

Preparedness and Response to COVID-19 Disruptions and Learning Challenges for Students with Disabilities in South Africa: A Systematic Review

Sibonokuhle Ndlovu

Ali Mazrui Centre for Higher Education Studies, University of Johannesburg,
Johannesburg P.O. Box 524, South Africa; sndlovu@uj.ac.za

Abstract: The present study utilised the systematic review method to report on the learning challenges faced by students with disabilities as a result of inadequate preparedness for COVID-19 and the response to the pandemic in the context of institutions of higher education in South Africa. The studies reviewed indicated that, although there were variations between institutions, South African higher education institutions were inadequately prepared for COVID-19 and, as a result, the response to the pandemic involved emergency remote teaching. For students with disabilities, it was revealed that the limited support and the changes to the way learning was taking place in institutions posed challenges during the pandemic. Limited access to content knowledge was an issue even before COVID-19, and this was exacerbated during the pandemic. Conclusions reached showed that there were challenges imposed by the pandemic in addition to those that existed before, which were only exacerbated and magnified by COVID-19. Practical ways are suggested in which anticipative and transformative resilience could be utilised by all stakeholders in institutions of higher education, to pre-prepare for pandemics. Ways of applying a universal design for learning in the “new normal” to enhance learning for all students, including those with disabilities, also contributed in a practical way to the conclusions.

Keywords: COVID-19; pandemic; preparedness; response; South African higher education; resilience; challenges; students with disabilities; learning; universal design in learning



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1. Introduction

Pandemics, like fires, floods, volcanoes and epidemics (SARS, HIV/Aids and many others), disrupt normal routines across the world [1]. Countries that experience adversities find it necessary to remain prepared for challenges, and their responses to pandemics are thus unique in terms of their economies because they are not caught unawares [2]. They put the necessary preventive measures in place even before challenges emerge [3]. COVID-19 disrupted all sectors from the time it was reported in China in 2019, spreading across the world in 2020. It imposed universal psychosocial challenges on people globally [4–6]. The way in which many countries responded to COVID-19 suggests they were unprepared for such events [7,8]. Africa, as a continent, and higher education institutions are no exception in terms of being ill-prepared for the pandemic. This is seen from the way in which higher education systems were disrupted and responded to the pandemic as an emergency in developed countries in general and in Africa [9–14].

1.1. Rationale

Considering the extent to which COVID-19 impacted the whole world and affected higher education globally, it is therefore important to understand the learning challenges confronted by segregated groups like those with disabilities as influenced by (un) preparedness for the pandemic and the way institutions of higher education responded to it, more specifically in the South African context.

1.2. Objective

The objective of this systematic review is to examine the broad area of preparedness and response to COVID-19 in South African higher education, to understand whether the challenges imposed on the learning of students with disabilities were a result of (un)preparedness for the pandemic and how these challenges were responded to or whether they were confronted even before. The evidence could address and inform practice in the “new normal” and the study could contribute differently in improving preparedness for adversities and learning of students with challenges in higher education in general.

1.3. Conceptualisation

1.3.1. Preparedness and Response to COVID-19

Across studies that have been conducted in the South African context of higher education, preparedness for COVID-19 is conceptualised as pre-planning for the pandemic before it strikes [15–18]. Response to the pandemic refers to the delivery mode adopted when the pandemic strikes [19–24].

1.3.2. Learning Challenges for Students with Disabilities

The conceptualisation of learning challenges for students with disabilities during COVID-19 across the studies conducted consists of new barriers and limitations confronted by this particular category of students during the pandemic [25–28] and those already confronted before, which the pandemic only exacerbated and magnified [29–32].

1.4. Background

1.4.1. Preparedness for COVID-19 and Response: The Global Experience

Higher education institutions’ preparedness for COVID-19 and the response to the pandemic is a global issue and it is important to look at it first from a global perspective. Higher education institutions, especially in high and middle-income countries, seemed better prepared not just for COVID-19 but for any adversity. Better preparation was identified among institutions in countries or regions where academic activities have previously been affected by regular natural disasters like earthquakes, fires or outbreaks of infectious diseases like SARS. This appeared to be the case in countries like Japan, Singapore, as well as in California, USA, and Auckland, New Zealand, and in institutions that experienced continuous student protests prior to the pandemic, like Chile [33]. In terms of education—and pedagogy specifically—institutions in such countries could afford to move to online course delivery quickly. With specific reference to the South African context of higher education, one would expect that it should have had a business plan to promote continuity in preparation for a challenge like COVID-19 since the country experienced disruptions resulting from student protests in 2015 and 2016 [16]. While it is acknowledged that some higher education institutions (primarily in developed countries) were quickly able to shift to online learning, most institutions globally were not adequately prepared for the pandemic.

Like some other developed countries, most African countries were also ill-prepared for COVID-19 as their response was also to shift to online delivery. In Africa, the level of preparedness depended on each country’s economic situation and the extent to which they developed digital infrastructure in terms of academic staff and students. It has also been revealed that while a number of institutions in developing countries identified online teaching and learning as an important strategic component to integrate into their management system, they had not yet moved to full implementation until COVID-19 emerged [14]. In qualitative research conducted with academics on their experiences and views about online teaching, they cited the “inability to adapt, lack of a home office, loneliness and isolation, inability to balance family and work, and improving satisfaction with work from home” [17] (p. 1) as the challenges they confronted with the online mode of delivery. However, participants did not mention giving up as an option. It could be

argued that though there were challenges, online delivery was the only option to continue the practice of teaching and learning during the early days of COVID-19.

