EC) schools in quintiles one and three. These are government-funded public schools, but they lack the sophisticated resources necessary to conduct their educational operations. Because they rely on government financing, they prioritize fundamental educational resources. They cannot be introduced to the use of technology in the classroom. Students attending certain HEI institutions came from these schools [10].

If they appreciate the university's tenacity in the face of hardship, students may be enthusiastic about this technology infusion [16]. Students may reject the learning process because they do not feel it will work for them if they have never used technology as a learning aid [21]. This is the reason why this study's focus of examination is unique.

4 Methodology

4.1 Method

In order to precisely and methodically describe a population, circumstance, or phenomena, the study design is descriptive [14]. In this study, the researcher is able to collect a vast amount of data and evaluate user satisfaction based on participants' perspectives; however, this design constraint precludes the researcher from inferring causality [14]. As a result, a cross-sectional design utilized to measure the burden of a population's needs, and the data collected simultaneously.

4.2 Sampling Procedure

Cost Accounting 2 students in their second year were selected for the study. The census method was used because it let the researchers to identify the problems that students were experiencing with BL. This tactic was effective in acquiring a full understanding of how the public felt about a newly introduced teaching style in the subject of Cost Accounting 2. [4]. The study involved second-year students in the Department of Accounting at the designated Higher Education Institution. Only 110 out of 400 students enrolled in the course completed the online survey.

As per the table (Table 1) the total number of students who responded was 110, which is 40% males and 60% females. It was noted also that 82.7% of the participants were between the age of 18 to 25.

4.3 Research Instrument

Because the Question Pro application facilitates the gathering of standardized and numeric data, the researcher used a Likert scale online survey to collect data. The questionnaire was broken into two sections to collect information from the respondents.

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Age	Female	Male	Total	Study Level	Frequency
Below 20 years	14	9	23	Second	110
20 - 25 years	41	27	68		
25 - 30 years	7	5	12		
30 - 35 years	4	3	7		
Over 35 years	0	0	0		
Grand Total	66	44	110		110

Table 1. General characteristics of respondents

Table 2. Analysis of reliability

Main Theoretical Variables	Valid N	Items Used	Cronbach's α
Student Perceptions of Blended Learning	106	15	0.903**

** Significantly acceptable reliability

The first one addressed demographic information such as gender, race, age, and native language. The second component had 15 items that were further broken into three subsections and addressed how students viewed BL. The first four questions cover the Efficient and Effectiveness of blended learning, followed by five questions regarding Enhancing Learning and Performance, and finally six questions about Ease of Use.

To minimize and reduce ambiguity and confusion, ten students from the target population were used to test the questionnaire [20]. Where appropriate, revisions were made to clear up any misunderstanding. The revision incorporated comments from pilot participants. This was essential for confirming the validity of the measurements and the applicability of the study's findings.

4.4 Reliability and Validity

The following element of validity observed in this study:

Internal consistency - The internal logic Reliability refers to the consistency with which a test's results are given, ensuring that the numerous items used to measure the various constructions produce accurate data. In this study, all focus groups did get identical questionnaires and data collecting timeframes. The instrument's dependability was determined using Cronbach's alpha coefficient. A dependability of 0.70 or greater was acceptable. The dependability of the collected data is displayed on the table below.

Table 2 displays the results of the internal consistency test performed on the data gathering tool. The instrument's dependability was determined using Cronbach's alpha coefficient. Minimum acceptable dependability was 0.70. Cronbach's alpha (alpha = 0.903) reveals acceptable reliability coefficients for the research instruments based on student perceptions of the BL scale.

4.5 Data Collection

A hyperlink from the Question Pro application was distributed to all second-year Accounting department students via WhatsApp groups a week before the first semester break. Because everyone who participated had ample exposure to the BL mode during this time, it was chosen. The group received a weekly WhatsApp message reminding members to respond until the final week. The purpose and confidentiality of the information collected were explained to the participants as the declaration information was on the first page. Additionally, it was made very clear to participants that they could choose not to take part in the survey as it was voluntary.

4.6 Data Analysis

Data were captured on an excel spreadsheet from the Question Pro application. It was then processed through various processing stages. There were few steps involved in this process: First, raw data from the questionnaires was cleaned for missing data and incorrect entries in an Excel spreadsheet before it was imported into an statistical package for social sciences (SPSS v:25) program for more advanced data analysis. There were 119 responses in total. The response rate was 110 after the data had been cleaned up. Using this method, the population was deemed to be a good representation. The data were analysed and correlated before being transferred to Excel graphs to ensure that there were no discrepancies.

5 Findings

To get a sense of how students perceive blended learning, a descriptive statistics test, and a non-parametric Chi-square test were used in tandem to gather data from participants. This was done to find out how students from less-advanced technological backgrounds viewed blended learning.

Preliminary statistical analyses were carried out before diving deeper into the data. In order to compile the data on the participants' biographical details, the researcher employed a descriptive research design (see Table 3). Rural South Africans made up the majority of the sample, according to the responses of the survey participants.

Variable	Levels	df	f	Valid %
Gender	Male	1	44	40.0
	Female		66	60.0
Race	Black	1	108	98.2
	White		2	1.8
Age	18 to 20 years	4	25	22.7
	21 to 25 years		66	60.0
	26 to 30 years		12	10.9
	31 to 35 years		6	5.5
	36 years and above		1	0.9
Home language	Xhosa	2	104	95.4
	English		1	0.9
	Zulu		4	3.7

Table 3. Descriptive statistics for biographical variables (N = 110)

6 Non-parametric Test

A non-parametric Chi-square test coupled was initially conducted to establish the general perception of participants regarding students' perceptions of blended learning. This was done to investigate students' perceptions of blended learning who came from technologically disadvantaged backgrounds. The statements were scored on a two-point scale of 1 (disagree) to 2 (agree).

