



Re-engineering Approaches to Children's Education in Zimbabwe after COVID-19: A Call to Innovative Approaches

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Received: 14 September, 2020

Revised: 23 October, 2020

Accepted: 26 November, 2020

Published: 15 December, 2020

How to cite this paper:

Masocha, P. (2020). Re-engineering approaches to children's education in Zimbabwe after covid-19: A call to innovative approaches. *Quest Journal of Management and Social Sciences*, 2(2), 251-261.

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Abstract

Background: As fears of the corona virus pandemic (also known as the COVID-19 Pandemic) continue to spread around the world, Boma's global network hosted an unprecedented online summit on the 23rd and 24th of March 2020, to discuss the early lessons learnt about this pandemic with regards to education and explore specific plans of action to address it. The summit inspired this study and its major findings show that COVID-19 has necessitated drastic changes in the education system.

Objective: To explore new ways in which teachers can continue teaching the children using non-traditional means during the COVID-19 lockdown period and after; to assess the attitude of parents/guardians to the re-opening of schools after COVID-19 in terms of children's safety; and examine the challenges posed by COVID-19 to children's education during the lockdown period.

Methods: This research is based on an exploratory design given the immediacy, novelty and emergency associated with COVID-19. This study seeks to have a better understanding of the existing problems relating to children in their education during the lock down period. The design utilizes both primary and secondary data collection methods.

Results: The data of this study indicate that it is feasible to offer distance education to children in Zimbabwe despite the existence of COVID-19. The study also indicates that changes to the education system are inevitable and the education system will never be the same after COVID-19.

Conclusion: The study concludes that COVID-19 has had a telling effect on education in Zimbabwe and the lasting changes will remain with the system even after the lockdown period.

Keywords: COVID-19, Distance Education, E-Learning, Lock down, Pandemic, Zimbabwe

JEL Classification: I2

Introduction

The world has, since December 2019, been plunged into a serious crisis due to COVID-19. The world over, people's lives have been altered drastically and more than a million have died from the pandemic. Many workers world-wide have lost their jobs. Universities, colleges and schools have closed down, and remain closed to date. As the pandemic rages on, about 1.5 billion pupils in primary and secondary schools have been shut out of schools world-wide (UNESCO, UNICEF, World economic forum COVID Action Platform). With schools shut across the world, millions of children and teachers have had to adapt to new types of learning. Although governments across the globe are putting substantial effort into providing remote learning opportunities, responses vary depending on the level of income for the individual countries. The most obvious effect of these variances is the inequalities that are emerging globally. While some countries have successfully implemented digital learning programs that allow students to receive education tutorials from home, many regions don't have the technical infrastructure to do so. The divide between the rich and the poor is quickly manifesting and the fear is that the global south will once again fall back, both in terms of literacy levels and economic development.

The failure in getting access of quality education across to millions of children through remote learning is likely to exacerbate gender-based violence, with girl children becoming increasingly exposed to early marriages and economic exploitation, while the same will visit them through increased violence in the home. The problems encountered by children in the homes during the current lockdown tend to differ from region to region; continent to continent and social strata to social strata.

According to UNESCO (2020), "approximately 1.2 billion students and youth worldwide are affected by school and university closures because of the COVID-19 pandemic. To adjust to these new circumstances, governments must develop innovative solutions to ensure inclusive learning opportunities during this period of unprecedented educational disruption. This is especially true in African countries, where despite recent progress traditional education has faced infrastructural challenges and struggled to develop the human resources necessary to address students' educational needs" (Krönke & Olan'g, 2020; UNESCO Institute of Statistics, 2016).

