Rethinking Zimbabwean Education During and Beyond the COVID-19 Pandemic

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Abstract

Background: This paper was premised on the educational learning gap created by the COVID-19 Pandemic induced schools' closure in Zimbabwe and the world in 2020. Approximately, 1,576 billion, 297 million and 4,6 million learners globally, in Africa and in Zimbabwe respectively, are attending schools and their learning process is interrupted because of the COVID-19 Pandemic in many different ways across the globe. Developed countries adopted innovations to ensure continuity of educational learning, however, developing countries like Zimbabwe, were caught unaware. Already battling with a crippled economy, and severe natural disasters induced by climate change, this paper investigates a relatively new and demanding curriculum, and the Zimbabwe education system's capacity to adopt to the changes induced by COVID-19 Pandemic.

Objective: The study has three objectives: to unearth if stakeholders are appreciative of the importance and dictates of Zimbabwe's Competency-Based Curriculum; to ascertain if e-learning can ensure the continued provision of education during and after the COVID-19 era and other pandemics that may arise in the future; and to establish which method of education instruction is preferred by Zimbabweans, either during or after the COVID-19 Pandemic period.

Methods: A mixed method research design was used to collect both qualitative and quantitative data. Considering that data collection was done at the peak of the COVID-19 period, physical contact was avoided and the research was largely hinged on an online questionnaire and interview sessions. Focus group discussions were however, also conducted when it was expedient to do so, to qualify some of the quantitative responses provided by respondents.

Results: Results showed that stakeholders were inadequately consulted about the 'new curriculum', that education innovation to adopt e-learning is required, and that Zimbabweans prefer to have a dual method of education instruction through e-learning and in the traditional classroom set-up.

Conclusions: The government needs to consult stakeholders, create synergies with partners to implement educational technologies and provide the necessary precautionary equipment in schools prior to re-opening.

Keywords: COVID-19, Curriculum, Education, e-learning, Innovations.

Paper Type: Research Paper

JEL Classification: I (Health, Education and Welfare)

Introduction

The outbreak of the COVID-19 pandemic triggered several responses, and amongst them, the closure of schools, affecting at least 91% of the school-going population at a global level. In Zimbabwe, 4.6 million learners, and more than 127,000 teachers were affected by the government's decision to close schools and all public gatherings. Yet, schools provided a safety net for children, especially vulnerable populations in Zimbabwe, through Social and Emotional Learning (SEL), school feeding programmes, development through contact with friends, teachers and other reasons. With schools closed, the study investigated what became of children and what could be done to bridge the educational learning gap.

Previous pandemics which mostly affected the first world and Asian continents had proven that the closure of schools led to some decline or delay in the spread or climaxing of various pandemics. Such experience informed the global decision for lockdowns, social distancing, use of Personal Protective Equipment (PPE), and quarantine of suspected cases or people who had contact with infected people during the COVID-19 era.

Three research questions were formulated for this study. Firstly: Are stakeholders appreciative of the importance and dictates of Zimbabwe's Competency-Based Curriculum? Secondly: Can e-learning ensure the continued provision of education during and after the COVID-19 era and other pandemics that may arise in the future? Thirdly: Which method of education instruction is preferred by Zimbabweans either during or after the COVID-19 pandemic era?

The study had 3 objectives: Firstly: To unearth if stakeholders are appreciative of the importance and dictates of Zimbabwe's Competency-Based Curriculum. Secondly: To ascertain if e-learning can ensure the continued provision of education during and after the COVID-19 era and other pandemics that may arise in the future? Thirdly: To establish which method of education instruction is preferred by Zimbabweans either during or after the COVID-19 Pandemic period?

COVID-19 Pandemic took the global village by surprise, affecting age-old systems, mostly negatively. The education sector was affected by school closure and national lockdowns aimed at curbing the pandemic. The purpose of this study is to ascertain the way forward for the education learning systems in Zimbabwe and developing countries, beyond COVID-19 and other future pandemics. The gap was to ascertain and allocate new or innovative ways of learning for the Zimbabwean and African children, growing under already difficult and impoverished circumstances. Although held in Zimbabwe, the study could be generalised globally to developing countries.

The study was organised into several sections: Section 2 deals with a literature review followed by research methodology in section 3. Similarly, section 4 deals with results and section 5 concludes the study.

Review of Literature

Theoretical Review

James Maxwell, in Wilson & Peterson (2006) explains that 'There is nothing as practical as a good theory.' Education and learning have been practiced since time immemorial, and several scholars, including behaviourists, have argued that children are born with a blank slate, which then acquires language as they grow and get accustomed to their environment. David (2015), hinged on the proposition that learning occurs through external forces in the environment, with positive and negative reinforcement playing a pivotal role in the repetition of a behaviour. Behaviourism is also associated with Pavlov and Skinner in the late 20th Century.

There are, however, other schools of thought that respond to the debate on how children and people learn. Cognitivism, propounded by Chomsky in the 1960s, emphasises on opening a learner's black box which processes mental functions in the brain. Constructivists, such as Piaget, argue that the learning

process is active and constructive, while humanists such as Maslow argue that learning is associated with one's freedom, potential and a supportive environment.

Maslow (2013) classified human needs into a pyramid with categories. The base of the pyramid represents the most basic of needs, which must be met. These include food, water and air. Safety comes next, with belongingness, esteem and self-actualisation following. COVID-19 has been classified as a health-related security threat, which deprived people of their physiological needs, and safety, hence disrupting the balance of life. Education is an entity which is closely associated with safety, and once the latter is removed, education is disrupted.

Wilson and Peterson (2006) argue that learning and education are always evolving, and teachers and educators need to establish new ways and methods of delivering concepts to their students. This observation is consistent with this research which aimed at establishing the innovations required to continue with learning during and in the aftermath of COVID-19 in Zimbabwe and beyond.

Transitioning from learning can be seen as a passive process of absorption of information, to an active engagement with information at both individual and collective levels (Wilson and Peterson, 2006). Any differences amongst students are not perceived as problems, but as resources for diversity. Likewise, knowledge transitions from facts and procedures to more critical questions such as inquiries into the whys and processes of a discipline. Teaching also transitions from the point where the teacher is the wealth of knowledge but also includes the experiences of learners and their contribution towards the learning processes.

