Managing the Ethiopian Education Systems amid Emergencies: Lessons from COVID-19 Global Crisis

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ARTICLE INFO.	Abstract
	This study, which was based on the Pragmatism research philosophy, sought to determine the extent to which the COVid-19 global pandemic had disrupted the school system in the SNNPR and the Oromia Regional States of Ethiopia. Both quantitative and qualitative data strands were collected simultaneously using an embedded research design. The surveys were completed by 268 teachers and 575 pupils in order to determine the level of disturbance and the strategies in place. In addition, 10 school principals and 10 Wereda education office heads took part in the interview. The study identified that the CoVID-19 global pandemic has significantly disrupted ($F=3.76829$, $P<0.05$) the education systems in the above two regions. The government's policies and tactics to avert the scenario were not properly executed at the grassroots level. As a result, in order to solve such an unusual educational crisis, this study developed an integrative model incorporating system variables, administrative variables, academic variables, and student variables. Therefore, this study recommends challenging 'reinventing the wheel' by applying diversifying teacher training practices, improving school-level technologies, and adapting emergency responsive education policies at the school level.

1   Introduction

There are multiple increasing risks to humanity's survival in today's globe, such as climate change, drought, and various diseases.Human life, however, continues to exist as a result of many interventions and responses to the threats listed above (Wilhite & Pulwarty, 2017; Butler, 2018; Bloom & Cadarette, 2019). This implies the world has to build a solid infrastructure that allows humans to adapt and respond to a wide range of dangers and crises, including the Novel Corona virus disease.

The Coronavirus pandemic has become a major threat to the global economy, health system, education, and other social services. Many governments were unable to respond to the pandemic as quickly as possible when it broke out. When the pandemic first broke out, many countries were unable to respond as swiftly as feasible. The pandemic's difficulty is exacerbated by the lack of a treatment, which is causing havoc on both developing and industrialized economies around the world. Even in terms of economic crises, scholars argue (Han *et al.*, 2020; Yaya *et al.*, 2020; World Economic Forum, 2020) that COVID-19 is the worst since the global financial crisis of 2008 when the world was struck by a severe recession followed by financial crises. The pandemic is recently causing severe crises in the United States, India, Brazil, France, and other countries of Europe and Africa (Sintema,

2020; CartaxoS *et al*., 2021). Aside from rising death tolls, the pandemic has had a global impact, resulting in higher unemployment rates, the closure of many businesses, and an increase in the number of poverty-stricken households, especially in developing countries (Miks & McIlwaine, 2020).

The pandemic has morphed into an education crisis as a result of these unprecedented challenges. Starting from the closure of schools, the pandemic has resulted in sudden disruption of the teaching-learning system (Aborode *et al*., 2020). Because of this, more than 1.5 billion of the world's students are forced to be out of their schools and stop their learning routines (Miks & McIlwaine, 2020; United Nations, 2020a). As Aborode *et al*. (2020) note out, unlike on other continents, this has resulted in African countries' education systems deteriorating, with 98 percent of kids unable to learn. This extraordinary disruption has been claimed to have spread across the continent, with COVID-19 causing school closures in practically every country in Eastern and Southern Africa. The closures of schools and universities are said to have impacted over 70% of the world's inhabitants (Khodr, 2020; UNICEF, 2020).

In addition to the closure of schools, the pandemic was making the pre-existing education disparities worse by reducing the opportunities for many of the most vulnerable population such as; children, youth, and adults, girls, refugees, persons with disabilities, and forcibly displaced persons – to continue their learning (United Nations, 2020b). Learning losses also threaten to extend beyond this generation and erase decades of progress, not least in support of girls and young women's educational access and retention (United Nations, 2020a). In certain nations, educational institutions were chosen as isolation centers amid the COVID-19 pandemic. As a result, several governments declared states of emergency to reduce the disease's spread as a means of immediate measure to mitigate the crises. Moreover, schools were closed, international flights were halted, corporate centers, marketplaces, and government bureaucracies were shut down in some cases at the very beginning of the spread of the pandemic (UNESCO, 2020; United Nations 2020a). Within the first several months after the pandemic's

arrival, practically every country in the world took similar steps.

The Ethiopian government, cognizant of this deadly pandemic, has taken some measures to reduce the virus's impact after the first case was recorded on 13 March 2020. Despite the population's strong unwillingness to abide by health professionals' advice, international flights were limited; educational institutions were completely closed; transportation providers were forced to provide services reducing by half; many COVID 19 checkpoints were set up; and several marketplaces and business centers were partially closed (UNCDF, 2020; WHO, 2020; MoH-EPHI, 2020). The Ethiopian government also stated that efforts were made to help pupils by school principals and instructors, as well as through government radio broadcasts. Finally, in light of the COVID-19 outbreak that occurred throughout the academic year, an automatic promotion system was implemented for all school children (MoE, 2020).