Like all other developing countries, social media was also extensively used in Africa as part of instructional delivery during COVID-19 [34,35]. However, in terms of preparedness and responses to the pandemic generally, South Africa is different from other African countries based on its resources and economic status. Currently, it ranks second highest in terms of Gross Domestic Product (GDP) in the continent, following Nigeria [36], and also has comprehensive policies on inclusive education [37]. This suggests that these institutions' preparedness and response to the pandemic could have been better than other African countries. Thus, while South African higher education institutions' (un)preparedness and responses to COVID-19 could have imposed challenges for the learning of students with disabilities, the situation might have been worse for other countries limited by resource materials and without comprehensive inclusive education policies. Even institutions of higher education in developed countries that could promptly shift to online teaching were also not adequately prepared for the pandemic when it emerged.

Most higher education institutions globally shifted to online teaching and learning in response to the COVID-19 pandemic. The time of shifting varied from one institution to another in different countries. In Argentina, the University of Buenos Aires, in particular, did not move to online teaching and learning like other institutions. This university believed online delivery compromised quality, and they consequently continued traditional face-to-face practices, only changing the timetables [14]. Institutions that had made investments in and had some experience in online teaching and learning responded more quickly to the pandemic [14]. It is reported that public universities in Bangladesh had issues with staff capacity and connectivity, causing a delay in moving to online delivery [11]. Moreover, poor internet connectivity in Brazil forced universities to close [13].

In the African context, many universities' response to COVID-19 was also to shift from face-to-face delivery to online teaching practices [38]. However, their shift was not immediate and often occurred on a small scale [39]. In addition, while some had learning management systems that could enable them to introduce online teaching and learning, they faced challenges which typically had more to do with the digital learning infrastructure that did not allow for an easy virtual transition [40]. Internet connectivity and electricity outages were additional problems that hindered effective online delivery in African countries. In Zimbabwe, for example, 41% of the population had access to electricity, and a very small percentage had access to mobile networks. Consequently, a majority of students were affected in terms of reliable electricity and internet connectivity [34]. It is, however, also reported that in countries like Kenya and Ghana, in particular, both the academic staff and students possessed intermediate digital proficiency, which they could use and apply in a range of online delivery contexts [38].

1.4.2. Challenges for the Learning of Students with Disabilities during COVID-19 Globally

Globally, the challenges for the learning of students with disabilities has also been an issue of concern during COVID-19. The challenges varied from one country to another but the common finding was that the barriers they experienced before COVID-19 have remained while new ones emerged. In America, one of the new barriers was that those students had difficulties in transitioning to online remote learning and in New York particularly, students with disabilities were no longer able to receive the support they used to get in the form of having their lectures and notes recorded [41]. It is reported that the challenges confronted by students with disabilities during COVID-19 increased the stress and anxiety because of sudden changes in the way things were done when learning was taking place in institutions of higher education [42,43]. From the studies cited globally, it can be seen that a preliminary search on the topic of preparedness, response to the pandemic and learning challenges for students with disabilities during the COVID-19 pandemic has been conducted broadly.

1.5. Framing Research Questions

- a. To what extent was South African higher education prepared for the COVID-19 pandemic?
- b. How did South African higher education respond to the COVID-19 pandemic?
- c. What were the learning challenges for students with disabilities in South African higher education during COVID-19?

2. Method

The systematic review methodology was used to analyse studies that have explored the preparedness and response of South African higher education institutions to COVID-19, and the challenges imposed on the learning of students with disabilities. This kind of review was adopted because it made it possible to map out the literature on the topic of research, identify key concepts, source evidence and gaps and the trends in the available literature and to summarise and communicate findings [44–48]. The adoption of the systematic review method was informed by the assertion that it is a review that uses a “systematic method to summarise evidence on questions with a detailed comprehensive plan of study” [1,46]. To yield relevant data to review and analyse in terms of the preparation for and response to COVID-19, and the challenges for students with disabilities during the pandemic, a systematic review was most appropriate. It has been argued that systematic reviews were extensively used as a method of data collection that utilises literature [47,48].

All the steps of the systematic review method were followed, starting from framing the research questions, searching for literature, selecting the relevant studies and assessing their quality, summarising the evidence in data and interpreting the findings [45,46]. This approach enabled a comprehensive review of a specific phenomenon of focus across the retrieved literature.

Systematic reviews have to follow the widely accepted preferred reporting items for systematic review and meta-analysis statement (the PRISMA checklist 2009: Pmed 1000097). The methodological aspect assists the systematic steps in the review process and reports the quality that is needed to make some improvement [49]. The researcher could have used the latest PRISMA checklist of 2020 but found it more attuned and inclined towards health care research in the medical field, rather than education. Thus, to assist the systematic review process and to understand whether or not good reporting has happened, the preferred reporting items for systematic reviews and meta-analysis (the PRISMA checklist 2009) was used for greater understanding of core concepts and content in the articles that were selected for review. PRISMA therefore provided guidelines in conducting a systematic review in general and the checklist of items assisted in quality reporting [49].

