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THE CONSTRAINTS OF LEARNING FROM HOME DURING THE PANDEMIC: EXPERIENCES OF RURAL HEI STUDENTS

(Research article)

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Abstract

The outbreak of the Covid-19 pandemic made many institutions of learning at various levels across the globe to shift from onsite to online teaching and learning activities. This was regardless of the level of preparation made available for the transition process. Meanwhile, students from rural institutions of learning are considered to have peculiar challenges with such shift. Thus, this study investigated the constraints of students from a selected South African Rural Higher Education Institution (SARHEI). Quantitative method was employed in this study. Data was collected from 274 randomly selected undergraduates from a rural based South African university. Questionnaire was used for data collection. The collected data was analysed using Microsoft Excel 2016. The findings of the study showed that students tend to experience certain forms of constraints due to the available support systems from the institution of higher learning, as well infrastructure and skills for studying at home. Meanwhile, further findings showed that their level of computer skills did not constitute constraints for the students. The study recommends that appropriate support systems should be made available by rural institutions of higher learning, and students are furnished with necessary infrastructure and skills for learning from home.

Keywords: higher education; institution of higher learning; rural; South Africa; South African Rural Higher Education Institution (SARHEI)

1. INTRODUCTION

Aristovnik et al. (2020) opine that many students across the African continent compared to those from other continents received less support from teaching staff during the outbreak of the Covid-19 pandemic. Meanwhile, Wandler and Imbriale (2017) as well as Uleanya and Gamede (2018) hold the view that support from teaching staff to students enhances success, thus, is necessary. Such supports during the period of the outbreak of the Covid-19 can be in form of Information Technology (IT) related services, administrative issues, release of important information / notices, amongst others. Additionally, access to library and support from library staff members is important (Lance, Schwarz & Rodney, 2014; The Association of College and Research Libraries, 2015 as well as Aristovnik et al., 2020). However, Aristovnik et al. (2020) further add that by April 2020, many libraries across the world were shut due to the increase in the spread of the Covid-19 pandemic. Furthermore, support can be in form of tutorials (Aristovnik et al, 2020). Moreover, in spite of the outbreak of the Covid-19 pandemic, many students in developed nations of the world were given access to quality tutorial sessions in contrast to what was obtainable in developing nations which are predominantly African countries. Conversely, review of the works of Page, Charteris, Anderson and Boyle (2021) as well as Uleanya, Ezeji and Uleanya (2021) show that with the outbreak of the Covid-19 pandemic, learners are to be made to access learning tools while at home. However, this seems not to be the case in many developing nations. Meanwhile, according to Egenti (2016); as well as Salgong, Ngumi and Chege (2016), counselling is another support that is crucial and needed to be made available for students. Aristovnik et al, (2020) holds the view that counselling

support is crucial especially in a period such as the outbreak of the Covid-19 pandemic. In addition to the support systems needed by students during the outbreak of the Covid-19 pandemic amongst others include, making available of necessary infrastructures which promote online learning from anywhere is necessary (Aristovnik et al. 2020). According to Wandler and Imbriale (2017), making available needed infrastructures promotes self-regulation in online learning for students. Extant literatures suggest that some of the identified needed infrastructures include: quiet environment (Wandler & Imbriale, 2017), computer (Wong, et al., 2019), printer, headphones (Moran, 2016 and Hayes, 2020), webcam (Edwards, 2020; Liano, 2020; and Smith, 2020). However, on the other hand, Miller (2020) holds the view that students for certain reasons should be able to switch their webcam off. Other additional enabling infrastructures amongst others are: writing tools such as pens, pencils, papers, erasers, sharpeners (Green, 2016). Thompson (2021) adds that reliable functional computer, external monitor(s), which can be categorised as office supplies should be considered as part of the needed infrastructures needed for online learning. Internet connections are also regarded as part of the needed infrastructures for online teaching and learning activities (Uleanya & Gamede, 2019; Wong et al., 2019; Uleanya, Gamede & Kutame, 2020 as well as Aristovnik et al. 2020). However, Uleanya, Gamede and Kutame (2020) as well as Aristovnik et al. (2020) further add that in many African nations access to good internet connection for study seems to be limited. Further infrastructure needed for online learning is provision of course study materials (Aristovnik et al., 2020; Wong, et al., 2019 and Mclennan, 2020).