In Zimbabwe, the brick and mortar classroom as we know in the modern times may not quite find its way back after COVID-19 and new forms of education may have to be designed to adapt to the new situations. This research has already found that parents anticipate many changes to the education system after this experience, taking into consideration the enhanced measures to protect children against infection by the virus. The ministry of primary and secondary education (MoPSE) has already drafted a plan of action to provide education to all primary and secondary school pupils in this era of COVID-19. It observes that, "the COVID-19 Education Cluster response (i.e. through the provision of alternative learning programmes/Reading circles, radio programming and accelerated learning/remedial education) in communities also provides a unique opportunity to re-integrate children previously missed by the education system back into schools" (Zimbabwe Education Cluster, 2020). But looking at what is being obtained on the ground, this might pass as an "easier said than done" case. The reality is that radio sets are in short supply; most schools in rural Zimbabwe do not have electricity; teachers are not prepared for this new-look education and so the pupils are still stuck at home with no virtual education in sight. Extensive research needs to be done to explore ways and means to reach out to all these pupils. This research is part of such efforts to try and come up with such initiatives. The study seeks to answer the question: what meaningful learning options are there for learners in Zimbabwe during and after COVID-19?

The main objective was: to find out or examine ways in which learning can continue to take place in Zimbabwe during and after the era of COVID-19. This study focuses on the effects of COVID-19 on the education system in Zimbabwe and how parents perceive the new-look education system after lockdown. This study recommends alternative approaches to the education system after the current lockdown. The

study population included parents and guardians with children in the primary and secondary education sector, who are currently affected by the COVID-19 induced lockdown. This research lasted for one month with a survey questionnaire being administered online to the selected respondents. Respondents were selected from urban and peri-urban areas of Zimbabwe. The questionnaire collected information on children's education during and after lock down. Study tools included survey questions which were administered online to selected respondents in and out of Harare city.

The remaining section of the papers are divided as: Chapter 2 focuses on the literature review by discussing the theories of education previously used by teachers in the education system and how these may need to change in this era of COVID-19. Chapter 3 discusses the methods used for the study followed by results in chapter 4. Finally, chapter 5 provides conclusions and recommendations.

Review of Literature

Throughout history, “nothing has killed more human beings than infectious disease. Covid-19 shows how vulnerable we remain – and how we can avoid similar pandemics in the future. We need to strengthen the antennae of global health, to ensure that when the next virus emerges — which it will — we'll catch it faster, perhaps even snuff it out. The budget of the WHO, the agency ostensibly charged with safeguarding the health of the world's 7.8 billion citizens, is somehow no more than that of a large urban hospital in the U.S.” (Walsh, 2020)

Looking at the literature from various sources on COVID-19, most of them focus on health issues, and not on the social effects of the pandemic. This study explores the effects of COVID-19 on education and tries to proffer some solutions to what can be done to get children to learn in this “new normal.” The classical theories of education depended very much on observable behaviour. From Plato, to Socrates, to Dewey, all learning's centred on behaviour. The teacher-pupil interaction was critical for learning to take place. Both verbal and non-verbal cues were essential for this engagement, as teachers thrived very much on observing their pupils during active lessons. Then the work of constructivists like Piaget shifted focus to the mind. They observed that the mind shifted according to use.

Yet another school comprising the associationists like Pavlov and Skinner posit that all learning is by association. This school of thought is based on the premise that that changes in behaviour results from stimulus-response associations. Reward is central to the learning process. But this is only possible if the teacher and learner are occupying the same space. The new protocols brought by COVID-19 make this difficult given the new norm of social distancing.

In his Social learning theory, Bandura (1961) posited that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment and behaviour. The environmental aspect is missing in this COVID-19 era where both the learners and teachers are prevented from seeing each other in a classroom situation. The new techniques of learning on trial in Zimbabwe and other parts of the globe are very much at variance with the classical theories of learning propounded by the cognitivists and associationists.

Zavershneva (2010) mentioned Vygotsky in his Socio-cultural theory and emphasises on the importance of social interaction during the learning process. But again this theory with its thrust on social interaction appears overtaken by events in this era where parents and guardians have become very sceptical about children returning to the traditional classroom, given the dangers of infection by the corona virus.