This transitioning theory to education is also consistent with the Competency-Based Curriculum in Zimbabwe which aims at placing the learner at the centre of the learning process, with the teacher as a facilitator to this process. Unlike in the old and inferior curriculum during colonial Zimbabwe, the Competency-Based Curriculum aims at empowering the learner to think creatively and critically, and not to simply act as a sponge that absorbs and regurgitates information without any practical applicability of the taught concepts. In the awakening of the COVID-19 Pandemic, this theory is central and applicable to the education system in Zimbabwe and other developing nations, as it exposes learners to diversified forms of acquiring and applying knowledge and skills.

Empirical Review

Education is an indispensable part of humanity. Al-Shuaibi (2014) expresses the importance of education to one's life, arguing that all people are entitled to an education 'from cradle to grave'. Through this assertion, the assumption is that learning is a continuous process and that it is a vital aspect of every human being. Eristi and Akdeniz (2012) explain further that learning, with the exception of innate behaviours, is a permanent product that assumes many forms: through direct and indirect experiences and contact with a learner's environment. Additionally, learning is also defined as 'ontogenetic adaptation that is, as changes in the behaviour of an organism that result from regularities in the environment of the organism' (De Houwer et al, 2013).

Additionally, Sustainable Development Goal (SDG) 4 aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (UN, 2015). According to the UNHCR (2019), 'SDG 4 targets are geared towards completion of the full education cycle from early childhood to higher education, with emphasis on literacy and learning'. Education is, therefore, a lifelong experience, which must be approached holistically in and outside the classroom scenario. Dambudzo (2015) calls for the adoption of 'Education for Sustainable Development' (ESD), in response to the rising demands for school leavers who are relevant to the professional field and corporate world. UNESCO (2005) bemoans graduates who are educated but incompetent in the workplace, calling for huge investments in on the job training.

At independence, Zimbabwe inherited an oppressive and inferior education system. Nziramasanga et. al (1999), bemoaned the status of the education system thus: 'For almost a century, a dual system of

education existed in Zimbabwe…racial discrimination and segregation in education was legalised and rigorously enforced'. In the same report, Nziramasanga et al (1999) observed that the education system was completely detached from reality, trained black children to be employees and not employers, did not develop natural talent and aptitudes, and avoided the reserved area of sciences which was stereotypically endowed as the elite subjects. Despite the splendid observations and recommendations, 17 years later, in 2016, the then Minister of Primary and Secondary Education, Dr Lazarus Dokora (MoPSE, 2014-2015), conducted a pilot of an innovative 'new curriculum'. Educationists, parents and learners reacted with some resistance to the rather drastic change, with allegations of inadequate consultation of stakeholders and preparations to implement the 'new curriculum.'

Key to the 'new curriculum', also known as the 'Competency-Based Curriculum' are concepts of emphasis on exit competencies in preparation for engagements in the corporate world. It is also deemed the 'African political economy' by Dhliwayo (2019), which acknowledges the informal sector as the major driver of African economies. In addition, the use of technologies and emphasis on science education, synergies amongst teachers, learners and the environment, emphasising on interaction and problem solving, also form the backbone of the new curriculum.

The Competency-Based Curriculum is learner-centred and includes needs and continuous assessments. Cruickshank and Fenner (2012), in Dambudzo (2015), concur with continuous assessments, reporting that 'exercises and assignments should be designed to encourage learners to test their own abilities and assumptions as they developed their competencies'. Learning is, therefore, a process of knowledge and competencies acquisition, which are supported by the environment, teachers, parents, the government, society and Civil Society Organisations, and tested through assignments, tests and examinations. Dambudzo (2015) expresses all these attributes as contributing towards 'effective learning'.

Developed countries responded to the learning gap through adopting innovations inclusive of online learning, isolated visits and capacitating families to deal with the burden of teaching their own children, though challenges of varying bandwidth, network connectivity interruptions and learners without technological gadgets were experienced.

Yet, for Zimbabwe, and other developing countries, the closure of schools led to uncertainty and an almost complete blackout on the education system. Research has proven that schools provide the necessary environment for physical, emotional and psychosocial support for many learners across the globe. With Social and Emotional Learning (SEL) being an integral part of the school structure, its absence exacerbated existing vulnerabilities for impoverished, disabled, displaced and refugee children (INEE, 2019).

In Zimbabwe, 4,6 million learners, and 127,000 teachers in 9,625 schools were affected by the COVID-19 induced lockdown (MoPSE, 2020). School feeding programmes, which would assure vulnerable children of a decent meal on a daily basis, were interrupted. During and beyond COVID-19, what alternatives could be explored to ensure learning continuity?

The above-stated theories fail to account for education and learning in the context of emergencies such as the COVID-19 pandemic. Behaviourism, cognitivism, structuralism and Maslow's hierarchy of needs fail to meet the extra demands of offering education and promoting learning in complex situations. For instance, there is no explanation in the cognitive development or lack thereof, of a child that is born in a pandemic era, and that born in the absence of a pandemic. There are no existing studies to reflect on how pandemics have an impression on the ability for a child to learn certain aspects of a curriculum. Likewise, the methodology for lesson delivery during pandemics has not been explored.

Research Method

This research was premised on a mixed method and exploratory research design, given the immediacy, novelty and emergency associated with COVID-19 pandemic, having the educational sector of

Zimbabwe as study area. The study utilized both primary and secondary data collection methods. For the former, a survey methodology was used in gathering information from various stakeholders through an online questionnaire in KoBo Toolbox which helped to snip into respondents' opinions, beliefs and attitudes towards various areas of the competency-based curriculum and how COVID-19 had impacted it. The questionnaire had quantitative inquiries with focus group discussions seeking to qualify some of the quantitative responses. Secondary data was collected from various journals, situational reports, books and online articles.