Additionally, extant reviewed literature show that certain skills are needed for online teaching and learning to be successful (The Conference Board of Canada, 2014; The United Nations Educational, Scientific and Cultural Organization (UNESCO), 2018 and Aristovnik et al., 2020). Some of the identified skills needed for online learning includes sharing of digital contents (The Conference Board of Canada, 2014 and UNESCO, 2018), use of online teaching platforms, ability to use online collaboration platforms, online communication platforms, use and applying of software and programmes needed for studying, amongst others. Suffice to state that availability of the necessary infrastructures, support system and required skills needed for online learning is expected to enhance students learning abilities, thereby boosting their academic performances. However, lack of the identified factors are envisaged to constitute constraints for students regardless of their levels of study. On the other hand, the outbreak of the Covid-19 pandemic forced many institutions of learning across the globe to move from onsite to online teaching and learning, regardless of their level of preparedness and available resources (Aristovnik et al., 2020). Hence, the reason for this study which investigates the constraints experienced by students in a selected South African Rural Higher Education Institution (SARHEI) during the outbreak of the Covid-19 pandemic. Meanwhile, this study was conducted from a global perspective. In addition, the study was guided by the following identified research questions: How satisfied are students in the selected South African Rural Higher Education Institution (SARHEI) with teaching and administrative staff support? How satisfied are students in the selected South African Rural Higher Education Institution (SARHEI) with infrastructural skills for studying from home? How confident are students in the selected South African Rural Higher Education Institution (SARHEI) in their own computer skills? Attempt to proffer answers to the identified research questions following collected data aided the researchers to identify the constraints experienced by students from the selected SARHEI on learning from home during the period of the outbreak of the Covid-19 pandemic.

2. METHODOLOGY

2.1. Research Design

This survey adopted a descriptive quantitative research design. Creswell (2014) and Kumar (2019) hold the view that quantitative method is adaptable in a study when attempting to gather quantitative information on the characteristic(s) of a specific subject matter in a given environment, individuals or a group. According to Akhtar (2016), research involving the use of descriptive quantitative method can be used to describe social structure, social events, social situations, amongst others. Akhtar (2016) further posit that, it can otherwise be called statistical research. This is because it usually involves collection of large data set. Thus, findings from a study which employs the use of quantitative method can be generalized (Creswell, 2014 and Kumar, 2019) In the case of this study, descriptive quantitative research design was adopted to aid the description of happenings in the selected South African rural university with regards to the constraints experienced by students while learning from home during the outbreak of the Covid-19 pandemic.

2.2. Participant Selection Method

The target population for this present study was undergraduate students of the selected rural South African HEI. The students were 18 years of age and above from across all faculties of the selected institution of higher learning. Random sampling technique was adopted for selecting the 274 undergraduate students from the selected South African rural university who were respondents in this study. Following the Covid-19 restriction rules, students the online link to assess the questionnaire was sent to students to enable them participate by responding to the items. Meanwhile, for the authors of this present paper to take successfully conduct this study, permission was obtained in the form of a gatekeeper letter after obtaining ethical clearance from the selected South African Rural Higher Education Institution (SARHEI).

2.3. Data Collection Tool

Online anonymous voluntary questionnaire was employed for data collection from the 274 randomly selected undergraduate students. The questionnaire was anonymous and was composed of four parts. The first section was targeted at retrieving biographic data of respondents. The second section was targeted at retrieving information on students' satisfaction of with teaching and administrative staff support in relation to studying from home. Additionally, studying from home requires certain basic infrastructures and skills. Thus, section three of the questionnaire was directed at retrieving information on students' satisfaction with infrastructural skills for studying from home. Meanwhile, since studying from home entails the use of personal computer and skills in this regards, section four of the questionnaire focused on collecting data on respondents' confidence in their own computer skills.