The onset of COVID-19 promises to change the face of education drastically. Where the resources are available, learning now takes place through the remote mode. The “new normal” makes it imperative that there is no active interaction between the teacher and the pupil. The theories of education propounded by the constructivists need a re-look since the contact element between the teachers and pupils has been lost due to social distancing.

This study explores the ways in which teachers can continue giving remote learning to pupils in this COVID-19 era. The results indicate that indeed new approaches are desirable to teach children within the comfort of the home. In a time of social distancing and government-enforced lockdowns to curtail the spread of COVID-19, “digital technology has enabled the continuation of work, education and communication. But for millions of people who are unable to connect to the internet, the offline world is economically and socially isolating. COVID-19 has emphasised the “digital divide”, a term referring to the uneven access to the distribution of Information and Communication Technologies (ICT) in societies, which is a global problem. However, it is even more pronounced on the African continent,” (Turianskyi, 2020).

Given the “new normal” resulting from the current lockdown. With virtually all schools shut down, the teacher-pupil contact has been lost for close to six months now, from March to the current month. The theories of education as we traditionally know them need to be tuned to suit the new situation brought by COVID-19.

Survey findings from A frobarometer Round 7 (2020) show a substantial digital divide both across and within countries. It is reflected in uneven access to resources such as electricity and unequal access to and use of smart phones and computers. The results suggest that the governments' efforts to redress widespread inequalities need to be increased drastically to avoid the widening of an education gap among their citizens. The paper also discusses the potential benefits of providing smartphones and computers to those who currently do not have access to such devices. In Zimbabwe, the lack of basic resources makes this wish sound like a real pipe dream.

Research Method

Conceptual framework

The new concept of education that is likely to emerge from the COVID-19 lockdown marks a departure from the brick and mortar classroom and shifts strategy to remote learning. The study endorses changes in approaches to education. One such concept is that of hybrid learning which will mix remote learning with face-to-face learning. Face-to-face classes will have to be streamlined in such a way that classes are small, a lot of hygiene practices will have to be observed and social distancing will be strictly maintained. Indeed, there is a gap in terms of the existing theories of education, most of which put emphasis on interactive learning between the teacher and the pupil. COVID-19 has ushered in a new era of pandemic and if this is anything to go by, there needs to be change in the way things are done in the process of learning. The null hypothesis of the study is H₀: The Education in Zimbabwe will change after COVID-19.

Study Area and Data

The study covered most towns and peri-urban areas of Zimbabwe, and all the respondents reached with the survey questionnaire had access to WhatsApp and internet. All responses were done online due to the lockdown and respondents were selected on the basis of availability and convenience. “Convenience sampling design depends solely on the convenience and availability of the individual with the required attributes for the research.” (Murairwa, 2016)

The study used a mixed method approach where quantitative and qualitative data were collected and analysed. For quantitative data, a survey questionnaire via kobo toolbox was sent out electronically to selected subjects who completed it online. The data collected by this tool was cleaned and analysed using SPSS. Data collection was based on nominally and ordinally scaled variables. All ordinal variables were given numeric values to show the direction of the variables and ease the related analyses. The statistical analyses conducted on the data obtained were distribution-free and non-parametric. For

all variables with more than two levels of the independent variable, Chi-square for goodness-of-fit were computed, otherwise a binomial test was used. All the analyses were based on quantification of differences in opinions based on asymptotic statistical significances in categories preferred or resonating with participants’ opinions.

This research was based on an exploratory research design given the immediacy, novelty and emergency associated with COVID 19. “Exploratory studies are a valuable means of understanding what is happening; to seek new insights; to ask questions and to assess phenomenon in a new light” (Yin, 1994). The explorative design was sought to have a better understanding of the existing problems relating to children in their education during the lockdown period, health concerns of parents for their children during the same period and vulnerability of children in the homes as regards to their well-being. The design utilized both primary data collection and secondary data collection. For the former, a survey methodology was used to gather information from a predefined groups of parents’ or guardians’ of the respondents through an online questionnaire. This helped us to slip into their opinions, beliefs and attitudes towards various areas relating to children during lockdown. Secondary data comprised of books, articles and reports on education and current information on COVID-19, which complimented the primary data gathered from the respondents on the subject. Due to the requirement on social distancing, it was not possible to have face-to-face interviews with respondents, so all communication was done online.