The study sought the consent of participants prior to data collection. Participants were debriefed on the study, with explanations on the benefits of influencing educational policies and potential harm of using data bundles, and that they could withdraw at any point in the data collection process. The 'do no harm' principle was employed, wherein, by all means, participants were not endangered by their participation in the study. This is in accordance with Williams' (2003:156) recommendation that research should not distress or harm participants, regardless of the outcome. Due to the recency and novelty of COVID 19, convenience or availability, and voluntary sampling were used, relying on responses from population members who were conveniently available and offered to participate. Given the risks involved in face-to-face interactions and travel restrictions, convenience sampling was found to be putative to explore the phenomenon.

The sample size was strictly based on convenience, informed by who had access to internet data or WiFi, in order to answer an online questionnaire due to severity of the COVID-19 pandemic, lockdown and travel restrictions. 22 responses were received electronically, while the researcher interviewed and conducted focus group discussions with 8 respondents. The total sample size was therefore 30 respondents, though after data cleaning a total of 25 responses were usable. The study covered the period from March to July, 2020.

Data analysis and management were done using SPSS (descriptive and inferential statistics) and NVivo (qualitative visuals). For quantitative variables, data collection was based on nominally and ordinally scaled variables. 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 variables, Chi-square for goodness-of-fit was computed, otherwise a binomial test was used. All the inferences were based on quantification of differences in opinions, based on asymptotic statistical significances in categories preferred or resonating with the participants' opinions.

Likewise, three hypotheses were developed for the purpose of this study:

Table 2: Hypotheses for the study

H_{01}	The categories on whether stakeholders are appreciative of the importance and dictates of Zimbabwe's Competency-Based Curriculum occur with equal probabilities.
H_{02}	The categories on whether e-learning can ensure the continued provision of education during and after the COVID-19 era, and other future pandemics occur with equal probabilities.
H_{03}	The categories of physical and e-learning as methods of educational instruction occur with equal probabilities.

Data Analysis and Result

Demographic Status

52% of respondents were adults above the age of 35years, followed by the 22-35 years category constituting 40% of the respondents, while the 13-18 years and 18-21 years categories each represented 4% of the respondents.

92% of the respondents were urban-based, while the remaining 8% were rural-based. Additionally, parents represented 44% of respondents, taking up the majority, Teachers and education personnel represented 24%, while learners and NGO/Government personnel represented 16% each.

Table 3: Demographic data

|	Frequency	Percent
Age Ranges		
13-18 years	1	4.0
18-21 years	1	4.0
22-35 years	10	40.0
Above 35 years	13	52.0
Total	**25**	**100.0**
Geographic location		
Rural based	2	8.0
Urban based	23	92.0
Total	**25**	**100.0**
Identity		
Government partner/ NGO personnel	4	16.0
Learner/Student	4	16.0
Parent	11	44.0
Teacher/Education personnel	6	24.0
Total	**25**	**100.0**

Through this demographic data, it was established that the urban population has better access to the internet, as they were able to take the survey online without much difficulty, while the rural population cited network challenges, in addition to unavailability of data or gadgets for internet connectivity. Likewise, parents had better access to internet gadgets than learners and teachers.

Importance and Dictates of Zimbabwe's Competency-Based Curriculum

Respondent's Familiarity with the 'New Curriculum'

Respondent's familiarity with the Competency-Based Curriculum, also known as the 'New Curriculum' is important aspects to know about Zimbabwe's Competency-Based Curriculum. A Chi-square goodness of fit was performed to capture whether participants are familiar with Zimbabwe's Competency-Based Curriculum, which may occur with equal probabilities. The test gave a result of a statistical significance of 0.392, failing to reject the null hypothesis. Albeit no statistical significance, respondents had a 'somewhat' knowledge of the Competency-Based Curriculum.

Figure 1: Knowledge of the Competency-Based Curriculum
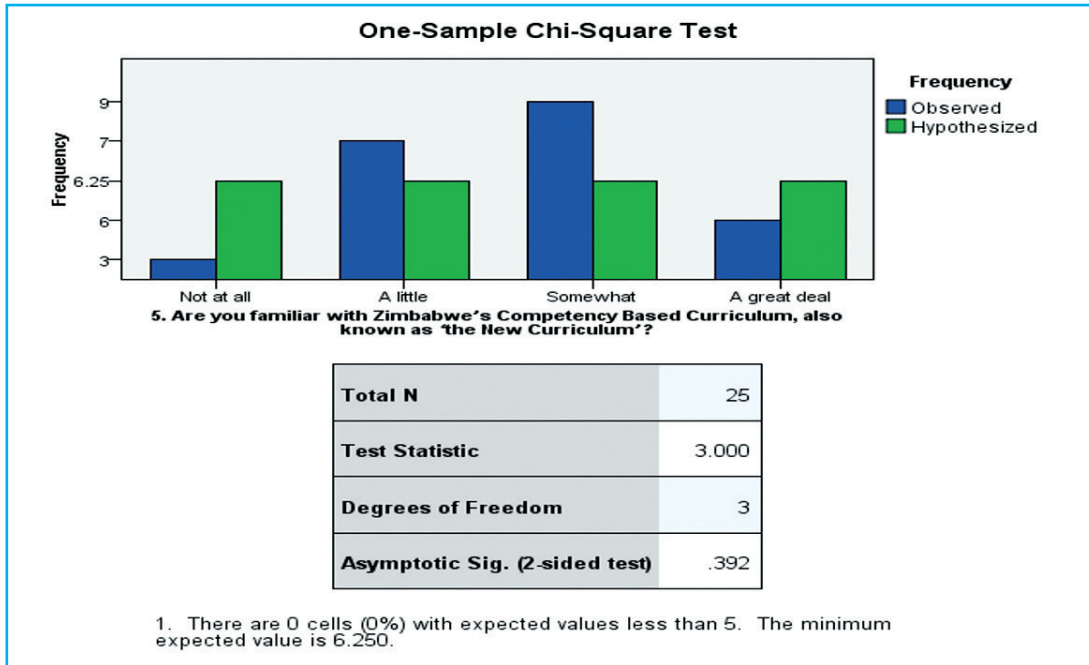
Respondents were also asked whether they believe that the Competency-Based Curriculum is an improvement from the 'Old Curriculum'. Here we want to see whether participants believe that the Competency-Based Curriculum is an improvement from the Old Curriculum, the occurrence with equal probabilities was predicted. The results indicate that with a statistical significance of 0.002, the test rejected the null hypothesis, translating that the new curriculum was perceived as an improvement from the old curriculum.