2.1. Data Analysis

The identified table and three figures are based on the collected data on items which relate to the socio-demographic and the satisfaction of undergraduate students on infrastructure as well as their skills for studying from home during the Covid-19 pandemic. Majority of the items in the questionnaire were Likert scale items with five options of: Very Dissatisfied, Dissatisfied, Neutral, Satisfied and Very satisfied. During the analysis, the authors collapsed the adopted five-point Likert scale of Very Dissatisfied, Dissatisfied, Neutral, Satisfied and Very Satisfied into three categories which are: Satisfied (that is summation of Satisfied and Very satisfied), Neutral (that is, neither Satisfied nor Dissatisfied) and the category Dissatisfied was a summation of Dissatisfied and Very dissatisfied. It must be stated that the three

categories were generated when reporting the percentages of the students' responses from the table and figures for better interpretation of the data. Meanwhile, items relating to student supervision and mentoring are not included as they are not relevant to undergraduate courses. The biographic information of respondents is as presented in figure 1

It is also to be noted that the participant in this study were not obligated to provide responses to all the questions in the questionnaire. Remote and rural areas have problems with poor internet connectivity or even lack of electricity and this could have made students not to complete all items, which has resulted in the number of varied responses across different items in the questionnaire. The analysis of each item is based on the available data of that particular item. Table 1 shows that biographic data of respondents:

Table 1: Biographical information of students from the rural HEI

Gender	**Percentages (%)**
Male	42
Female	57
Gender not disclosed	1
Field of study	
Arts and Humanities	11
Social Sciences	67
Applied Sciences	10
Natural and Life Sciences	12

3. FINDINGS

The results of the study are as presented in the figures. Meanwhile, in order to identify the learning from home constraints of students during the outbreak of the Covid-19 pandemic and consequent shift from onsite to online teaching and learning, there is need to explore students' level of satisfaction on the following:

1.contentment with teaching and administrative staff support

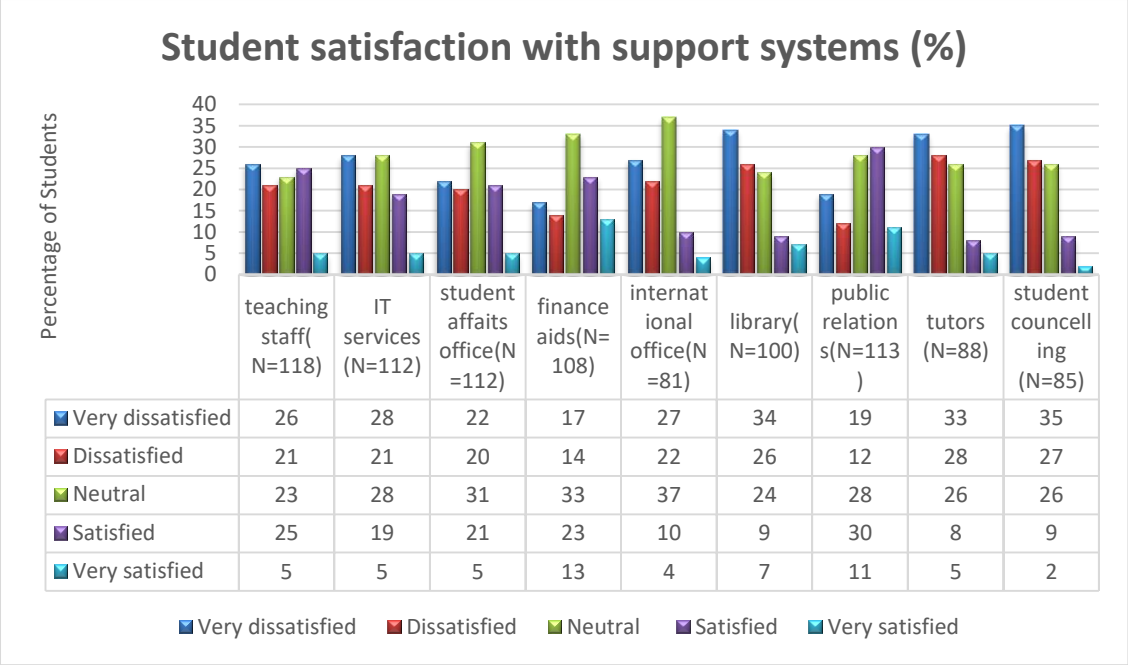
2.infrastructural skills for studying from home

3.confidence in their own computer skills

The results and discussion of findings of the study are presented following each of the identified research question guiding the study.