Due to the recency and novelty of the COVID 19, convenience/availability sampling was used to rely on the responses from the participants who were conveniently available to participate in study. Given the risks involved in face-to-face interactions and the travel restrictions, convenient sampling was found to be putative to explore the phenomenon.

The study was conducted in April 2020 during the on-going lockdown and it lasted for the whole month during which questionnaires were sent out to respondents for completion. The period covered comprised of data collection, data cleaning and analysis.

Data Analysis and Result

Demographic Status

This study finds that out of the 34 respondents who answered the questionnaires six did not give their ages and this constituted 17.6% of them. The majority of the respondents (41.2%) were in the age range of 36 to 45 years. This represented young parents who are still very enthusiastic to see their children learn and who are probably very keen to know the fate of the children’s education during and after the lockdown. The majority of the respondents (82.4%) were urbanites residing in the cities. This may be attributed to easy access and availability of internet services. Most of the respondents were the actual parents of the children (64.7%) while 20.6% were guardians. More females than males (50%) took the survey, understandably because females tend to show more interest in the children’s education.

Table 1: Socio-demographic status of the respondents

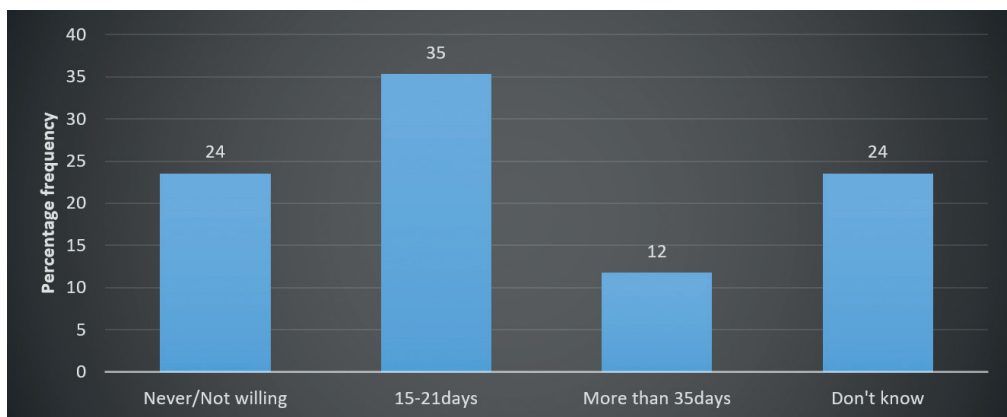
	Frequency	Percent
Age		
Missing	6	17.6%
26-35	9	26.5%
36-45	14	41.2%
46 plus	5	14.7%
Total	34	100.0%

Reside		
Missing	5	14.7%
Peri-urban area	1	2.9%
Urban area	28	82.4%
Total	34	100.0%
Current Status of children living in your home		
Missing	5	14.7%
Guardian	7	20.6%
Parent	22	64.7%
Total	34	100.0%
Gender		
Missing	5	14.7%
Female	17	50.0%
Male	12	35.3%
Total	34	100.0%

Descriptive Analysis

The respondents were asked for how long were the children willing to stay at home. The result is depicted in figure 1. Our result showed that the majority of respondents (35%) really felt that children's stay at home was not going to last more than 21 days. This was closely followed by 24% of children who did not want to stay at home. These children really wanted to go to school for obvious reasons, namely the exciting school days, a change of environment and opportunities to play and interact with peers. But subsequent responses showed that there was doubt among the respondents on the safety of the schools to the children.