Figure 2: Comparison of Improvement of Competency-Based Curriculum from the Old Curriculum
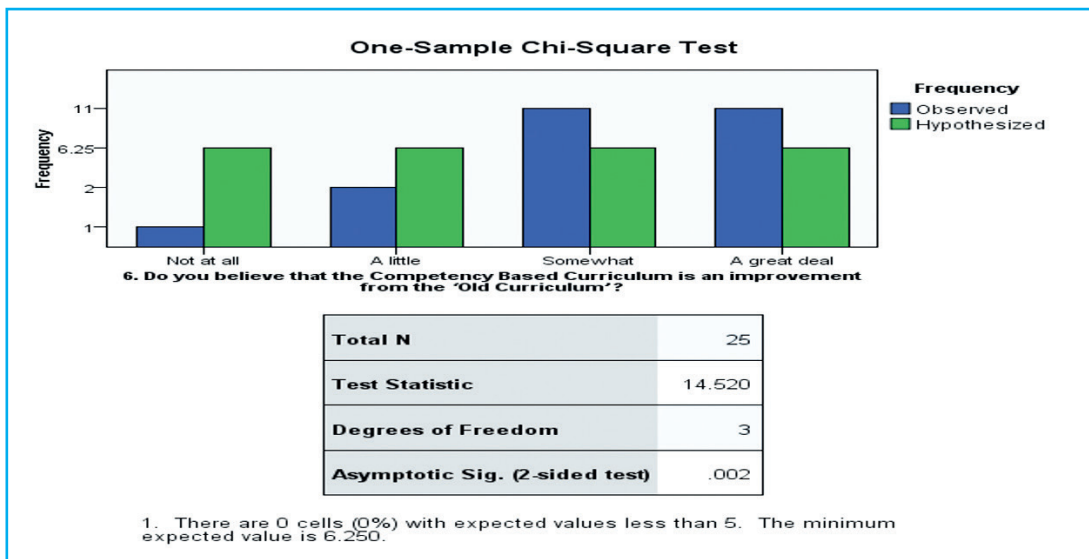
Major Achievement of the Competency-Based Curriculum

Respondents were asked about the major achievement of the Competency-Based Curriculum. As it is an open question, the NVivo software was used to analyse this data. Qualitative tests, run in NVivo, showed the people's perceptions on what the Competency-Based Curriculum had achieved. Figure 3 shows the major achievement of the Competency-Based Ccurriculum. Respondents explained that they appreciated that learners were able to learn Information Communication Technologies from a tender age, diversity in the curriculum, and a local approach to education, with a focus on historical and cultural appreciation of the country. Respondents also appreciated exit competencies and entrepreneurship skills which they cited as were very useful in life, especially with rampant and uncontrolled unemployment rates in the country. Other respondents, however, cited it was a premature period to ascertain the exact achievements of the Competency-Based Curriculum.

Figure 3: Perceived achievements of the Competency-Based Curriculum
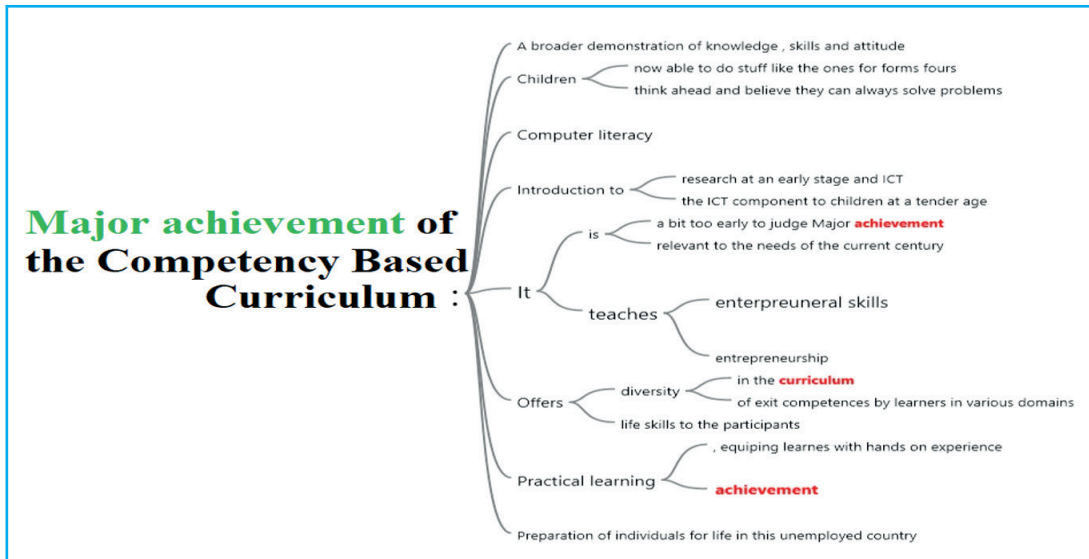
Challenges Faced in the Implementation of the Competency-Based Curriculum

Respondents were asked about the challenges that they have faced in the implementation of the Competency-Based Curriculum. NVivo result (shown in figure 4) revealed that these challenges were building infrastructure, Information Communication Technology gadgets, human resources and time to implement the Competency Based Curriculum. They observed hefty learning areas, over very limited time frames on the timetable, for learners with varying needs. They bemoaned limited consultation of stakeholders, minimal training for teachers, and strain on parents to achieve required resources to support the Competency-Based Curriculum. Additionally, some of the curriculum tenets were difficult to achieve because of the constricted socio-economic climate.

Figure 4: Challenges in the implementation of the Competency-Based Curriculum

Ensuring E-learning as the Continued Provision of Education

The second objective is whether e-learning ensures the continued provision of education during and after the COVID-19 era, and other pandemics that may arise in the future. It is presented with the help of binomial tests.