Research Question 1: How satisfied are students in the selected South African Rural Higher Education Institution (SARHEI) with teaching and administrative staff support?

The results from analysed data following respondents' responses on their satisfaction with support from the teaching and administrative staff of the selected rural institution of higher learning are presented in figure 1.



	teaching staff(N=118)	IT services (N=112)	student affaits office(N=112)	finance aids(N=108)	international office(N=81)	library(N=100)	public relations(N=113)	tutors (N=88)	student councelling (N=85)
Very dissatisfied	26	28	22	17	27	34	19	33	35
Dissatisfied	21	21	20	14	22	26	12	28	27
Neutral	23	28	31	33	37	24	28	26	26
Satisfied	25	19	21	23	10	9	30	8	9
Very satisfied	5	5	5	13	4	7	11	5	2

Figure 1: Satisfaction of students in the selected South African Rural Higher Education Institution (SARHEI) with teaching and administrative staff support

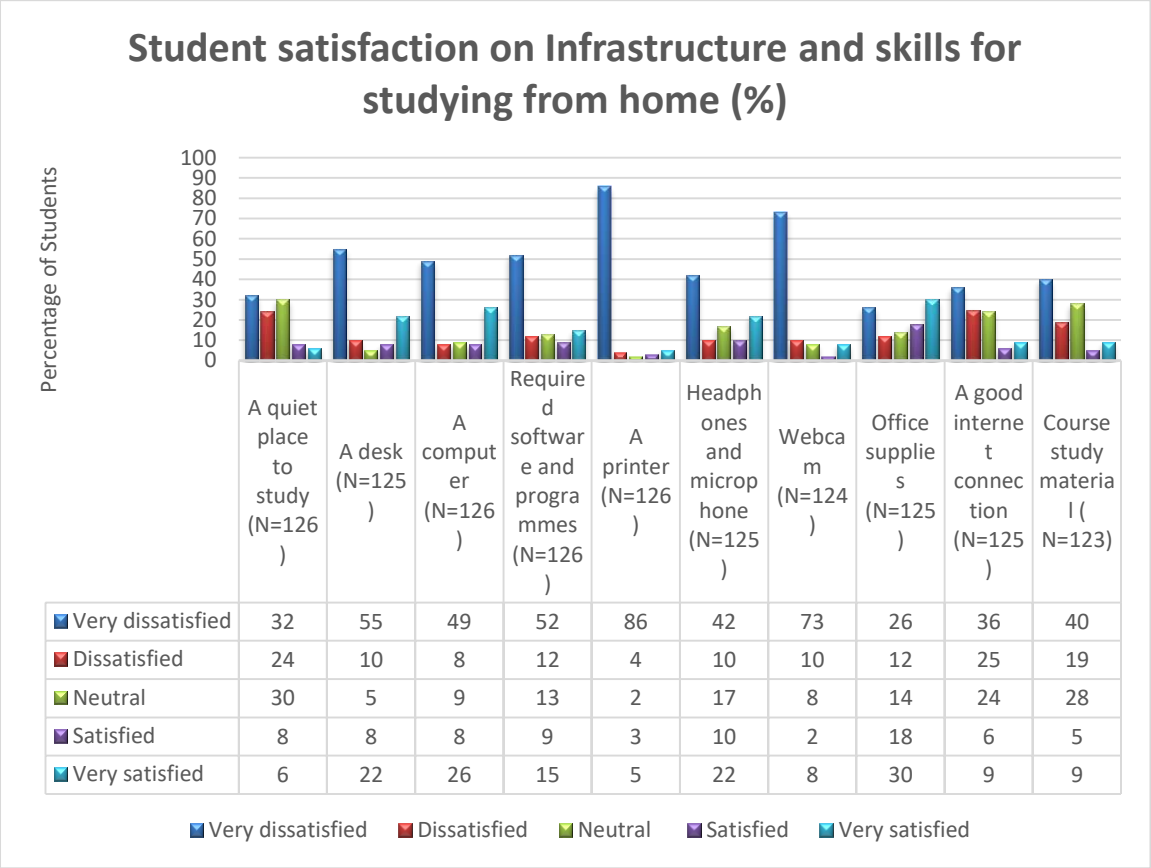
Figure 1 shows that 47% of the respondents were dissatisfied with the support received from teaching staff, 23% were neutral, while 30% were satisfied. This finding shows that more of the respondents were dissatisfied with the support rendered to them by the teaching staff during the outbreak of the Covid-19 pandemic. This finding corroborates the work of Aristovnik et al. (2020) which shows that majority of the students across the African continent compared to students from other continents were somewhat dissatisfied with the support received from teaching staff. Meanwhile, part of the findings of the works of Wandler and Imbriale (2017) as well as Uleanya and Gamede (2018) shows that the support from teaching staff in ensuring students success is pivot. The findings from figure 1 further shows that 49% of respondents were dissatisfied with the support received from Information Technology (IT) services staff, 28% were neutral, while 24% were satisfied. This finding shows that majority of the students did not get the expected support from the IT services unit of their institution during the outbreak of the pandemic.