The PRISMA (2009) document normally contains 27 essential reporting items [49], against which the author has to assess the systematic review. However, although the original PRISMA has 27 checklist items, the author left out five items that were already included in some items and four that did not apply to her study. Thus, 18 items were used as an assessment of good reporting of the systematic review by way of standard PRISMA. The adapted PRISMA with 18 items was then used for reporting the relevant information about the systematic review that was conducted in the study [49]. The PRISMA checklist document was appended as Supplementary Materials after the end-references of the study.

2.1. Search Strategy

Google Scholar, JSTOR, Research-Gate, Education Research Information Centre (ERIC) and PubMed were five search engines that were used to search for relevant studies to analyse. Key search words and their combinations were used to search for relevant literature and they included the following: preparation for COVID-19, response to COVID-19, teaching and learning, COVID-19 disruption and challenges, South African higher education, during COVID-19, before COVID-19, challenges for students with disabilities’ learning. The search strategy yielded peer-reviewed articles from refereed academic journals published

internationally, in Africa and South Africa, book chapters, books, and online sources from reports, blogs, online news, and other web-based publications by international aid agencies.

2.2. Selection Criteria and Relevant Literature

The inclusion and exclusion criteria were used for screening for relevant articles for review. Selected articles had to meet all the inclusion criteria established. The established criteria for the selection were, firstly: (a) type of document, (b) quality and credibility, (c) design of study (conceptual or empirical). The first inclusion criteria were: (i) published during COVID-19, (ii) in the South African context of higher education, (iii) explicitly address (a) preparation for the pandemic, (b) the response to COVID-19. The type of documents that passed in terms of quality, credibility and design were empirical and conceptual peer reviewed articles as journal articles and book chapters. Online sources were also included because most published work during COVID-19 was online.

The second inclusion criteria concerned articles that explicitly addressed: (i) the challenges imposed by limited preparation for the pandemic on the learning of students with disabilities, (ii) during COVID-19 and (iii) before COVID-19. Articles before COVID-19 were included because they provided background for understanding the challenges confronted before pandemic, so as to understand the new challenges that were a direct result of COVID-19, or exacerbated by the pandemic.

The first exclusion criteria were: (i) reviews, essays, books, conference proceedings. The second exclusion criterion was: (ii) published outside South Africa. Through the first exclusion criteria, international articles on preparation and response to COVID-19 were excluded because, although they provided a broader global spectrum of the subject of research, the focus in this case was on South African higher education.

The initial search revealed 68 studies from the five different databases that were searched and 12 from other sources (Google), totalling 80 articles. There was a thorough review of the title and abstracts for the articles that were selected from the search, which was how duplicates were identified and removed. The flow-chart below (see Figure 1) represents how the search process was conducted to arrive at the selected articles.

2.3. Data Extraction and Synthesis

The final stage involved the process of data extraction and synthesis, which the author did with three colleagues who assisted the data-charting process and were reviewers who had experience conducting systematic reviews. The complete reading of the articles selected in the last phase were subjected to a rigorous synthesis to chart data, which was guided by the following: author(s), year of publication, document type, study design (quantitative/qualitative), methodology/method (empirical/conceptual) content and key findings that relate to the systematic review question/s (see Table 1). The results of each reviewer according to each of the guidelines were compared to identify coincidences and discrepancies. When disagreements were found among the reviewers, the documents were reviewed again and again until an agreement was reached. After the synthesis which was agreed upon by all the three reviewers and the author, the studies were grouped, classified according to the specific characteristics already highlighted in this section, and matched with relevant themes, to answer the three research questions of the systematic review. For easy management of data, a table was developed in which all synthesised articles were represented in a tabular form according to specific characteristics.