Table 4: E-learning related questions

Categories	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)/Decision
H_0 - There is no significant difference between those who agree and disagree about whether e-learning addresses the needs required in the holistic development of a child or learner.				
Agreed	25	1.00	.50	.015
Disagreed	0			Reject H_0
Total	25	1.00		There was significant agreement
H_0 - There is no significant difference between those who agree and disagree about whether they think that e-learning has the capacity to churn out competent graduates.				
Agreed	25	1.00	.50	.007
Disagreed	0			Reject H_0
Total	25	1.00		There was significant agreement
H_0 - There is no significant difference between those who agree and disagree about whether they think that parents and guardians have a role to play in e-learning.				
Agreed	12	.48	.50	1.000
Disagreed	13	.52		Failed to reject H_0
Total	25	1.00		Ambivalences

Respondents were asked whether e-learning addresses the needs required in the holistic development of a child or learner. The assumption is that there is no difference between those who agree and disagree

about how e-learning addresses the needs required in the holistic development of a child or learner. Results showed a P-value of 0.015, significantly agreeing that e-learning is capable of addressing the holistic needs of a learner thereby rejecting the null hypothesis. Similarly, another query about whether respondents think that e-learning has the capacity to churn out competent graduates? Here, the null hypothesis was that there is no significant difference between those who agree or disagree that e-learning has the capacity to churn out competent graduates. Statistically significant P-value of results 0.007 rejected the null hypothesis, as e-learning was shown to churn competent graduates. Parents and guardians might have a role to play in e-learning, but, the results showed ambivalences.

Our study shows that learners, parents and teachers are prepared for e-learning (see table 5). The results showed a 0.000 statistical significance, as respondents agreed that parents, learners and teachers were prepared for e-learning.

Table 5: Learners and parents' preparedness for e-learning

H_0 - There is no significant difference on those who agree and disagree: Do you think that learners, parents and teachers are prepared for e-learning?				
Agreed	25	1.00	.50	.000
Disagreed	0			Reject H_0
Total	25	1.00		There was significant agreement

Preferred Method of Education Instruction by Zimbabweans in Pandemic

The third objective of this study is to identify whether the method of education instruction is preferred by Zimbabweans either during or after the COVID-19 pandemic era. Respondents were asked 'Given a choice, which learning method would you prefer?' The result shows that that 88% of respondents preferred a combination of the brick and mortar classroom, and e-learning, while 4% preferred the brick and mortar classroom set up, and 8% preferred e-learning (See table 6).

Table 6: Method of educational instruction preferred by learners

Valid	Frequency	Percent	Valid Percent	Cumulative Percent
A combination of the above 2 methods	22	88.0	88.0	88.0
Brick and mortar classroom set up	1	4.0	4.0	92.0
E-learning	2	8.0	8.0	100.0
Total	**25**	**100.0**	**100.0**	

The school set-up is a safe haven for children and learners and schools must re-open, but with necessary precautionary measures in place. For this, the null hypothesis H0 is set that there is no significant difference in those who agree and disagree that the school set-up is a safe haven for children and learners and thus, schools must re-open, but with necessary precautionary measures in place. The binomial test run (in table 7) showed that there is no significant difference in opinion between those who thought and did not think that schools must-reopen, with necessary precautions. With a P-value of 0.108, the test failed to reject the null hypothesis.

Table 7: School is a safe haven for learners and should be opened, but with the necessary precautions

H_0 - There is no significant difference between those who agree and disagree that the school set-up is a safe haven for children and learners and schools must re-open, but with necessary precautionary measures in place

|			
Agreed	17	.68	.50	.108
Disagreed	8	.32		Failed to reject H_0
Total	25	1.00		Ambivalences

Respondents were also asked what they think learners treasure most about school. As shown in figure 5, the majority (48%) of respondents cited that they liked learning through contact, competition and interaction with their friends, teachers and peers. 32% said that they preferred learning through contact, 16% liked their friends and interaction, while 4% enjoyed the competition at school.