6.1 Efficient and Effectiveness of Blended Learning

A non-parametric Chi-square test of equal proportions was used to see if there was any statistically significant evidence to imply the general opinion of the participants with statistical certainty. The Chi-square test results are provided in Fig. 2 that depicts the graphical presentation. Most of the participants (88.1%) believe Wise-Up helps them accomplish learning tasks more efficiently, according to statistical evidence. The Chi-square test also revealed statistically significant evidence that the majority of participants (65.1%) agree that utilizing Wise-Up improves lecturer communication. Students can openly ask questions using Wise-Up (59.6%), and what they didn't finish in class can be completed utilizing online content (92.7%) (Fig. 1).

6.2 Enhancement of Learning and Performance

A non-parametric Chi-square test of equal proportions was used to see if there was any statistically significant evidence to imply the general opinion of the participants with statistical certainty. Figure 3 shows that many respondents (81.8%) said that using Wise-Up enhanced their student's academic performance. There is also enough data to



Fig. 1. General student perception on student perceptions of efficiency and effectiveness of blended learning.



Fig. 2. General student's perception of the enhancement of learning and performance.

demonstrate that Wise-Up gives students different approaches to learning (75.2%). The majority of the participants also perceived that using Wise-Up makes learning more interesting (70.6%). The Chi-square test also suggests that students are positive that Wise-Up would improve their learning experiences as students (78.9%). Lastly, the majority of the participants reported that online announcements (SMS or email) serve as a good reminder of school activities during the lockdown period (90.8%).



Fig. 3. General student's perception of ease of use on blended learning

6.3 Ease of Use

To check if there was any statistically significant evidence to suggest the general view of the participants with statistical certainty, a non-parametric Chi-square test of equal proportions was utilized. According to statistical data, many participants said interacting with Wise-Up was evident and understandable (74.3%). Furthermore, there was statistically significant evidence that the majority of respondents felt that students can utilize Wise-Up without any instruction (81.7%). Many of the participants also perceived that it is easy to become acquainted with Wise-up after a short time of use (83.5%). A fair number of students again navigate the LMS without technical support (54.6%) The data showed significant evidence to conclude that students are comfortable in downloading and uploading files online (86.1%) as well as those students have the necessary skills for using Wise-Up (81.3%).

7 Discussion

Participants were asked to rate various items on a frequency and percentage basis in order to conduct a descriptive analysis in order to determine their overall impressions of blended learning. Likert scale scores ranged from 1 to 4, with 1 denoting strong disagreement and 4 denoting strong agreement with the statements. Students were asked about three different aspects of blended learning: efficiency and effectiveness, improvement in learning and performance, and ease of implementation or use.

7.1 Efficient and Effectiveness of Blended Learning

Participants in this study seemed to have a generally positive view of blended learning's efficiency and effectiveness, as evidenced by their strong agreement on nearly every item included in the survey. The average percentage is above the acceptable reliability of 70%. In the opinion of students, using Wise-Up allows them to openly ask questions to lecturers and facilitates communication between students and lecturers. Students who don't finish in class may be able to do so with the help of internet resources, according to the findings. Students are encouraged to participate fully in the learning process as a result of this.

7.2 Enhancement of Learning and Performance

The frequency and percentage distributions show that many of the participants agreed on the bulk of the items measuring participants' general perceptions of learning and performance enhancement. As a result, the majority of students believed that using Wise-Up has enhanced students' academic performance and that Wise-Up gives students different learning options. With the implementation of BL, the students are now able to use the LMS at their convenience, demonstrating just how user-friendly it is because it has been tailored to reflect the same content as the textbook.

7.3 Ease of Use

There is a strong correlation between frequency and percentage distributions of items that reflect participants' general perceptions about the ease of use. Using Wise-Up also improves students' learning experiences and makes learning more exciting for students, according to the findings. Using the LMS without technical assistance, downloading learning materials, and having the necessary skills to use the LMS were all praised by participants. According to students around the world, BL is an effective method of teaching [11]. According to frequency and percentage distributions, SMS or email notifications are an effective reminder of university events during the lockdown. This study's findings support the idea that the adopted LMS should be customized to better suit the needs of its users. Students at selected HEI will benefit from this move because administrators will be able to devote more time and resources toward customizing LMS. That would be a sure sign that management has a clear understanding of the cohort studying in the institution which is from quantile one to three [10].

8 Recommendation and Conclusion

The study recommends that the student's perception of BL was positive. This can be motivated by the fact that this mode infuses the use of technology for learning and the cohort is described as a techno-savvy generation. The management and feeders of LMS to construct blended learning would know that the focus must be on how the students will get the information easily and in a beneficial manner based on the information provided by this study. Under the Covid-19 pandemic, we rely more on the use of LMS, thus

having students' input will help to develop a good teaching and learning model that will continue to encourage deep learning.

Further studies can make use of the qualitative method where interviews can be conducted not the distribution of the questionnaire. Also, looking at how the participants perceive the use of BL not only for Cost Accounting 2 but for the entire modules within the qualification can be explored as these modules are dynamic and have different approaches.

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