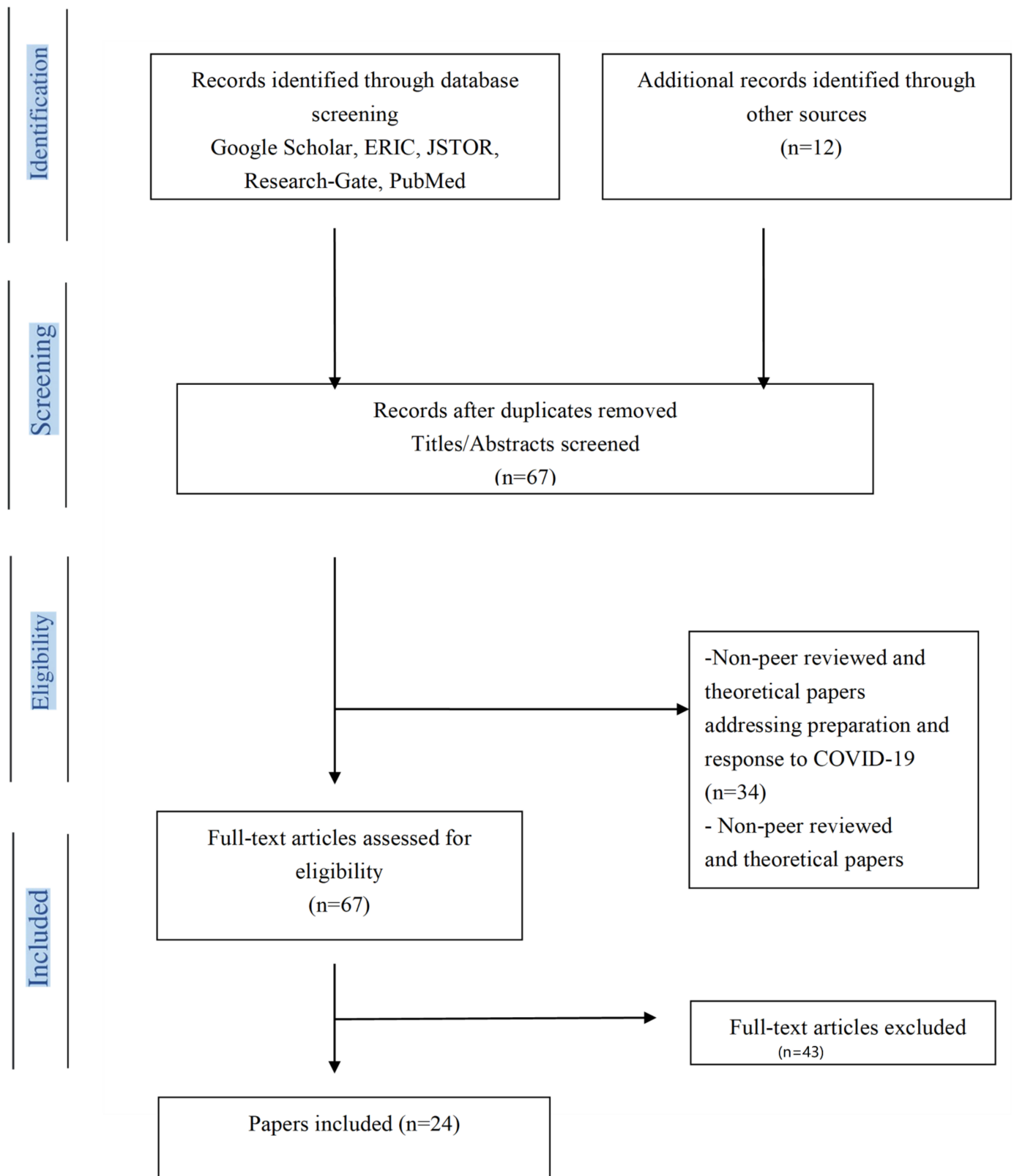


Figure 1. PRISMA Flow Chart for Systematic Review.

Table 1. Representation of studies selected for review.

Name, Year of Publication, and Document Type	Title of Article	Study Design	Method	Key Finding	Theme	Question
Du Plessis et al. (2022) [16] Journal article	<i>South African higher education institutions at the beginning of COVID-19</i>	Qualitative	Conceptual and empirical	Higher education was vulnerable and disorderly	Inadequate preparation	1
Iwu et al. (2022) [17] Journal article	<i>Experiences of Academics Working from Home during COVID-19:</i>	Qualitative	Empirical	Vulnerability of staff members working at home	Inadequate preparation	1
Mdiniso (2020) [15] Book chapter	<i>Preparedness of Higher Learning Institutions for unknown disasters: COVID-19.</i>	Qualitative	Empirical	Challenges online for both the academics and students	Inadequate preparation	1
Grobler (2020) [50] Online source	<i>All Fort Hare campuses to be evacuated amid "intimidation and violence"</i>	Qualitative	Digital research method	Student protests at an institution of higher education during COVID-19	Inadequate preparation	1
Kajee (2022) [51] Online source	<i>UKZN protests turn violent as students, security clash</i>	Qualitative	Digital research method	Student protests at an institution of higher education during COVID-19	Inadequate preparation	1
Magubane (2020) [52] Online source	<i>UniZulu to remain closed for remainder of the week</i>	Qualitative	Digital research method	Closure of university during COVID-19	Inadequate preparation	1
Mokhoali (2020) [53] Online source	<i>Wits University students protest over lack of accommodation</i>	Qualitative	Digital research method	Student protests during COVID-19	Inadequate preparation	1
Bhengu (2020) [54] Online source	<i>Four UKZN students arrested, security building petrol-bombed in fees protest</i>	Qualitative	Digital research method	Student protests at the beginning of COVID-19	Inadequate preparation	1
Ngqakamba (2020) [55] Online source	<i>University academic programme likely to start later than usual-Nzimande</i>	Qualitative	Digital research method	Delay of academics programmes at the beginning of COVID-19	Inadequate preparation	1
Habib, Phakeng and Kupe (2020) [18] Online source	<i>Three South African Vice-Chancellors paint a post- COVID-19 picture for universities.</i>	Qualitative	Digital research method	Diversity in preparation for the pandemic	Inadequate preparation	1
Motala and Menon (2020) [22] Journal article	<i>In search of the 'new normal': Reflections on teaching and learning during COVID-19 in a South African university</i>	Qualitative	Conceptual	Challenges and tensions for online teaching	Emergency remote teaching in response to COVID-19	2
Ede and Masuku (2021) [24] Journal article	<i>Emergency remote teaching in higher education during COVID-19: challenges and opportunities.</i>	Qualitative	Conceptual	Challenges and opportunities for online teaching	Emergency remote teaching in response to COVID-19	2
Landa, Zhou and Marongwe (2021) [20] Journal article	<i>Education in emergencies: Lessons from COVID-19 in South Africa</i>	Qualitative	Empirical	Access to online teaching and learning in rural institutions a challenge	Emergency remote teaching in response to COVID-19	2
Mpungose (2020) [23] Journal article	<i>Emergent transition from face-to-face to online learning in a South African University in the context of the Coronavirus pandemic</i>	Qualitative	Empirical	Digital divide a challenge to online teaching and learning	Emergency remote teaching in response to COVID-19	2

Table 1. Cont.