Additionally, the finding from figure 1 shows that 42% of the respondents were dissatisfied with the support received from the student affairs office, 31% were neutral, while 26% were satisfied. Meanwhile, 31% of the respondents were dissatisfied with the financial aid support, 33% were neutral, while 36% were satisfied. Furthermore, 49% of the respondents were dissatisfied with the support received from the international office, 37% were neutral, while 14% were satisfied. In the same vain, 60% of the respondents were dissatisfied with the support received from the library, 24% were neutral, while 16% were satisfied. This finding coincides with the work of Aristovnik et al. (2020) who opines that as at April 2020 many libraries across the world were shut due to the rise in the spread of the Covid-19 pandemic. Meanwhile, following the submissions of Lance, Schwarz and Rodney (2014) and the Association of College and Research Libraries (ACRL) (2015), the library plays a pivot role in ensuring the success of students.

Figure 1 further shows that 31% of the respondents were dissatisfied with the support from the public relations office, 28% were neutral, while 41% were satisfied. This implies that more of the respondents were supported from the public relations office of the selected rural

institution. Meanwhile, regarding support from tutors and for tutorials, 61% of the respondents were dissatisfied with the support received from tutors, 26% were neutral, while 13% were satisfied. This finding is in contrast when compared to the result from advanced nations following the findings of the work of Aristovnik et al (2020) who opine that students were satisfied with the tutors and tutorials. However, when compared to results from underdeveloped/developing nations, the finding concurs with the work of Aristovnik et al. (2020) which shows that students from many African nations were dissatisfied with the support received in this regard. Figure 1 also shows that 62% of the respondents were dissatisfied with the counselling support received from their institution of higher learning, while 26% were neutral and 11% were satisfied. This finding shows that majority of the respondents were dissatisfied with the support on counselling provided to them. Meanwhile, according to Egenti (2016); as well as Salgong, Ngumi and Chege (2016), counselling plays crucial roles in enabling students to achieve the desired success.

Research Question 2: How satisfied are students in the selected South African Rural Higher Education Institution (SARHEI) with infrastructural skills for studying from home?



	A quiet place to study (N=126)	A desk (N=125)	A computer (N=126)	Required software and programmes (N=126)	A printer (N=126)	Headphones and microphone (N=125)	Webcam (N=124)	Office supplies (N=125)	A good internet connection (N=125)	Course study material (N=123)
Very dissatisfied	32	55	49	52	86	42	73	26	36	40
Dissatisfied	24	10	8	12	4	10	10	12	25	19
Neutral	30	5	9	13	2	17	8	14	24	28
Satisfied	8	8	8	9	3	10	2	18	6	5
Very satisfied	6	22	26	15	5	22	8	30	9	9

Figure 2: Satisfaction of students in the selected South African Rural Higher Education Institution (SARHEI) with infrastructural skills for studying from home

Figure 2 presents results of analysed data on students' satisfaction in relation to available infrastructure and skills for studying from home especially owing to the shift from onsite to online learning during the outbreak of the Covid-19 pandemic. The results show that 56% of the respondents were dissatisfied about the issue of having a quiet place to study, 30% were neutral and 14% were satisfied. This finding implies that majority of the respondents lacked quiet place to study. This finding agrees with the work of Aristovnik et al. (2020) who opine that during the outbreak of the Covid-19 pandemic, many students lacked quiet place to study. Meanwhile, review of the work of Wandler and Imbriale (2017), in promoting self-regulation