Figure 1: Children willing to stay at home



Previous studies have shown that prolonged stay at home for children has its own disadvantages as well as adverse effects. Perhaps a more important but easily neglected issue is the psychological impact on children and adolescents that this can cause. Stressors such as prolonged duration of staying home, fears of infection, frustration, boredom, inadequate information, lack of in-person contact with classmates, friends, and teachers, lack of personal space at home, and family financial loss can have even more problematic and enduring effects on children and adolescents. For example, Sprang and Silman (2013)

showed that “the mean post-traumatic stress scores were four times higher in children who had been quarantined than in those who were not quarantined.” So the number of children willing to return to school in the short term is proof that children abhor confinement and want to roam free within the school environment. Should the outlook of education change due to the outbreak of more pandemics in the future, there is need to change the way children are socialized in the home so that more space is created for their recreation. Otherwise we begin to witness more and more cases of psychological disorders among children and adolescents in our communities.

Almost 90% of the parents felt and still feel that children are not safe at school and are vulnerable to infection by COVID-19. This has huge implications to the future of education. The number of parents expressing scepticism to the traditional school system is a pointer towards the endorsement of sweeping changes to the format of education in Zimbabwe. The re-opening of schools will come with changes; there is no doubt, to protect children from infection. For the government of Zimbabwe, this also means a lot in terms of restoring confidence in the school system and creating a safe environment for learners in this era of pandemics.

Figure 2: Children vulnerability to COVID-19 at school than at home

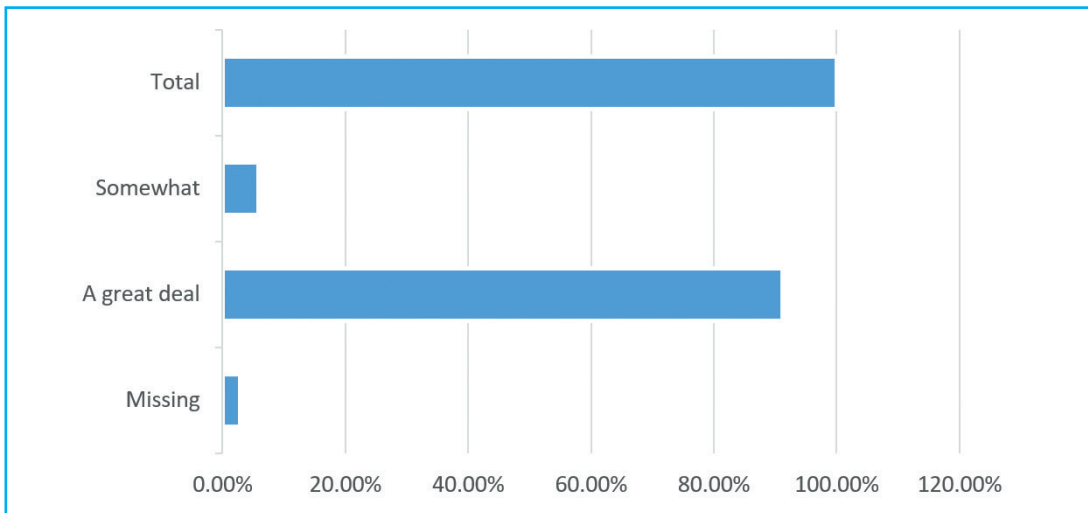
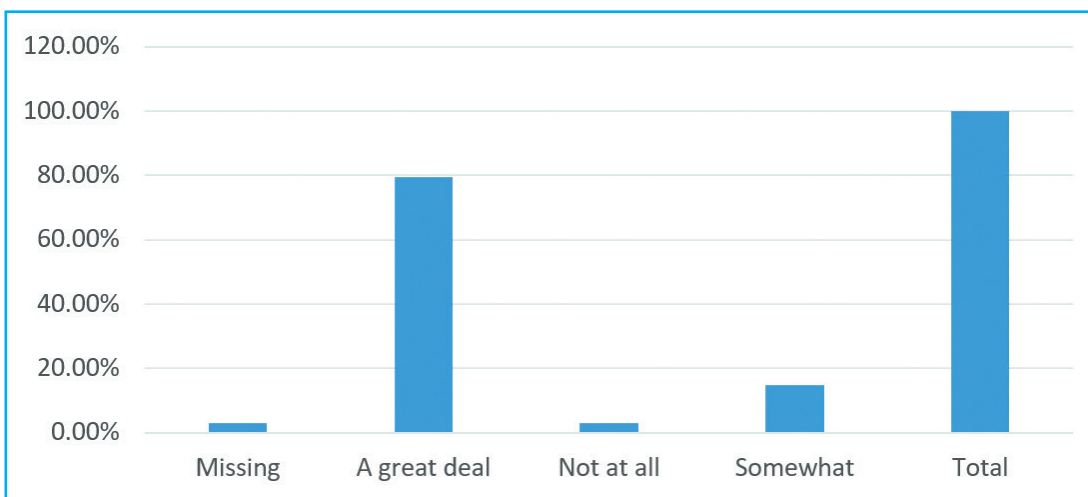