Name, Year of Publication, and Document Type	Title of Article	Study Design	Method	Key Finding	Theme	Question
Wangenge-Ouma and Kupe (2021) [21] Book chapter	<i>Seizing the COVID-19 Conjunction: Re-positioning Higher Education Beyond the Pandemic</i>	Qualitative	Conceptual	Heightened disruptions of COVID-19	Emergency remote teaching as response	2
Merisi and Pillay (2020) [19] Book chapter	<i>Emergency remote teaching in higher education: How academics identify the educational possibilities</i>	Qualitative	Empirical	Teaching differently because OF COVID-19	Emergency Remote Teaching as response	2
Ndlovu (2020) [25] Journal article	<i>The impact of COVID-19 on students with disabilities' access to education in South Africa.</i>	Qualitative	Conceptual	Barriers to learning - Lack of disability support - Opportunities for some categories	Challenges and opportunities for students with disabilities' learning during COVID-19	3
Ntombela (2021) [26] Journal article	<i>Reimagining South African higher education in response to COVID-19 and on-going exclusion of students with disabilities</i>	Qualitative	Empirical	- Lack of disability support - Limited access to library services - Delayed examinations	Challenges for students with disabilities' learning during COVID-19	3
Ngubane-Mokiwa and Zongozzi (2021) [27] Journal article	<i>Exclusion Reloaded: The Chronicles of COVID-19 on Students with Disabilities in a South African Open Distance Learning Context</i>	Qualitative	Empirical	- Lack of assistive devices	Challenges for students with disabilities' learning during COVID-19	3
Manase (2021) [28] Journal article	<i>Disguised blessings and COVID-19: Opportunities and challenges for South African university students with learning disabilities.</i>	Qualitative	Empirical	Barriers to learning - Opportunities for learning	Challenges and opportunities during COVID-19	3
Mutanga (2017) [29] Journal article	<i>Students with disabilities' experience in South African Education: A synthesis of literature</i>	Qualitative	Conceptual	Barriers to learning - Lack of knowledge of disabilities - Lack of training by staff members	Challenges to learning before COVID-19	3
Matshediso (2010) [32] Journal article	<i>Experiences of Disabled Students in South Africa: Extending the Thinking behind Disability Support</i>	Qualitative	Conceptual	Barriers to learning - Lack of funding - Lack of knowledge on disabilities	Challenges to learning before COVID-19	3

Table 1. Cont.

Name, Year of Publication, and Document Type	Title of Article	Study Design	Method	Key Finding	Theme	Question
Matshedisho (2007) [31] Journal article	<i>Access to Higher Education for Disabled Students in South Africa: A Contradictory Conjunction of Benevolence, Rights and the Social Model of Disability</i>	Qualitative	Conceptual	Barriers for learning of students with disabilities	Challenges to learning before COVID-19	3
Mutanga and Walker (2017) [30] Journal article	<i>Exploration of the academic lives of students with disabilities at South African Universities: Lecturers' perspectives</i>	Qualitative	Conceptual	Barriers for learning of students with disabilities	Challenges before COVID-19	3

3. Results

3.1. Preparedness for COVID-19 and Response in the South African Higher Education

Four studies revealed that South African higher education was inadequately prepared for the COVID-19 pandemic [15–18]. The institutions had difficulties transitioning to online teaching [56]. The studies reveal that academics were vulnerable and there was need for them to get training before they could continue their teaching and learning activity. For example, the University of Johannesburg had to first revise the academic calendar and familiarise students with online learning tools, develop online assessment tools and ensure approval by relevant academic structure for changes to be made to programmes. In essence, not only academics who were central to delivering instruction needed training; administrators and authorities managing the online learning systems online needed to be trained first. The vulnerability of all stakeholders and need for training showed that there was inadequate preparation and the system was not ready when the pandemic struck.

Besides, the evidence that the system was inadequately prepared for the pandemic was shown in six studies [50–55], which revealed that there were disturbances of student protests before COVID-19, and the attention of institutions of higher education was on that challenge when the pandemic struck. At that time, 26 public universities were still struggling against student unrest that had been ongoing since 2015/2016, affecting the entire country. At the beginning of 2020, the year in which COVID-19 was first reported in South Africa, some universities were temporarily closed because of student protests, some of which had become violent [50–55]. Teaching and learning had not begun in many of the institutions of higher education. Students were protesting against tuition fees and demonstrating against university management [56]. They were also disgruntled about university accommodation [51] and at the beginning of the same year (2020), several students were arrested in different universities [52]. It could be argued that, when COVID-19 emerged, South African higher education was focussed on other challenges that were pressing at the time. Also, when COVID-19 emerged, there was a break in which some South African higher education institutions closed in February 2020 and did not begin to reopen until 8 June 2020, forcing some universities to carry the 2020 academic year over into 2021 [57].

