

**Is there a statistically significant difference between the academic performance of students who frequently use and those that rarely use the student support services provided in a research methodology module during the COVID-19 pandemic?**

by

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## **Abstract**

### **Background**

With the increase Covid-19 cases in the first quarter of 2020, World Health Organisation began recommending countries worldwide to implement nationwide lockdowns in the bid to try curb further spread of Covid-19 cases. Decisions by countries worldwide to lockdown nations was done in a reactive manner, which meant that universities were allowed little to no time in planning a way forward on how learning would be commenced. Thereby, lockdown measurements meant that students had to move from traditional use of student support services like libraries, to using e-learning services over the internet.

### **Research problem**

Students' academic performances were being affected by the change of the environment brought upon by effects of Covid-19, could this have been triggered by the use, or lack of use of student support services?

### **Motivation**

In this study, it is of importance to carry out detailed research in which effects of academic performances of students who make use of student support services, or those who don't, have a significant difference towards their academic success. The main reason for carrying out this detailed research is to determine if student support services have an impact towards academic performance or not.

### **Proposed research approach and methodology**

In this study, positive paradigms will be of importance as the target is to outline the statistical gaps between the two variables, students' academic success on those who make use of student support and those who don't. The study shall aim to make a quantitative research based on conducted samples found based on past research.

### **Main findings expected**

There's an expectation that this study will statistically outline whether there's a difference between students who use support materials and those who don't in terms of academic performances.

### **Anticipated contributions**

The results of this study will help institutions assess on whether the support services they are offering are of vital importance to students or not. Furthermore, this will help in finding ways to make improvements to each support services model.

**1. TITLE Is there a statistically significant difference between the academic performance of students who frequently use and those that rarely use the student support services provided in a research methodology module during the COVID-19 pandemic?**

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## 1. Background

In the first quarter of 2020, the world realised a rapid increase in Covid-19 cases which prompted the World Health Organisation (2020) to declare this a public health hazard. This prompted countries worldwide to declare national state of disasters thereby giving authority to implement restrictions in terms of movements. According to Toquero (2020), the abrupt movements to nationwide lockdowns in nations all over the globe gave higher education institutions little to no time to plan how education could be commenced as institutions which aren't as financially sound went as up to 6 months without progressing in teaching its students. This led to a bewildered situation in which students had to make use of online student support services in the absence of university personnel.

In a research-based module, it is imperative that students utilise academic resources to the best of their abilities by making use of student support services. However, with the recent devastating effects of the Covid-19 pandemic which turned the world 'upside-down', it has affected the student support services offered by institutions in research methodology modules. In a recent study conducted by Nepomuceno (2020), the author argued that Covid-19 should be considered as a black swan event as the pandemic came as a surprise to the world. Furthermore, it came along with devastating consequences which made the way in which academic learning experience change. In the research he also found that research-based students at postgraduate level were struggling to adopt in making use of e-learning which restricted them from accessing a wide range of resources like how institutional libraries do. This could have been attributed by the fact that the pandemic came to the world abruptly and required students to act in reactive manners.

Nevertheless, the pandemic didn't stop academic progression within the higher education environment as it meant that institutes had to make use of the internet, scholarly websites and social media to enhance their academic performance. This brings us to the realisation that in the midst of a world calamitic situation which was being faced during the pandemic, academic success is still very much in reach of students studying research-based modules. Notwithstanding that, the study which will be carried out in this paper seeks to identify whether there's a difference in academic performances of students who make use of student support services and those who don't make use of the material in regards to research methodology modules during the period of Covid-19.

## **2. Literature Review**

The main goal of this research is to make an analysis on whether there's a statistically difference between the academic success of students who make use of support services provided in research methodology, and those who don't make use of the services. In this study a further analysis will be conducted in which reasons as to why students who make use of the study support are able to find success as opposed to those that neglect to use them. The two variables that are present in this study are students who make use and those that don't use support services.