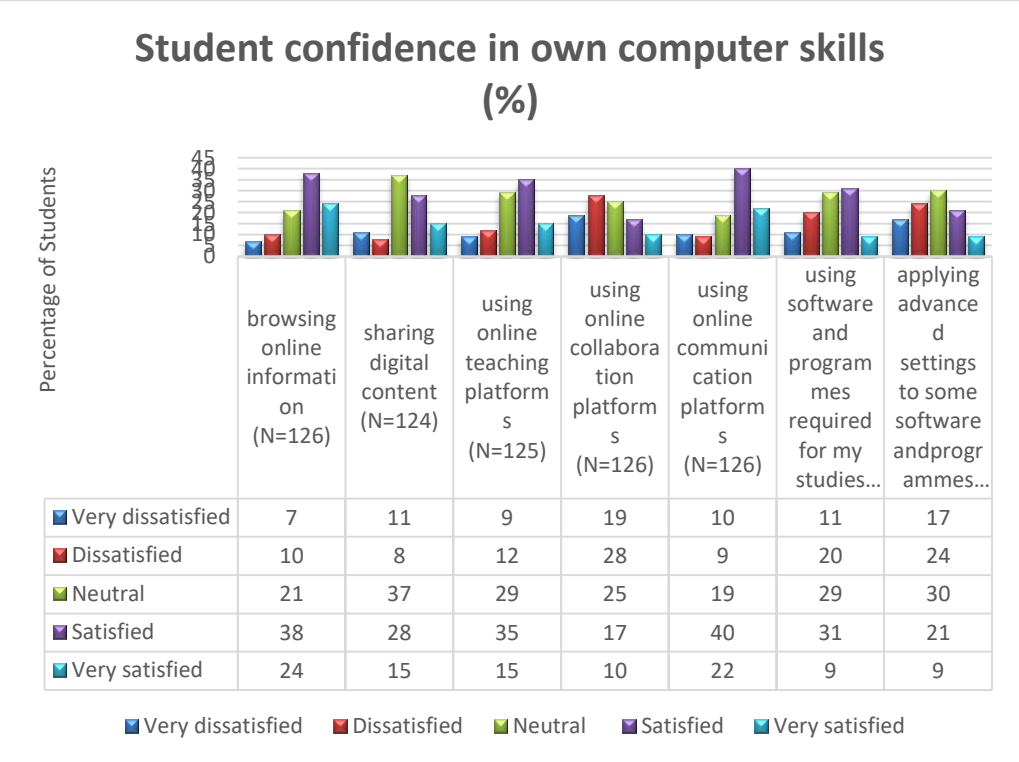
in online learning for students there would be need for quiet place of study during study time. Similarly, this finding is in congruence with the works of Page, et al. (2021) as well as Uleanya et al. (2021) who hold the view that students find it difficult in accessing learning tools at home. This implies that the study habit as well as learning abilities of students can be hampered during the shift from onsite to online during the outbreak of the Covid-19 pandemic owing to lack of quiet place of study.