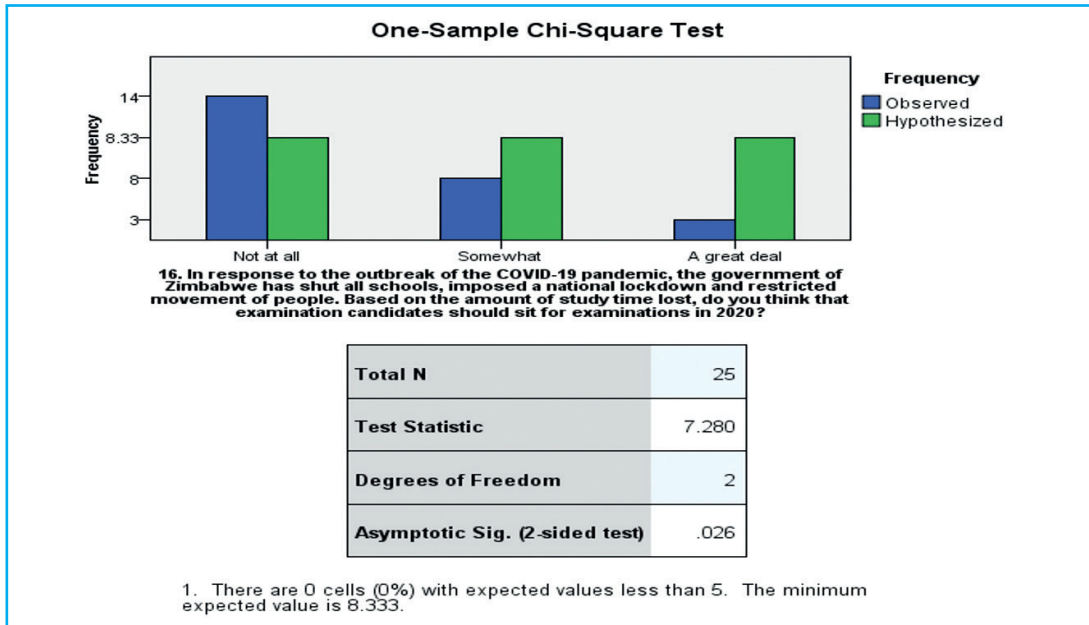**Figure 5: Learners treasure most about school**
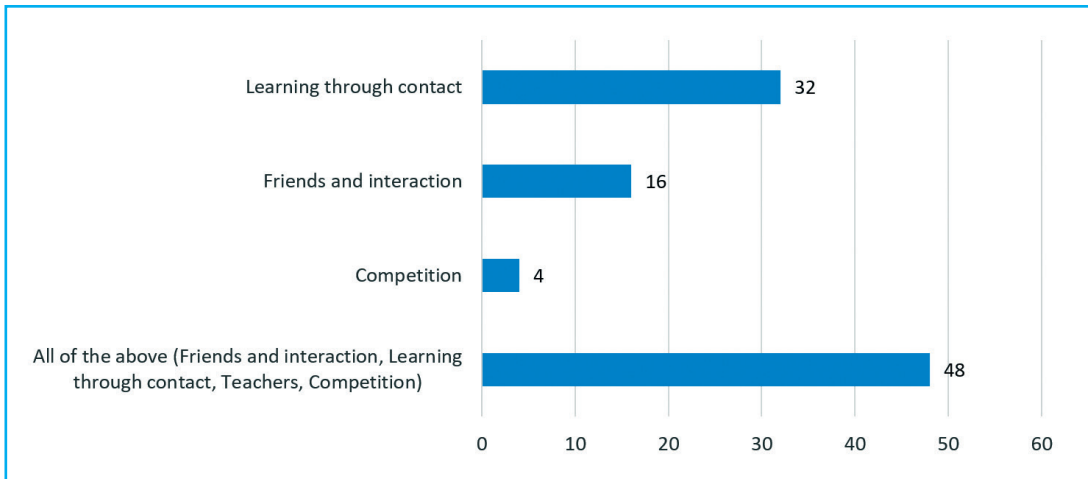
Despite the popularity of school for education promotion, respondents are not in favour of opening school during pandemic period. They were asked when they think is an appropriate time to open schools (See figure 6). In result, 92% of respondents had the opinion that schools should re-open only when it is safe to do so, while 8% argued that they should be re-opened towards the end of the year 2020.

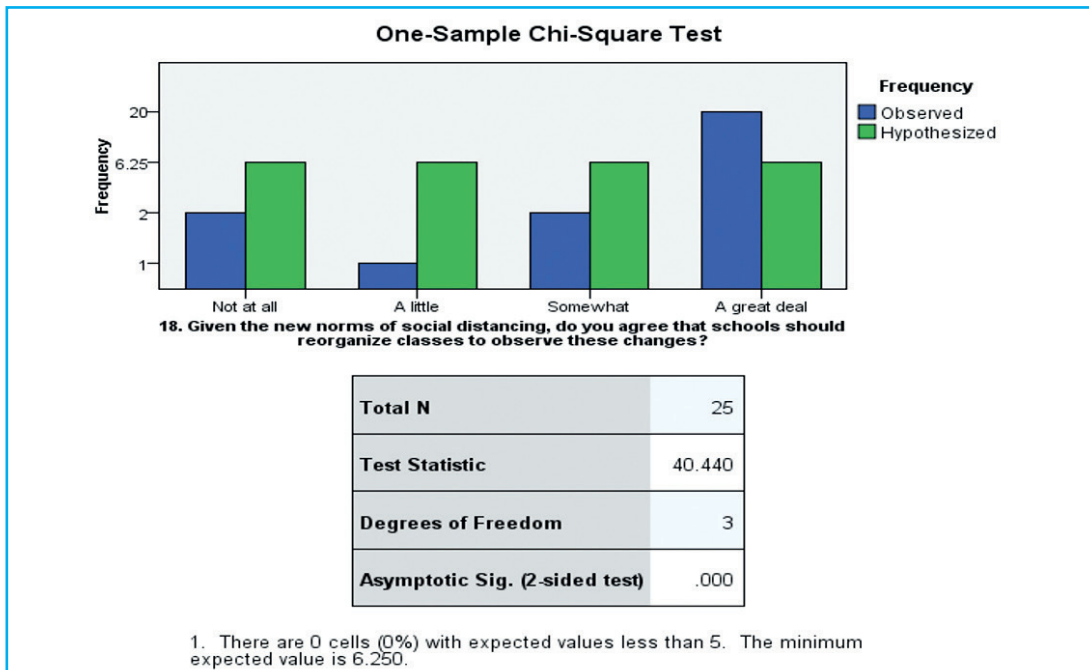**Figure 6: Appropriate time to re-open schools**
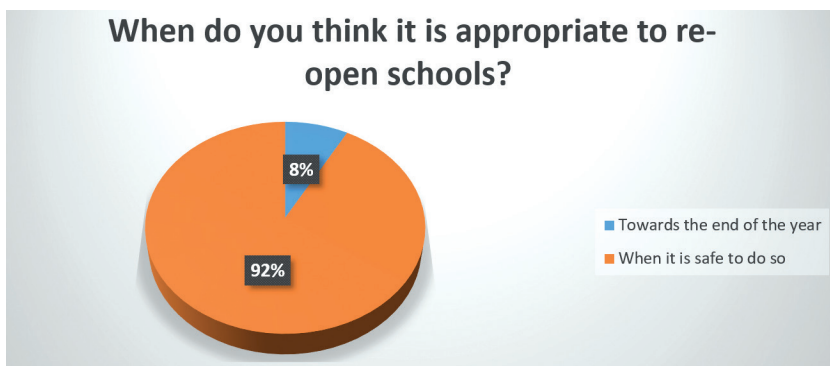
In response to the outbreak of the COVID-19 pandemic, the government of Zimbabwe has shut all schools, imposed a national lockdown and restricted the movement of people. Based on the amount of study time lost, respondents were asked what they think about how examination candidates should sit for examinations in 2020. The One-Sample Chi-Square test result indicates no with a clear P-value of 0.026 (see figure 7). It implies that a general agreement suggests that examination candidates must not sit for examinations in 2020.