3.2. Emergency Response to Teaching and Learning as Response to COVID-19

Six studies [19–24] revealed that the response to COVID-19 by the institutions of higher education in the South Africa was emergency remote teaching (ERT). All six studies agreed that the kind of online delivery that was adopted was not pure online delivery but an emergency delivery, which was only meant to continue teaching online. Three studies revealed that stakeholders in the higher education sector as a whole were not even

confident about the way they had responded and also not confident to implement the “online delivery”, which was ERT during the first days of COVID-19 [22–24].

As the inadequate preparation for the pandemic is intrinsically interlinked with the response of ERT, it could be argued that the manner of response to COVID-19 also provides evidence that the higher education system was inadequately prepared for the pandemic. A conclusive statement was made in one study that, although efforts were made, South Africa’s education system as a whole was ill-prepared for the pandemic [12]. Had the system been prepared, the shift would not have been an emergency one and training of all stakeholders for proper online teaching and learning would have occurred before the pandemic. Thus, all the studies on how the South African higher education responded to COVID-19 provided data that at the same time served as evidence of inadequate preparation for COVID-19.

3.3. Diversity in Response and Preparation of COVID-19 by South African Institutions

Though the entire South African higher education system eventually responded to the pandemic by shifting to ERT, all 10 studies [15–24] reviewed on preparation for COVID-19 and response to the pandemic revealed that there was variation in terms of preparation and response for the pandemic by the South African institutions. There was no uniformity across the whole country and differences were informed by disparities such as resources, connectivity issues or digital divide. Studies showed that as soon as the government announced the lockdowns, the historically advantaged institutions were quicker to move to “online delivery” [18]. They managed to mobilise resources like laptops for disadvantaged students and arranged with service providers to provide data for all students so that they could access learning from their homes.

Affluent institutions of higher education (historically White universities), including the University of Witwatersrand and the University of Cape Town, were already operating at a level above other institutions in terms of information communication technologies (ICTs). As a result of being well-resourced, prior to the pandemic, they had already introduced online programmes and integrated them into their learning management system [18]. This is not to say the institutions were well-prepared, ready for COVID-19 and responded differently to the pandemic in terms of teaching, but the institutions had contingent measures that could be resorted to if any adversity that disturbed the usual face-to-face delivery emerged. It could be argued that, although their online delivery was ERT, it could have been better organised than that of other institutions as they already had experience with online teaching and learning before COVID-19.

Some institutions of higher education in South Africa were already compliant with 4IR technologies before COVID-19 erupted. The University of Johannesburg, for example, took an interest in issues of the 4IR, and the institution has been taking the lead in aspiring to use these technologies to develop education [58]. Responsible authorities at the institution believe teaching, learning, research and innovation can be improved through 4IR technologies [58]. By virtue, both academic staff and students at the specific institution are encouraged to align their different research engagements with 4IR. The university authorities argue that higher education is an integral part of 4IR, and it is anticipated that the education system will transform for the better through these technologies [57]. Consequently, their 2025 strategy for Global Excellence and Stature (GES) is to promote 4IR and graduate students who are able to use 4IR technology to access new economic zones [58].

The studies revealed that, although not yet in the best position to deploy and implement the whole range of 4IR technologies efficiently in pedagogy, some institutions had already implemented innovative technology-based teaching such as online and hybrid courses and offered virtual classes for specific programmes before COVID-19. Pedagogically, though not fully prepared for the pandemic, their response was better and faster in terms of shifting to online learning, as COVID-19 protocol dictated. However, while 4IR created learning opportunities, the contextual obstacles [57] cannot be glossed over.

The South African context of higher education poses pressing challenges that hinder the effective adoption of 4IR technologies. Thus, even those institutions said to be advanced in using the technologies for teaching and learning would still experience various challenges like others which were not adequately prepared for the pandemic.

Historically Black universities' pedagogic situations were different; they were already pedagogically disadvantaged, making it even more difficult when COVID-19 erupted. For years, it has been argued that the South African government has been unable to provide quality education in terms of teaching and learning in rural areas [59]. Moreover, students in historically Black institutions in rural areas were affected by technology and internet connectivity [60]. In essence, both academic staff and students in these universities experienced challenges with online learning, and the institutions could not have prepared for COVID-19. These disparities among universities in South Africa reflect that some universities were more prepared than others to move to online platforms when the pandemic hit. Conversely, formerly disadvantaged higher education institutions were slow to shift to online delivery because students had challenges with connectivity in terms of power and the internet [61].

The vulnerability of the stakeholders was also not uniform across all institutions [18,61]. The level of vulnerability was diverse depending on the institution in which they worked. Those from historically advantaged institutions were better prepared for the process because of the support they received from their institutions [18,61]. The academics from historically disadvantaged institutions, especially in rural areas, were more vulnerable, their vulnerability being exacerbated by disadvantage in terms of connectivity and electricity outages. Also by virtue of pre-existing inequalities and digital divide, the stakeholders in disadvantaged institutions had limited digital proficiency, which all compound to illuminate the difference in responding to and preparing for COVID-19, from the way advantaged institutions did. Thus, although the response of all institutions to the pandemic showed that they were not adequately prepared, there was diversity in terms of the context of some South African universities. Over-generalisation and homogenisation of all institutions would not yield a true reflection of the impact on learning for students with disabilities.