The Ministry for Health (2020) and the World Health Organization (2020) proposed that schools could be reopened safely after the establishment of strict precautionary measures to prevent COVID-19 schools and their surroundings, given the long-term impact of school closures and their long-term implications. In this regard, it is reported that ensuring hygiene and safety, minimizing the class-student ratio, implementing half-day schooling, and supplying other COVID-19 standard facilities were some of the major precautionary measures suggested by the institutions. Following these initiatives, the teaching-learning process resumed after nine months of school closure (in November 2020) across the country (York *et al*., 2020).

Despite the reports on the extent to which the Ethiopian education system resumed, rethinking of delivery of the teaching-learning processes after the reopening of schools has paramount importance. It is, therefore, the researchers' belief that the relationship between the rhetoric statements discussed in the above sections and the current practices needs to be addressed through scientific investigations. To that end, this study seeks to assess issues about managing the Ethiopian Education System amid COVID-19: the disruption, responses, and the way forward focusing on secondary schools of Oromia

and SNNPR Regional states, as well as to propose alternative solutions for such crises. Grounded on this objective, the hypothesis was formulated to see if the level of school disruption and the responses affect their performance or not. Hence, the hypotheses were:

Null hypothesis (H_0) = COVID-19 does not disrupt the performance of the education system. The alternate hypothesis (H_1) = The school responses affected the performance of the education system.

2 Empirical Literature Review

2.1 Impact of COVID-19 Pandemic on Education

The corona virus pandemic has been significantly affecting not only human health but also the socio-economic development of countries across the world. It continues to affect people regardless of color, race, gender, ethnicity, or any other human identity. The educational sector appears to have been the most severely affected of all development sectors, necessitating more uncompromising mechanisms for resolution (Fegert *et al*., 2020; World Economic Forum, 2020; Han *et al*., 2020). However, this has not been true for all countries in terms of its consequences, which have disproportionately impacted low-income countries (United Nations, 2020a). COVID-19 has a variety of effects on educational systems.

The first manifestation of the COVID-19's impact was school closure. The pandemic has resulted in the total closure of schools in over 200 countries around the world, with "91.4 percent of the total number of enrolled learners in these countries momentarily required out of school" (Aborode *et al*., 2020:7). As a result, more than 1.6 billion students were forced to stay at home to enforce social distancing to de-escalate the spread of the pandemic. Except for the consequences, regardless of the continental and regional disparities in economic growth and infrastructure development, the school closure and staying at home were arguably the same across the world (Miks & McIlwaine, 2020; United Nations, 2020a). Furthermore, Aborode *et al*. (2020) stated that, unlikely in Africa, one of the continents whose educational systems have been typically af-

fected by this deadly pandemic, as more than 98 percent of teaching and learning was disrupted due to country-wide lockdown. It is also clear that this continent is a home for 98 percent of out-of-school children as a result of the pandemic (Aborode *et al*., 2020). This unprecedented disruption has been reported to have been replicated across the globe and the region, with COVID-19 closing of schools in 20 of 21 countries in Eastern and Southern Africa.

Secondly, the pandemic exacerbates pre-existing educational disparities by limiting opportunities for the most vulnerable groups with diversified identities to continue their education (United Nations, 2020b). Learning losses also threaten to outlast this generation and undo decades of progress, particularly in support of girls and young women's educational access and retention (United Nations, 2020:2a).

Ethiopia, as one of the Sub-Saharan African countries, is forced to share a portion of this global shock to education systems caused by the COVID-19 pandemic. The closure of schools, with a 3.4 percent share of GDP (Planning and Development Commission, 2020), has disrupted the teaching-learning processes from preschool to tertiary levels, leaving over 26 million students without any learning options for about nine months as a result of the sudden closure of schools across the country (World Bank, 2020). More than 700,000 teachers and school administration employees were partially out of work since the schools were closed in the mid-March" (Khodr, 2020). One of the coping mechanisms was providing devices and internet access to those who consider remote learning. However, the most vulnerable students were also those with the least access to the hardware and connectivity needed for distance learning solutions implemented during school closures (United Nations, 2020b).

2.2 Responses to the Crises

The pandemic has compelled the world to take multifaceted measures to keep people safe while also resuming education systems. The World Health Organization issued updated guidelines on how to mitigate the spread of the pandemic in response to the virus's outbreak (WHO, 2020). Following that, many countries took measures in addition

to the WHO guidelines to control the disease's spread. According to Inter Press Services, most of the world was locked down, and people were urged to work from home. Some countries like the United Kingdom (Savage & Bachelor, 2020) and Germany (Chazan, 2020) even used military force to enforce coronavirus restrictions and reduce the number of infected people (IPS, 2020).