Figure 2 further shows that 65% of the respondents were dissatisfied about the issue of having desk for study, 5% were neutral and 30% were satisfied. This implies that majority of the respondents from the selected rural higher institution of learning in South Africa lacked enabling infrastructure such as desk. The figure also showed that while 57% of the respondents were dissatisfied with the issue of accessing a computer, 9% were neutral and 34% were satisfied. This finding shows that students from the selected institution of higher learning lacked good access to computer, meanwhile, online learning is almost impossible without the use of a computer (Wong, et al 2019). This finding contrast the work of Aristovnik et al. (2020) who state that many students especially those from Oceania, North America and Europe had access to computers as their most frequently used electronic equipment. This suggests that importance of computers for online learning especially during the period of the outbreak of Covid-19 pandemic. Similarly, 64% of the respondents were dissatisfied with their access to required software and programmes, 13% were neutral while 24% were satisfied. This implies that many of the students were not given access to software and programmes necessary for online teaching and learning exercises especially following the shift in their mode of learning. Likewise, 90% of the respondents were dissatisfied with their access to a printer, 2% were neutral while 8% were satisfied. This finding shows that majority of the students were denied access to printer which is a contributory infrastructure needed for online teaching and learning activities. Other necessary infrastructures include headphones, webcam, office supplies, good internet connection and course study materials. 52% of the respondents were dissatisfied access to headphone and microphone, 17% were neutral and 32% were satisfied. In this regard, the finding shows that headphones and microphone were not considered important for students learning in online situations. Thus, many of the students were denied access to such. Meanwhile, according to Moran (2016) and Hayes (2020), headphones are to be considered as one of the important equipment needed for remote learning. Also, regarding the availability of webcam, 83% of the respondents were dissatisfied with such, 8% were neutral, while 10% were satisfied. This finding suggests that the use of webcam for online teaching and learning exercises is considered less significant and unimportant. This finding somewhat corroborates the work of Miller (2020) who holds the view that students should be able to switch their webcam off during teaching and learning exercise. This implies that the webcam is considered unimportant. However, the finding contrasts the works of Edwards (2020), Liano (2020), and Smith (2020) who state that webcams are important for both teachers and students during remote learning. Smith (2020) goes further to describe webcam as a crucial gadget needed to successfully facilitate the process of online teaching and learning.

Additionally, the finding from figure 2 shows that 38% of the respondents were dissatisfied with the office supplies, 14% were neutral, while 48% were satisfied. This finding suggests that students in the selected university had somewhat access to needed office supplies. Such office supplies could include writing tools like pens, pencils, papers, erasers, sharpeners, amongst others (Green, 2016). Meanwhile, Thompson (2021) adds that reliable functional computer, external monitor(s), should be considered as part of the office supplies need in online learning environment. Furthermore, 61% of the respondents were dissatisfied with the kind of access to internet connection received, 24% were neutral and 15% were satisfied. This finding

shows that majority of the respondents were denied needed access to internet connection. The finding coincides with the works of Uleanya, Gamede and Kutame (2020) as well as Aristovnik et al. (2020) which shows that many African nations lack access to good internet connection for study as vital as is its demand. Meanwhile, according to Uleanya and Gamede (2019), as well as Wong et al. (2019) access to quality internet connection is crucial for online teaching and learning exercises. In addition, the results in figure 2 show that 59% of the respondents were dissatisfied with their access to course study material, while 28% were neutral and 14% were satisfied. This finding shows that majority of the respondents seemed to have been denied quality access to course study material which is one of their crucial needs. This finding agrees with the work of Aristovnik et al. (2020) which reflects that students from African nations had limited access to course study materials for online learning during the outbreak of the Covid-19 pandemic. Meanwhile, following the submission of Wong, et al (2019), and Mclennan (2020), in online teaching and learning environment, availability of course study material is important especially because of the low presence of teachers, and students are to decide when to study and how to approach the materials. Suffice to state from the foregoing that the learning abilities and consequently academic performances of students in the selected rural high institution can be hindered to the limited access to infrastructures needed for studying from home especially following the outbreak of the Covid-19 pandemic.

Research Question 3: How confident are students in the selected South African Rural Higher Education Institution (SARHEI) in their own computer skills?



	browsing online information (N=126)	sharing digital content (N=124)	using online teaching platforms (N=125)	using online collaboration platforms (N=126)	using online communication platforms (N=126)	using software and programmes required for my studies...	applying advanced settings to some software andprogrammes...
Very dissatisfied	7	11	9	19	10	11	17
Dissatisfied	10	8	12	28	9	20	24
Neutral	21	37	29	25	19	29	30
Satisfied	38	28	35	17	40	31	21
Very satisfied	24	15	15	10	22	9	9

Figure 3: Confidence of students in the selected South African Rural Higher Education Institution (SARHEI) in their own computer skills