3.4. Learning Challenges for Students with Disabilities in South Africa during COVID-19

Three studies revealed that the South African higher education's inadequate preparation for COVID-19 and the way the institutions responded imposed challenges for all students, in general [15–17]. Four studies specifically focussed on challenges faced by students with disabilities in learning during the pandemic [25–28]. The studies revealed that the category of students had limited disability support provision when learning was taking place at home. That sudden loss of support services imposed challenges to do with accessing content knowledge [25–27]. Those students could no longer access library support services in a long-distance learning institution as they did before COVID-19 [27]. Without library services, learning was affected in a negative way as resources for learning were no longer as available as before. Special examinations were delayed because of limited preparation, resulting in double examinations the following year [26]. The limited support and sudden change in doing things in a different way affected students with disabilities negatively. This could be seen as evidence and reiterates that the South African higher education institutions and responsible stakeholders were not being adequately prepared for COVID-19.

While the focus was on learning challenges for students with disabilities during COVID-19, four studies revealed that the challenges for learning were there before [29–32]. Most educators lacked knowledge of different disabilities and how to teach various categories of disabilities [29]. There was limited mediation of knowledge to students with disabilities, with staff members using inaccessible media, which limited learning [30]. Some academics saw those students as burdensome and were unwilling to include them in their teaching [29]. There was lack of disability support due to inadequate funding for Disability Units, which support students with disabilities in most institutions [31,32]. All these challenges compounded to limit students with disabilities before the pandemic. Thus, while

there were challenges resulting directly from COVID-19, some existed before the pandemic emerged and the effects were only made more manifest during COVID-19. When students with disabilities were learning from home during the pandemic, the sudden change from the usual way of doing things inevitably further exacerbated access to content knowledge.

4. Discussion

In response to the first research question on the extent to which South African higher education was prepared for COVID-19 and how the institutions responded to the pandemic in terms of teaching and learning, the results showed that the common finding in all studies reviewed was that there was inadequate preparation for COVID-19, which resulted in institutions responding by introducing ERT to continue teaching and learning. Studies revealed that this occurred across all institutions, although there were variations from institution to institution resulting from South Africa being a diverse and an unequal society. The finding was revealed in both quantitative and qualitative studies that were carried out during COVID-19.

Studies revealing inadequate preparation for COVID-19 and the ERT response to the pandemic were conducted during the years 2020 and 2021 in South African higher education. This could be explained in the light of the period in which the pandemic took its toll across the whole world, including South Africa. It could be argued that, as higher education was also affected by the effects of the pandemic, extensive research at that period was conducted around the subject of preparation for the pandemic and the response in terms of teaching, so that there could be intervention to provide solutions to the challenges that have resulted from the COVID-19 pandemic. While there are still studies published in 2022, these could have been written at the peak of the pandemic in 2021.

A number of studies published online during 2020 were about the student protests that the institutions of higher education were battling at the time. This could be seen to signal urgency for intervention that was required at the time as both the protests and COVID-19 were impacting negatively on teaching and learning for all students, including those with disabilities. It could be argued that online studies enabled quick publication that was required at the time. More peer-reviewed studies in journal articles and book chapters could add value to the online studies that were conducted at the time.

Though both qualitative and quantitative studies were carried out during COVID-19, there were more empirical studies conducted than conceptual ones. This could be explained in light of the dearth of literature on the subject, preventing more conceptual studies from being conducted. Arguably, empirical studies were therefore conducted to generate data around preparation for the pandemic and how it has been responded to in teaching and learning.

Research that have been carried out on the preparation for and response to COVID-19 in South African higher education included both empirical and conceptual studies carried out by academics [15–17] and leaders at the institutions [18]. It could be argued that academics are central in the process of teaching and learning at all times, even during the COVID-19 pandemic. They were relevant in understanding the ERT response to the pandemic in the context of teaching and learning of all students, including those with disabilities. The leaders at the institutions were also relevant for carrying out research during the pandemic because they had a lived experience in terms of how prepared the institutions they led were for the pandemic. It could be argued that all articles reviewed, more especially those that have been peer-reviewed, could add value to scholarship by virtue of the lived experiences of the authors on the subject of research.

The issue of diversity in terms of preparation for COVID-19 and response to the pandemic was to be expected the South African context of higher education. South Africa as a whole is a very diverse country, and so are its institutions of higher education. Studies reflecting diversity and differences in terms of different institutions' preparation for and response to COVID-19 assisted in understanding how interventions to improve learning for students with disabilities should also consider diversity of institution. For example,

those from disadvantaged institutions may require intervention that is different from the advantaged one, despite them all existing within the same context of the pandemic.

In response to the second research question on challenges that were confronted by students with disabilities during COVID-19, the results showed that there were specific challenges that occurred as result of inadequate preparation for the pandemic and the ERT response to it. The challenges had to do with sudden loss of support that was provided at the institution and changes that occurred in terms of writing examinations and access to library resources [26,27]. Though the issue of challenges for diverse students during COVID-19 attracted a lot of research globally, studies specifically focussed on the learning experience of students with disabilities in the South African context of higher education were few [25–28]. Out of the studies conducted, two studies revealed that COVID-19 also provided opportunities for learning for some specific categories of disabilities as those with physical disabilities and learning disabilities respectively [25,28]. It could be argued that for students with disabilities, more learning challenges have been identified than opportunities. In essence, more studies on opportunities for the learning of students with disabilities during COVID-19 could add value to disability scholarship as pandemics also make changes that are positive.