### **Support Services**

According to Aluko (2021), the author outlined that student support can be categorised into a number of different formats. The formats of these student support services included retention services such as online orientation, advising, course registration and coaching. Furthermore, Aluko also included that form student support student well being had to be included. In this category included counselling and health services. These are deemed to be important as they have a psychological impact on a student's academic performance. Gratz (2020) also outlined the learning aspect of the student support services which included the electronic library services (for example, online libraries), online tutoring, career services centres and additional technology support provided to students. Furthermore, Motjoloane (2021) described that student support in the context of research methodology subjects should also be inclusive of support materials such as constant engagements and supervision with lecturers or supervisors. Motjoloane (2021) explained that constant consultation with supervisors ensures that students are kept in track with the requirements of research methodology framework. Shaheen, Mahmood and Nazir (2020) described student support services as being a set of combined techniques which enable students achieve their accomplishments through the pursuit of education in a manner which is linked more labour-intensive techniques and additionally attracting more students. The point that the authors were driving towards is that the success of the university is consequently the success of the university as well. Therefore, Shaheen, Mahmood and Nazir (2020) emphasised that universities should ensure that they drive a campaign in which it encourages students to make use of student support services in their research-based modules as the these broaden students way of thinking by adding more knowledge. Consequently, this would result in students passing thereby making the university much credible.

## **Academic performance**

Lamas (2021) described academic performance as a set of combinations in which a student should be able to meet their set targets, as achievements would follow as a direct consequence of it. Furthermore, Lamas mentioned that for this to be possible there is direct correlation between the student applying the concepts through constant practice and engaging them at formative assessments. The results of academic performance are expressed through grades in which a student should attain a minimum of 50% in order to pass the research methodology module. According to Razak et al. (2021), the authors noted that for the academic success of students during the current covid-19 period should be culminated to various factors as the situation was complex as compared to previous years. The main reason to which the authors found to having impact towards students' success was the students themselves engaging with the academic materials that would be to their disposal with their respect campus. Therefore, the authors argued that it is imperative that the institutions and students themselves ensure that they mutually engage with one another in order to reach academic success. For example, institutions would need to provide academic guidance such as study module outlines which outline what is required of the student in terms of the module in question, or alternatively provide study notes to ensure that students don't derail from what they are expected to have knowledge of. According to Makoe and Snamba (2019), the duo outlined different student perceptions towards the effectiveness of student support services. Some students voiced that based on distance learning University of South Africa was offering minimal support to its students which they suggested that it had a direct impact towards academic performances through marks.

## **The correlation between students who make use of student support services and those who don't in comparison on how it affects academic performance**

According to Wilmer (2009), she outlined that for a student to achieve academic excellency it is imperative that they commit to their academic materials. She noted that there was an observation in which she noted that whilst focusing on academic material it is not just studying that contributes to academic achievement, but rather a combination of strategies and techniques that cumulate to progress which then leads to higher grades being achieved. Wilmer noted several factors in which students who achieved academic success used. These included the use of designated study group discussions where each student would make contributions to a certain task,

and weekly webinars that were hosted by the university in which various topics would be discussed at the Michigan State University. The point that she put across was that academic success wasn't contributed solely by studying textbooks, but rather also staying in touch with different resources at the students' disposal. For example, making use of university psychologists for mental health assessments was described by Melea et al. (2019) as a focal point in determining student success. The authors noted that for a student to realise academic success they have to focus on their academic work with a state of mindset in which they are not being affected by mental problems such as stress.

According to Olivier (2016), from the conducted survey that he made he discovered that students who attend assessment related prep seminars generally performed better than students who neglected to make use of the platforms provided by the university. These surveys were conducted at the University of South Africa. Razak et al. (2021) further explained that open distance learning institutes would face challenges in ensuring that their students get adequate student support services as accessing campus would not be feasible. This was questioned by Prinsloo (2015) who suggested that participation and engagements of students who do open distance learning can be met with constraints as several factors would restrict this from occurring. For example, an institute may set a certain time scheduled to hold a seminar, however, the attends could be hindered by electricity load shedding. This could affect academic performance.

However, there are some instances where authors argued that student support services didn't have an impact towards academic success. Olivier (2019) outlined that in a survey they collected, students who made use of exam seminars which were provided in the form of a contact session failed to perform as well as the students who were not in attends of the contact class session. Olivier suggested that this could have been attributed by the reasoning that students who attend contact sessions tend to not revise after the sessions because they would be of the opinion that they did revise during the contact session. This would result in students failing as the concepts would not have been mastered fully.