Figure 3 presents the results and possible constraints that might have been experienced by students in the selected institution of higher learning following the level of confidence that they have in their computer skills. The results show that 17% of the respondents were dissatisfied with their confidence in their browsing online skills, 21% were neutral and 62% were satisfied. This implies that the skills for browsing online does not seem to constitute constraints for many

of the students. Similarly, 19% of the respondents were dissatisfied with their confidence in their skills for sharing digital contents, 37% were neutral and 43% were satisfied. This finding suggests that skills need for sharing digital contents seem not to be somewhat a challenge for students in the selected institution of higher learning. Moreover, according to The Conference Board of Canada (2014) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) (2018), digital content sharing is one of the skills needed in the 21st century. Furthermore, the figure 3 shows that 21% of the respondents were dissatisfied with their skills in the use of online teaching platforms, 29% were neutral and 50% were satisfied. This indicates that the use of online teaching platforms did not constitute somewhat of a constraint for students in the selected rural university. Meanwhile, 47% of the respondents were dissatisfied with their confidence in their skills of using online collaboration platforms, 25% were neutral and 27% were satisfied. This finding indicates that skills on the use of online collaboration platforms remains a challenge for many of the students in the selected university. However, 19% of the respondents were dissatisfied with their confidence in their skills of using online communication platforms, 19% were neutral and 62% were satisfied. This shows that many of the students in the selected university seems to possess the skills needed in online communication platforms. In the same vain, 31% of the respondents were dissatisfied with their confidence in their skills for using software and programmes needed for studying, 29% were neutral and 30% were satisfied. Also, 41% of the respondents were dissatisfied with their confidence in their skills for applying advanced settings to some software and programmes, 30% were neutral and 40% were satisfied. This result from figure 3 suggests that skills for using and applying software and programmes needed for studying are somewhat lacking in many of the students in the selected institution of higher learning.

4. CONCLUSION AND RECOMMENDATIONS

The study investigated the constraints experienced by students of higher learning using responses of respondents from a selected South African rural university. The data for this present study was a perspective from a global research which consisted of 30,383 students from 62 countries across six continents of the world. In attempt to investigate the constraints experienced by students, answers were proffered to the three identified research questions guiding the study. The identified research questions revolved around students' satisfaction on teaching and administrative staff support, the available infrastructural skills for studying from home, as well as confidence in their own computer skills. The findings of the study following analysed data showed that whilst students are somewhat constrained due to the support systems made available by the selected rural institution of higher learning, confidence in their computer skills seemed not to be a challenge. However, the issue of available support systems based on infrastructure and skills for studying at home was a major constraint for them. Sequel to the findings of the study, the following recommendations are made:

- There is need for appropriate support systems to be made available by rural institutions of higher learning. These support systems include administrative and academics. This can be done by engaging the services of Information Technology (IT) experts concerned with online education matters. Such support systems when duly put in place would enable to smooth running of online teaching and learning activities, which would enhance students' learning abilities and consequently their academic performances.
- Parents and rural institutions of higher learning should work towards exploring options of furnishing students with the necessary infrastructure and skills for learning from home. This can be done through partnership with Information Technology (IT) firms, and/or other industries that can assist in providing funds for such capital intensive tasks. Also, periodic training of students on the needed skills for online teaching and learning

would help in reducing or eradicating constraints hindering students from working from home during the Covid-19 pandemic.

- Students should be motivated to be resilient and work towards success regardless of the experienced constraints from poor support systems either from home or their institution of higher learning. This can be done through regular periodic orientation programmes or counselling sections through the Students Service Support Department (SSSD) or any other relevant unit within the institution of higher learning. In this regard, students can afford to work towards ensuring their academic success.
- Trainings and workshops should be organised periodically for students following areas where needed skills seem to be lacking by many. This can be done by first allowing students to identify their areas of deficiency through an online survey, thereafter, workshops can be organised following the result of the survey. Meanwhile, the workshops can be organised during holidays or weekends, so as not to interfere with the lecture period of students. This would help in enhancing and sharpening the skills of students for online learning as well as prepare them for the real world situation.

Acknowledgement

The authors of this paper acknowledge that the data for this study was retrieved from a global study which comprised various scholars from across different nations and continents of the world. The principal investigator of the global study from Slovania by name Aristovnik and his team are duly acknowledged for initiating a study of this magnitude, developing the research instrument and analysing the collected data. The data for this present study was deduced sequel to the conducted global study which comprised 30,383 students from 62 countries across six continents of the world, of which the selected university was a part.

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