The results of the reviewed studies also showed that COVID-19 imposed new challenges like limited support at home, which limited the learning of students with disabilities. However, there were challenges to do with access to content knowledge due to lack of training by the academics [29], which the pandemic only exacerbated as it was a challenge already confronted by this category of the students even before COVID-19. It could be argued that the inadequate preparedness for the pandemic and the response to it cannot be seen as the sole cause of the challenges that confronted students with disabilities. Intervention should therefore look before COVID-19, during and beyond, to improve learning.

5. Conclusions

The systematic review showed that the inadequate preparation for COVID-19 by institutions of higher education and their ERT response to the pandemic imposed new challenges to the learning of students with disabilities. In other words, there were specific challenges due to COVID-19, which affected students with disabilities' learning experience.

Another conclusion is that there were challenges to students with disabilities that were confronted in their learning before COVID-19. Those were challenges to do with accessing content knowledge because of a lack of training in teaching students with disabilities for the academics. Those challenges were only exacerbated by COVID-19 and made more apparent. They existed even before the pandemic and affected the learning of students with disabilities in a negative way.

Against the background of the conclusions drawn, therefore, ways in which planning for pandemics broadly could be improved, including the learning for students with disabilities in the “new normal”, are proposed in the present study.

To improve the situation of inadequate preparation for COVID-19 and ERT as the response to the pandemic in the South African context of higher education, resilience strategies such as anticipative and transformative resilience strategies by leaders have already been proposed [61]. However, although the strategies proposed could assist in pre-planning for pandemics in general, the study only focussed on leaders and also did not propagate the practical ways in which the two resilience strategies could be employed at the institutions of higher education. It has been argued that challenges imposed by pandemics may not be overcome by leaders who act alone [62]. The present study proposes training of leaders for collaborative and distributive leadership, in which there is a bottom-up approach, in which all stakeholders, from student level to the highest authority in institutions of higher education, are collaboratively involved. It could be achieved in the form of drama, in which all stakeholders imagine how they would pre-prepare for different pandemics and the plays are video-recorded and watched by all stakeholders. Through

doing this, a lot of ideas could be shared by the whole university community in terms of pre-preparing for different pandemic before they occur. In so doing, all stakeholders and not only the leaders would have opportunity to propose practical ways of pre-preparing for any pandemic that may strike in future.

To improve the learning for students with disabilities in general, universal design for learning (UDL) has been proposed in some studies before the pandemic, as a strategy that could address the challenges of learning not only for students with disabilities, but for all diverse students. UDL could assist students with disabilities in their learning as it makes the learning environment inclusive to all diversity [63]. In the South African context of higher education, UDL has not only been proposed as a strategy for improving learning; there has been training to implement the principles of UDL by teachers in special schools in some provinces [63]. However, the COVID-19 experience has revealed that pandemics can make formal learning happen outside institutions of learning. Based on that experience, the study also proposes universal design for learning (UDL) as an intervention strategy that could improve the challenges of all students' learning holistically, including those with disabilities. However, the UDL proposed in this study extends on the previous studies by not only training academics in different categories of disability, but also stakeholders at home as parents, caregivers and guardians of all students. When all stakeholders including families are included in training for UDL, this can be considered a "pre-plan" that could assist when an adversity that demands learning from home happens again. The pre-plan for teaching and learning in the manner of UDL may not only overcome the challenge of learning for students with disabilities but even others who may find themselves having developed a disability in the "new normal". Disability support, which posed challenges for learning for students with disabilities during COVID-19, could be provided at home by all stakeholders including family members and not only by professionals at institutions as happened during the COVID-19 pandemic.

6. Limitations and Future Studies

Few studies directly addressed the challenges faced by students with disabilities as resulting from COVID-19 [25–28]. The reviewed empirical studies with students with disabilities [26,27] have been conducted across institutions employing distance learning while one was conducted at a disadvantaged regular institution [28]. Diverse as the South African higher education is, it could be argued that more empirical studies need to be conducted with students with disabilities across all different diverse institutions. This could provide a stronger validation that the challenges for learning for students with disabilities were linked to inadequate preparation for the COVID-19 by institutions of higher education and to how they responded to the pandemic.

In the studies reviewed, strategies to improve the learning of students with disabilities during the pandemic were proposed by the authors of the articles. This could be seen as speaking for those with disabilities, which is highly contested by scholars in Critical Disability Studies. Studies conducted by students with disabilities themselves, with a lived experience of disabilities and who are the ones who actually confronted the challenges in their learning as influenced by the limited preparedness and the way South African higher education responded to the pandemic, would add value to scholarship in terms of improving their learning during the "new normal".

The study itself is of a conceptual nature and the data has been gathered through literature review using a systematic review methodology. While the conclusions drawn suit the scope of the study, a theoretical study alone could be limited. An empirical study would add value by proving empirical data and a kind of analysis that could confirm the present findings and further provide conclusions drawn from the empirical research study.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su15021420/s1>, Table S1: PRISMA (2009) checklist indicating the page on which the specific items have been reported in the study. Reference [49] was cited in the Supplementary Materials.

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