### **Is there a difference in academic performance of students who make use of student support service and those who don't in terms of research methodology?**

According to Pajer (2021), academic related work given to students requires that students put in the work and effort in order to achieve good marks. The connotation that he was trying to put across was “no pain, no gain”, meaning students would need to give in more than just the bare minimum in order to achieve success. In the instance of research methodology, this would mean that students would need to go beyond the scope of what is offered in the prescribed materials. This means that students would need to use additional materials such as peer to peer reviewed articles, and other credible materials that can add strength to their academic arguments.

Furthermore, Shaheen, Mahmood and Nazir (2020) added that there is an active reason for one to support the thesis that there's a direct correlation between students' academic performance and the students' active usage of the support systems that are provided by their institutions. However, they also noted that it depends on how the support services were being put into place by the students. The trio (Shaheen, Mahmood and Nazir, 2020) noted that in terms of research methods-based modules especially at postgraduate level, it is not necessary for students to attend class on fulltime bases as most of the time they'd be required to do research and consult with their supervisors once in a month to monitor progress. Therefore, student support service of attending classes frequently would not be required in such an instance.

Overall, with the collected literature, it is notable that within the context of research methodology there's a gap between the academic performance between students who make use of student support services and those that don't make use of such material. This notion was supported by Landicho et al. (2021) in which the authors noted that with the effects of covid-19 it meant that students would need to make use of support services such as e-libraries and weekly webinars to achieve academic success. Specifically to research methodology, the context of what is required for this module denotes that students have to do further research. This means for a student to achieve success in the module it is imperative for them to make use of academic resources offered by their institution to strengthen their academic argument. Therefore, there's a need to further investigate the differences between students who make use of support services provided for in research methodology and those who don't as evident from academic performance.

### **3. Problem Statement**

According to Herman, Puspitasari and Padmo (2015), the trio outlined that it is in recent years students at the University of Terbuka were showing that student support services were proving to be impactful from a study which was conducted. Students at University of Terbuka were improving due to awareness campaigns of mental health issues caused by anxiety, referencing webinars, and master classes which enabled students to grasp important aspects of modules before formative assessments commenced. This proved to be an effective strategy as it enabled students to engage with campus staff in which they knew how questions should be approached when in an exam room for instance.

However, Dunn-Coetzee et al. (2021) questioned the success rate of student support services for postgraduate students in which the authors outlined that presented with nationwide lockdowns supervisors were finding it difficult to address each student's progress towards their thesis. This then drives to the following research questions which need to be addressed:

- ❖ To what extent are student support services impactful to students studying research methodology during the Covid-19 period?
- ❖ Is the use of student support services showing a statistical difference in terms of academic performance in students who make use of the services?

### **4. Research Objectives**

As Covid-19 has proven to become part of our lives worldwide, this means that adjustments in terms of how studies are commenced had to changed by universities to open distance learning. However, Dunn-Coetzee et al. (2021) noted that from different perceptions of students conducted from their study, it shows that there were both positives and negatives on what students perceived the student support services that were being offered to them. In this study, it is imperative to address the following objectives:

- ❖ To discover different levels of Student Support Services that are being offered by universities.
- ❖ To discover to what extent do these support services have an impact on academic performance of students carrying out research methodology.

## **5. Research Method**

In this study the research that is going to be adopted is mainly quantitative research approach. However, there will be instances where mixed methods approach will be used as we get different perceptions that can't be quantified into value. According to Labaree (n.d.), quantitative research technique entails the usage of techniques which help in collecting numerical data and getting a general conclusion across the size of groups of people with the objective of explaining a certain principle. The approach that will be used in this paper will be that of an objective approach in which the usage of secondary data will be of importance. The collection of data would consist of usage of peer-to-peer reviewed articles, numerical statistics collected from statistical websites, and other credible sources which would be of value to research. Regarding the current study of finding out whether student support services have an impact on academic performance of students conducting study in research methodology during the Covid-19 period, a further exploration of data elaborating the impact of what the variables had on the study will be discussed in the preceding paragraphs. It is imperative to note that in the preceding paragraphs there will be an approach to bridge the gap between the research questions, statistical analysis, and how the research problem will be intended to be solved.

### **5.1 Research Paradigm**

In this study, positivism paradigm will be used in which there's an intention of bridging the gap amongst factors such as objective knowledge gained through observations made from measurements from groups of people. The usage of positivism will allow statistical analysis to be initiated.