Figure 7: Should exam candidates sit for examinations in 2020?

Figure 7: One-Sample Chi-Square Test. Frequency: Observed (blue), Hypothesized (green). 16. In response to the outbreak of the COVID-19 pandemic, the government of Zimbabwe has shut all schools, imposed a national lockdown and restricted movement of people. Based on the amount of study time lost, do you think that examination candidates should sit for examinations in 2020?

Total N	25
Test Statistic	7.280
Degrees of Freedom	2
Asymptotic Sig. (2-sided test)	.026

1. There are 0 cells (0%) with expected values less than 5. The minimum expected value is 8.333.

Respondents were also asked that given the new norms of social distancing, whether they agree that schools should re-organize classes to observe these changes? A one sample test lead to a decision to reject the null hypothesis, with a significant statistical value of 0.000, meaning there was a general agreement by respondents that changes induced by COVID-19 had to be adopted in schools (For detail see figure 8).

Figure 8: Should schools re-organise to adopt COVID-19 induced changes?

Figure 8: One-Sample Chi-Square Test. Frequency: Observed (blue), Hypothesized (green). 18. Given the new norms of social distancing, do you agree that schools should reorganize classes to observe these changes?

Total N	25
Test Statistic	40.440
Degrees of Freedom	3
Asymptotic Sig. (2-sided test)	.000

1. There are 0 cells (0%) with expected values less than 5. The minimum expected value is 6.250.

Another question posed to the respondents was 'Do you believe that additional resources must be channelled to support the changes in the education system as a result of COVID-19?' Here too, a one-sample binomial test was run (For detail see figure 9) on the null hypothesis that the categories on the belief that additional resources must be channelled to support the changes in the education system as a result of COVID-19 occur with equal probabilities. The P-value of 0.000 rejected the null hypothesis as there was an agreement by respondents that changes had to be adopted and additional resources channelled to schools in the awakening of COVID-19.

Figure 9: Perceptions of participants on whether additional resources must be channelled in schools to support the changes induced by COVID-19.
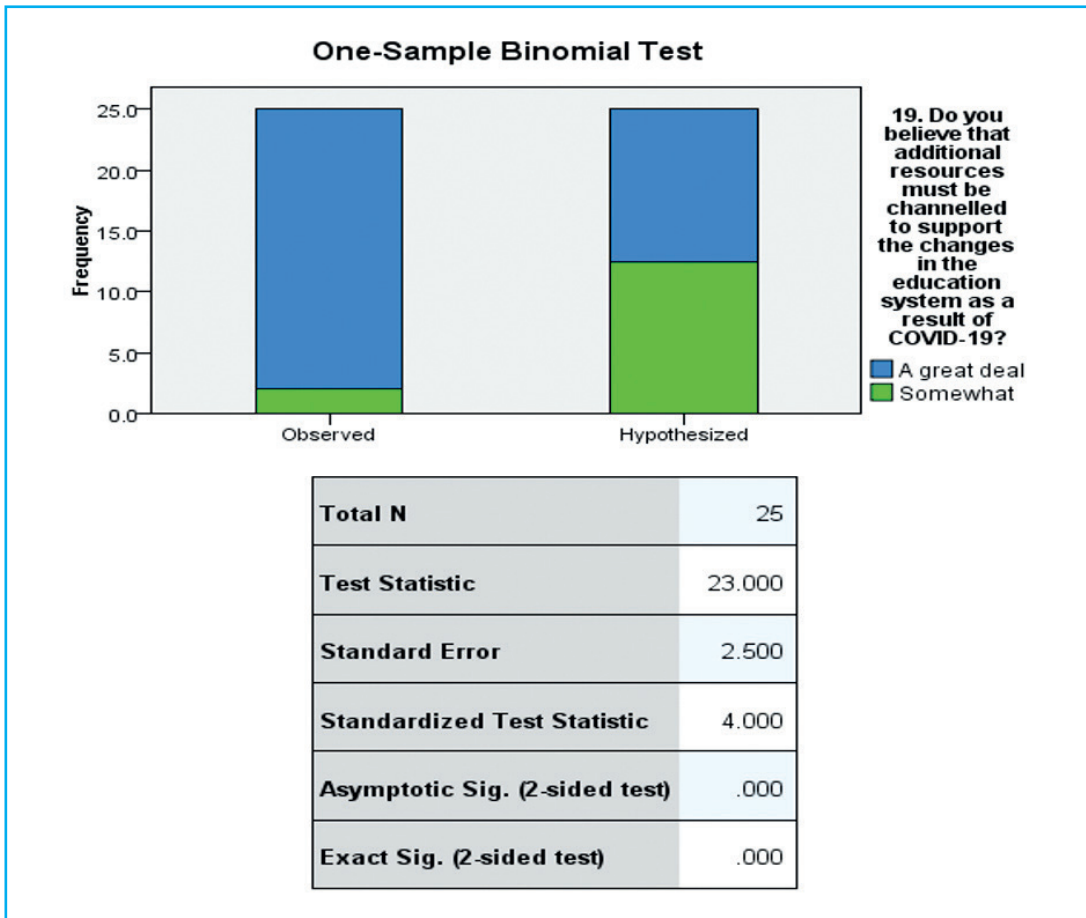
Another question to the respondents was - what additional resources must be channelled to support the changes in the education system as a result of COVID-19? As shown in figure 10, 72% of respondents expressed that there was a need for schools to provide additional resources in terms of water points and hygiene facilities, inclusive of Personal Protective Equipment (PPE), nutritional supplements, teachers, classrooms, and furniture. 16% expressed that nutritional supplements and Personal Protective Equipment (PPE) were most important, while 12% perceived water points and hygiene facilities as the most important additional resources required for schools.