Figure 3: Need for new methods to teach children on Pandemic like COVID-19



Parents and guardians of the children really felt that after COVID-19, there was a real need for changes in the approaches to teaching and learning (80%) while very few felt that there was no need to change the way in which children were learning. To that end there is need for parents and teachers to come up with measures to impart education to children in a manner that protects them from infection. Already there is talk of hybrid methods which mix face-to –face classes with virtual learning to reduce contact between people. Other people are considering the concept of cohorts. Through this concept, students and teachers are divided into distinct groups that stay together throughout an entire school day during in-person classroom instruction. Schools may allow minimal or no interaction between cohorts (also sometimes referred to as pods).

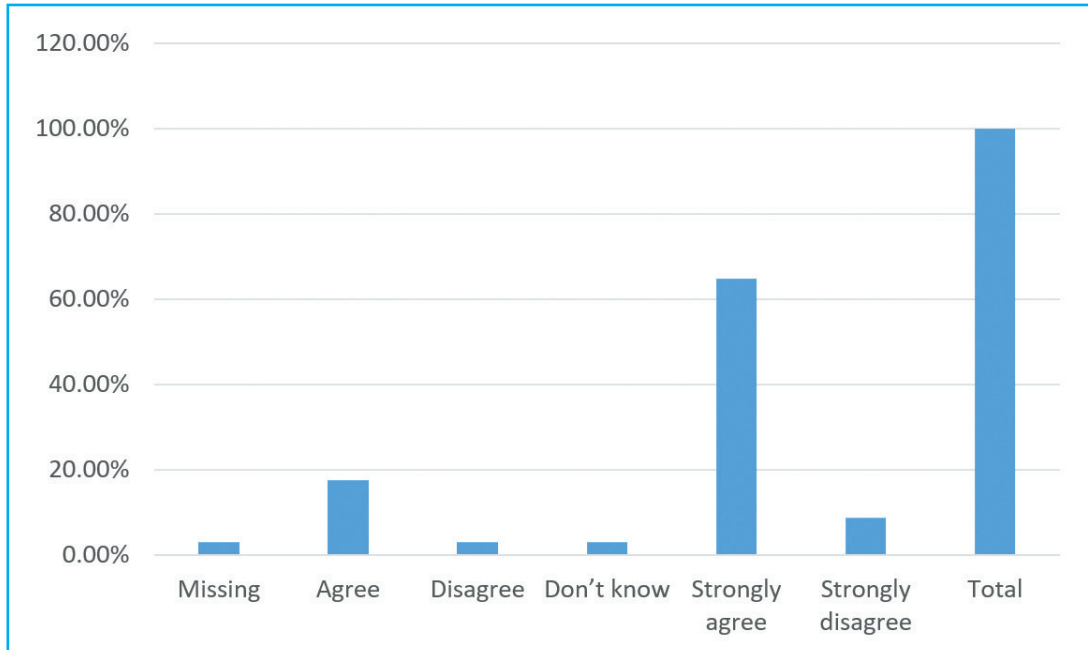
Respondents also argued that long distance education can be administered for child’s cognitive development. About 41.2% of the respondents agreed that long distance education can be administered at any level for child’s cognitive development (see table 2). However, one third of the respondents do not believe in this argument.