Within the first six months, one of the reactive mechanisms was to keep social distancing to minimize the spread of the COVID-19 pandemic during the closure of schools. The United States is one of those countries where many schools have been closed (Asgari, 2020). The closure of schools in Brazil is necessary, given that the country lost more than 4000 people within a single day due to the Coronavirus. The reactions of other countries including India (Maria & Lívia 2021), Australia (Michael, 2020), and some African countries including Egypt, South Africa (Aborode *et al*., 2020), and Ethiopia

(Mengistie, 2020:572) to the pandemic are similar. The closure of schools around the world was part of a global response to mitigate the spread of COVID-19.

To meet the learning needs of their students during the outbreak of the pandemic, almost the entire developed world has shifted from face-to-face learning to remote learning options (Joshi *et al*., 2020; Asgari, 2020; Maria & Lívia, 2021; Joshi *et al*., 2020; Kvalsvig & Baker, 2021). The remote learning mechanism, as a part and parcel of this endeavor, includes the distribution of instructional materials (curriculums, worksheets, and printouts), radio education, educational television, and online instructional resources (Onyema *et al*., 2020). The following table summarizes the experiences of some countries in terms of COVID-19 responses to address the education needs of their school-age community.

Table 1: Education Responses to the pandemic in some Countries

Country	Case-wise level (as categorized by CDC 2021)	No. of cases	Education responses
United States	High	33,971,207	Massive schools closure
			Access for various remote learning platforms (Asgari, 2020)
India	High	27,233,249	Massive School Closure
			Access to continuous education; child protection &
			training on Gender-Based Violence (GBV)
			(Joshi *et al*., 2020)
Brazil	High	16,275,440	Massive school closure
			Online support for parents and students
			Self-paced formalized lessons
			About 40% of schools deliver online instruction
			(Maria & Lívia 2021)

These countries were chosen based on the Center for Disease Control (CDC) ranking list and the number of coronavirus cases. Three high-ranking countries and two low-ranking countries were chosen to evaluate their educational responses during the outbreak. From Table 2, it is important to draw a lesson that, many developed countries like the US are well enough in taking COVID-19 standard responses in their education systems. On the contrary,

developing countries such as Morocco, Senegal, and Ethiopia (Mengistie, 2020; Desalegn *et al*., 2021; Chowdhury & Jomo, 2020) are among the few countries that attempting to launch a remote learning platform to increase access to distance teaching and learning resources despite its contention on accessibility.

3 Methodology

3.1 Sampling

As a sample, the South Nations and Nationalities People's Region (SNNPR) and Ethiopia's Oromia Regional states were studied. These two regions account for more than half of the country's population. Because Oromia regional state is larger in terms of area and population, two zones were taken from SNNPR and three from Oromia regional state.Wolaita and Gedeo zones were included in the sample from SNNPR whereas West Guji, West Arsi, and South West Shoa zones were included from Oromia regional state using a simple random sampling technique. These zones fairly represent the two regions as they have different geographical settings. Two schools (one from the Urban zone and the other from the Rural zone) were purposefully chosen from each zone based on their student demographics. A total of 268 teachers and 575 students were proportionally selected from these schools. The interview also included Wereda education office heads and school principals from the sample schools.

3.2 Research Design

This study, which was based on the Pragmatism research philosophy, used a mixed research approach in which quantitative and qualitative data results were integrated to provide a better understanding of the current CoVD-19 global epidemic. Consequently, embedded design, in which the two data sets were collected simultaneously and analyzed separately, finally integrated with the discussion section was employed. As noted by Creswell (2012:544), this is a Quantitative (QUAN) dominated research supported by the qualitative (Qual.) data to see the convergence or divergence of the two data strands.

3.3 The Data

In this study, both quantitative and qualitative data were utilized. A survey questionnaire was used to obtain quantitative data from teachers ($n = 268$) and students ($n = 575$). In addition, data was gathered through interviews with sample school principals and Wereda education office heads.

3.4 Data Analysis

The quantitative data was examined using descriptive and inferential statistics in the study (frequency, mean, standard deviations, and multiple regression model). The pairwise Granger's test for casual correlations between these two variables was also used to evaluate hypotheses (level of school disruption and their performance). In addition, the qualitative data was thematically examined depending on the question's purpose to see where the data diverged and where it converged with the quantitative data.