Figure 10: Additional resources required to address the needs of education in light of COVID-19
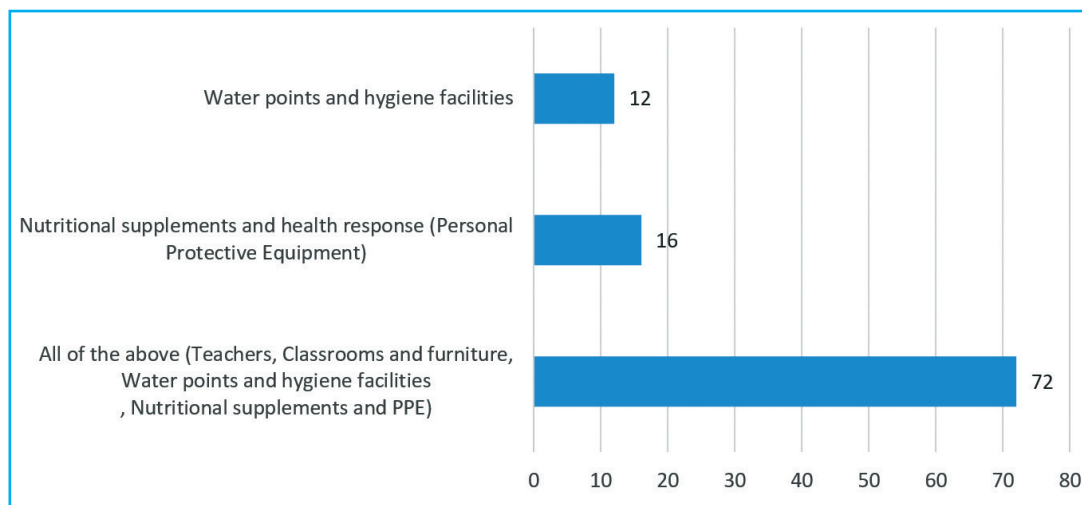
Summarily, based on the above tests, the results for the hypotheses are as given below:

Table 8: Hypothesis test results

Null hypothesis (H$_0$)	Result(s)
The categories on whether stakeholders are appreciative of the importance and dictates of Zimbabwe's Competency-Based Curriculum occur with equal probabilities.	A Chi-square goodness of fit test gave a result of a statistical significance of 0.392, failing to reject the null hypothesis.
The categories on whether e-learning can ensure the continued provision of education during and after the COVID-19 era and other future pandemics occur with equal probabilities.	Results showed a P-value of 0.015, significantly agreeing that e-learning is capable of addressing the holistic needs of a learner, rejecting the null hypothesis.
The categories of physical and e-learning as methods of educational instruction occur with equal probabilities.	The binominal test runs on this question show that 88% of respondents preferred a combination of the brick and mortar classroom, and e-learning, while 4% preferred the brick and mortar classroom set up, and 8% preferred e-learning. The test results failed to reject the null hypothesis.

Based on the above tests and results, the research questions have been answered. Stakeholders showed that they have a rather balanced knowledge or lack of knowledge on the dictates of the Competency-Based Curriculum, with various improvements being suggested to its implementation. Respondents appreciated the importance of e-learning as part of the new normal way of delivering lessons to learners in Zimbabwe, although they also stated the importance and advantages of the physical brick and mortar classroom set up. Ultimately, respondents expressed the need to infuse both physical and electronic learning as methodologies of learning the Zimbabwe Competency-Based Curriculum. Suggestions were however made on the improvements required prior to the re-opening of schools for physical lessons, inclusive of the provision of personal protective material, water points, hygiene material, nutritional supplements and health response.

Conclusions and Recommendations

The study aimed to establish how to bridge the learning gap induced by COVID-19 health regulations in Zimbabwe and other developing countries across the globe. The results show that stakeholders have a generalised knowledge of the Competency-Based Curriculum, as they were able to articulate the perceived challenges and achievements, and also cited that it is an improvement from the 'Old Curriculum'. The respondents agreed that e-learning is equally competent as it can churn out competent graduates and address the holistic needs of the learners. The results also showed that stakeholders, inclusive of parents, learners and teachers, were prepared for e-learning but there were ambivalences on whether parents had a role to play in e-learning. Additionally, the results showed that a mixed-method approach to educational instruction was preferred. Although e-learning was considered, results showed that learners appreciated competition, friendship, their teachers and learning through contact. Respondents, however, expressed that schools should only re-open when it is safe to do so, even though it could imply the deference of 2020 examinations. Respondents also expressed that additional resources, in the form of water and hygiene points, Personal Protective Equipment (PPE), teachers and nutritional supplements were required to ensure safety from COVID-19 and other future pandemics before schools could reopen.

The recommendations arising from this research are as follows:
- Stakeholders must be consulted on the Zimbabwe education curriculum as it requires their resources.
- Close the learning gap between the haves and the have nots. Pre-existing vulnerabilities must be addressed through child protection, and inclusive responses to cater for slow and fast learners, orphans, displaced, asylum and refugee children, differently-abled and children living under difficult situations, through increasing safety nets through government and its partners.
- Adopt necessary changes to cater for COVID-19 and other pandemics health regulations.
- Establish the provision and support of online learning platforms, which can be supported by radio and television broadcasts, and the distribution of hard copy learning materials. Partners at community levels must offer well-ness support to children, and especially to those with various vulnerabilities.
- The government is encouraged to spearhead the training of teachers and learners to make use of educational technologies.

The significance of this study, which was delimited to the Zimbabwean context, but can be generalised to developing countries across the world, unearthed the importance of innovation in education learning methods, as an addition or supplement to the traditional brick and mortar set-up, during and beyond the COVID-19 pandemic period. It has been demonstrated that physical lessons alone may not be sufficient in the 21st century times and that there is a need for the education sector to evolve, taking into account preparations for emergencies such as pandemics and other eventualities. Radio lessons, distribution of printed materials and e-learning are suggested as part of the solutions to the COVID-19 and other pandemics induced schools closures.

Suffice to say, new methods exacerbate existing vulnerabilities and widen the gap between the haves and have nots. The hiatus for further study is inclusive, accessible and non-discriminatory e-learning and education delivery methods which can be explored in Zimbabwe and other developing nations in lieu of COVID-19 and other pandemics.

Conflict of Interest

No conflict of interest exists in this paper.

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