Table 2: Long distance education can be administered for child’s cognitive development

	Percent	Frequency
Missing	2.9%	1
Strongly agree	23.5%	8
Agree	41.2%	14
Disagree	14.7%	5
Strongly disagree	14.7%	5
Don’t know	2.9%	1
Total	100.0%	34

The question ascertained that the pupils do have a desire to learn despite the existence of COVID-19. So the pupils want to go back to school. Remote learning is not giving them enough satisfaction under its current format. Children miss friends; they miss the fun of riding their bicycles to school every day; they miss the fun on the school buses; they miss sports activities; they miss their teachers and they miss the routine life of school days. They miss the meals at school. They miss the pocket money which gives them independence to buy what they like. So the study confirmed that the lockdown has impacted negatively on the children’s lives with regards to school and play.

About 60% of the respondents agreed with the statement that it is better for the children to be safe at home than be exposed to COVID-19 at school (figure 4). This showed that parents are still scared to send children back to school in view of the threats of COVID-19. This also built a case for teachers to devise effective methods to teach children through remote means. Parents and guardians here made the statement that learning can still take place through distance interaction to protect children from exposure to COVID-19. Should a choice be made that schools are opening and children are going back, parents will have to make very strong input into how the new schools should look like. The implications are that instructional formats such as class size, setting, and daily schedules will likely look different than in the past years. Families will differ in their choice of instructional formats based on whether the student or members of the household are at increased risk of severe illness, the student’s academic needs, the level of COVID-19 spread in the community, available school transportation options, school ability to execute recommended guidelines, the student’s social-emotional wellbeing, comfort and familiarity with the school’s reopening plans, and the family’s situation and needs.

Figure 4: Children to be safe at home than be exposed to COVID-19 at School

Similarly, About 50% of the respondents felt that there is need to shift to a new mode of learning after the COVID-19 era. This means a departure from the traditional brick and mortar school. A combination of those who agreed and those who strongly agreed is evidence of the inevitable changes anticipated in the education system after the COVID-19 era. The majority of respondents also felt the need for a new model of education after COVID-19. The remote learning introduced during this period was the most likely motivation for this result. The model or models would be the subject of future studies. But some suggestions at this stage include a review of local schools reopening plans as follows: schools to consider having COVID-19 coordinators to take charge of COVID-19 related activities; schools to have school-based clinics to take care of sick pupils (at this point health concerns of pupils must now take centre-stage in addition to educational concerns); schools to work closely with homes to monitor symptoms in children; schools to monitor children's temperatures at entry points into the school or into the school bus; pupils with symptoms similar to those of COVID-19 to stay at home and be monitored there; continuous sanitization of the school premises; schools to avoid large gatherings; children to be kept in small groups; sports gatherings attracting large groups of students to be shelved; absenteeism to be monitored for sickness and children with predisposed conditions like asthma and diabetes to be given special protection. In addition to adherence to social distancing as recommended by the World Health Organization (WHO), schools should have proper ventilation for the classrooms and pupils must have masks all the time. So a new approach is needed in the schools for children to learn under strict protection from COVID-19.

The results of the study confirmed that people in Zimbabwe anticipate changes to the education system after COVID-19. This is a departure from previous studies which did not really focus on the outlook of education but which focused on new curricula for the country. This study focused on the drastic changes to come in terms of strategies and approaches which need to be adapted due to the COVID-19 pandemic.