### **5.2 Research Approach**

As was discussed by Thompson (2015), positivist approach gives emphasise of how important quantitative research is when it comes to large-scale surveys as the aim is to understand the study that will be at hand as a whole by revealing social trends, such as the ones that describe the relationship between educational achievements and the respective social classes. Therefore, in this study it will be important to make use of statistical analysis of trends that have occurred in the past which will outline the gap that exists between students who make use of student support services and those that don't make use of it in terms of research methodology. The hypothesis which is going to be inducted in this study is based on statistical hypothesis.

## Sampling

In the study conducted, it is most appropriate to make use of probability sampling methods in which it will be easy to collect samples of 1500 students carrying out studies within research methodology. To ease time, this study will therefore make use of simple random sampling technique which would allow the chance of each group of population in the sample to be equally selected, hence providing a more accurate result. In using this sampling technique, the use of tools such as random number generators will be of essence which makes the whole process entirely by chance.

## Data collection and Data analysis

According to Farhat (2021), the impact that Covid-19 had statistical impact towards students who used SSS and those who didn't. Farhat outlined that from the survey he conducted through the results provided by a sample of students, results were reflective as follows:

*Postgraduate results average score (out of 100) during COVID-19:*

<i><b>n</b></i>	<i><b>Pass mark (50)</b></i>
Median	70
Mean	70.5
Average	70.5
Mode	80
Standard Deviation	12.505
Minimum	35
Maximum	100

From the conducted results in the above table, it outlines that Farhat (2021) outlined that during the covid-19 period with students receiving student support services such as online library access, online tutors and webinars for their research-based modules such as research methodology, students achieved a pass on average pass of 70.5% from a total of 50 students who were sampled.

However, from the same survey he concluded Farhat (2021) brought up a hypothesis test which were:

**Hypothesis 1:** There is no significant difference between the types of programs used for distance learning during COVID-19 and students' scores.

**Hypothesis 2:** There is significant difference between the types of programs used for distance learning during COVID-19 and students' scores.

From the two hypothesis tests, he discovered that there was no significant difference in results of students before or after covid-19 as the use of programs such as Zoom or Microsoft Teams presented students with the same effect as they would have experienced if they were attending face to face lectures. This was presented by trends which outlined those results from previous years had not changed as compared with those from 2021.

### **Ethical considerations**

According to Bhandari (2021), ethical considerations refer to a set of principles that serve as one's guidelines and principles for research designs and practices. It is imperative that when collecting data from various sources that certain principles and codes of conduct be adhered to ensure that there's authenticity in the study carried out. The main goal for this research is to bridge the gap that is there between students who make use of SSS and those that don't in terms of research methodology in this covid-19 period. Therefore, it is important to ensure that there's protection of rights of those participating in research, enhance validity of research and ensure that there's maintenance of scientific integrity.

As further samples will be conducted with more students being interviewed, it is imperative that there's collaboration between science and the society. According to Bhandari (2021), this includes the integration of scientific integrity, observation of dignity and human rights. This would ensure that when conducting further research and collection of data from students concerning the effectiveness of student support services there's presence of study participation being carried out in a voluntary and informed manner towards the people in which study was carried out from. It will be of importance that when this study is carried forward there's a preservation of keeping data as accurate as possible in bid to keep the research as accurate as possible so that there's authenticity.

As research design will be focused on there are several ethical issues that need to be adhered with. The ethical issues that would have an impact towards the current study would include (but not limited to) voluntary participation, informed consent, anonymity, confidentiality, and results communication. These will be discussed further in the preceding paragraphs.

#### *Voluntary participation*

With regards to voluntary participation, this entails the phenomenon that all the research subjects are supposed to be assessed without pressure and coerciveness. When conducting students to answer surveys, it will be kept voluntary in such a manner that there will be no contractual obligation to participate. This means that if the students want to withdraw their participation, there will be no consequences thereafter for them. It is important to adhere to this principle as participants who participate in the study where they fully consent will likely give the most accurate responses as opposed to those participants who would have been pressured to participate.

#### *Informed consent*

Students who will participate in the study will need to be well aware and informed of what they will be engaging in. It is of utmost importance that the students who are going to conduct in the study are informed of the study's benefits, funding, risks and how it is institutionally approved. The study participants will also be provided with the contact details of the institution in case they want to edit, or withdraw their participation.

#### *Anonymity*

#### *Confidentiality*

#### *Results communication*

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