Inferential analysis

To explore the problems affecting children in their education during the lock down period, a binomial test was conducted. The results of the binomial analysis (presented in table 3) confirmed that parents and guardians agree that COVID-19 has drastically changed the face of education in Zimbabwe. There is anticipation that after the lockdown period there will be changes to the education system. While the anticipated changes are beyond the scope of this study, one can still speculate that such changes will most likely center around the health of the children. The tests have also pointed towards new models of education which must be adopted in the post COVID-19 era.

Table 3: Binomial Test Results

Categories	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)/Decision
H_0 - There is no significant difference on those who agree and disagree that long distance education can be administered at any level in the child's cognitive development.				
Agreed	24	.73	.50	.014
Disagreed	9	.27		Reject H0
Total	33	1.00		There was significant agreement
H_0 - There is no significant difference on those who agree and disagree that the children miss school				
Agreed	16	.48	.50	1.000
Disagreed	17	.52		Failed to reject H0
Total	33	1.00		Ambivalences
H_0 - There is no significant difference on those who agree and disagree that it's better for the children to be safe at home than be exposed to COVID-19 at school.				
Agreed	10	.30	.50	.035
Disagreed	23	.70		Reject H0
Total	33	1.00		There is significant disagreement
H_0 - There is no significant difference on those who agree and disagree that after this COVID-19 era it can never be business as usual in all schools in Zimbabwe.				
Agreed	14	.44	.50	.597
Disagreed	18	.56		Failed to reject H0
Total	32	1.00		Ambivalences
H_0 - There is no significant difference on those who agree and disagree that Zimbabwe needs a new model of education after this COVID-19.				
Agreed	15	.47	.50	.860
Disagreed	17	.53		Failed to reject H0
Total	32	1.00		Ambivalences

Given that the tests ran to determine the level of significance of the responses on whether education in Zimbabwe will change after COVID-19, responses showed that many respondents felt that this would be so. So the tests failed to reject H_0 thereby confirming that respondents anticipate changes to take place in the education system after COVID-19.

Conclusions and Recommendations

The aim of the study was to examine what meaningful learning options are available for learners in Zimbabwe during and after COVID-19. Given the effects of the lockdown on the education of children in Zimbabwe, which saw millions being thrown out of school and staying at home, the study sought

to examine the concern of the parents or guardians for the children's return to school. The study also sought to find out what the respondents felt about the future prospects of education in the country. But there were limitations to this study, which included lack of freedom to interact with respondents due to the lockdown protocols which called for social distancing and little or no contact between individuals. The study was also affected by respondents' limited access to Wi-Fi and internet connections, which made it impossible for some to participate. Other potential respondents did not have the electronic devices to use for the interview, but despite these limitations, the study was of some significance to the future of education in Zimbabwe. It exposed parents' and guardians' anticipation of changes in the education system once the pandemic comes to an end. It also confirmed that parents now look at schools as potential areas for the spread of the virus and are sceptical about the safety of their children. An important observation from the study was that parents feel that it is possible to teach children through distance learning. This depends very much on the introduction of new methods of teaching.

The recommendation stemming from this study to the education ministry in Zimbabwe is that teachers need to come up with new strategies to teach pupils away from the traditional schools. There is need to have a re-look at the classical theories of education by the constructivists and associationists to model alternative theories that do not depend on observable behaviour of the pupils. Another important factor coming from the study is the need to protect children in the schools from infection by the virus. So the need to continuously shape, negotiate and redesign learning theories cannot be overemphasized in this regard. The future of education after COVID-19 will remain the subject of much research in a long time to come. Given the over-dependency of teachers on the traditional theories of education which depend very much on children's observable behaviour, there is need to shift to new models of learning which promote remote learning. Another factor to consider in this COVID-19 environment is the need to adopt new norms of behaviour in the school which promote social distancing, better hygiene practices and less dependence on the traditional teacher-pupil interaction.

Conflict of Interest

There exists no conflict of interest in this article.

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