3.5 Instrument validity, Reliability, and Ethics

Content validity of the instruments was maintained using two experts from the psychology department and two from the Department of Educational Planning and Management (EdPM), Dilla University, in which their valuable comments were included before administering the instruments. In addition, the reliability of the instruments was measured using Cronbach's Alpha to see the internal consistency of the instruments. Finally, all ethical principles were adhered to by receiving an ethical clearance letter from the Dilla University Research Ethics and Review Board Committee (DU RERB).

4 Results and Discussion

4.1 Results

4.1.1. Practices of school activities amid Covid-19 as measured by its level of Disruption

The level of disruption in the system is used to measure the practices of school activities during COVID-19 in this phase of the study.To investigate the actual practice of the education system during the outbreak of the pandemic, lists of essential variables were considered. The extent of disruption in school activities is summarized in Table 2.

Table 2: Level of disruptions of school activities amid COVID-19

S. No.	Variables	$\bar{X}$	SD	Prob.
1	The level of teaching-learning process	4.09	1.18	0.00*
2	Provision of educational materials	4.02	1.05	0.005*
3	The level of motivation	4.01	1.07	0.09*
4	The level of assessment practices	4.14	1.03	0.00*
5	The degree of monitoring of the teaching-learning process	3.97	1.07	0.016*
6	The level of academic performance of students	3.88	0.97	0.025*
7	The condition of school calendar	4.11	1.06	0.031*

Mean values ranging from 1-2.49 indicates insignificant disruption in the system, 2.5-3.49 moderate disruption, > 3.50 shows a high disruption

In the Ethiopian education system, almost all school activities were disrupted as a result of school closures due to the outbreak of the COVID-19 pandemic across the globe (see Table 2). More specifically, for the variables treated in the study, the mean value (= 4.09, SD = 1.18) indicates the level of face-to-face teaching and learning has been highly disrupted during the school closure. Similarly, the mean values (=4.02, SD=1.05; =4.01, SD=1.07; =4.14, SD=1.03; =3.97, SD=1.07; =3.88, SD=.97; =4.11, SD=1.06) indicate the school closure as a result of the CVID-19 pandemic highly disrupted the provision of instructional materials, the level of students' and teachers' motivation, the level of assessment practices, the degree of monitoring of the teaching-learning process, the level of academic performance of students and the condition of the school calendar, respectively. As one can observe from the figures, the COVID-19 pandemic significantly disrupted the practices of the education system of the country as $P < 0.05$ in all cases.

Concerning the level of disruption, participants were interviewed about the extent to which the pandemic disrupted the teaching and learning process in general in their respective schools. Participants 3, 5, and 6 from West Shoa, Wolaita, and Gedeo Zones respectively described how the pandemic mainly disrupted the system of education during the school closure period. More specifically, participant 5 vowed the issue as:

"... *The teaching and learning processes in my school during the school closure were highly disrupted as many of us were panicking about the*

situation. Even though the officials declared the process of teaching and learning needed to be sustained with the online modality, by then, most school teachers and students were less aware of managing online instruction".

Besides, participant #2 from the Gedeo zone explained the situation of schooling during the crisis as follows;

"*To be frank, I am very much ashamed to tell you that our students had not acquired all the required competencies which they were supposed to possess. They are all promoted to the next grade without taking appropriate assessments and regardless of their academic competencies. This, for sure, will result in poor scores in the upcoming national examinations for which our students will sit. So, I'd say the pandemic has significantly distorted the system in which the effects could be manifested sooner or later*".

Therefore, the study participants unanimously agreed that the COVID-19 global pandemic has significantly disrupted the Ethiopian education system.

Hypothesis Testing

COVID-19 has been assumed to have no effect on the educational system's performance from the start. The researchers used a paired Granger's test for casual correlations between these two variables, as shown in table 3, to determine whether the pandemic had an impact on educational achievement and to accept or reject the null hypothesis.

Table 3: Null hypothesis testing (H_0)

Null Hypothesis (H_0)	F-Statistic	Prob.
COVID-19 does not disrupt the performance of the education system	3.76829	0.0265*

*Indicates the rejection of null hypothesis at p < 0.05 level of significance

The above table shows the casual relationship between COVID-19 disruptions and the practices of school performance. As can be observed, the probability value ($p = 0.2625, 0.05$) implies the rejection of the null hypothesis. From this, it is possible to infer that the COVID-19 pandemic significantly disrupted the performance of the education system, and this supports the results of the descriptive evidence in Table 2 and the interview results presented.

Table 4: The long- and short-range effects of COVID-19 on the education system

Variables	Mean	SD
Content incompletion	4.23	1.02
Assessment inadequacy	4.03	1.13
Students' Dropout	3.94	1.19
Grade Repetition	2.22	1.47
Emotional and Behavioral Disorders	3.86	1.23
Withdrawal	3.13	1.46
Unplanned marriage	3.65	1.50
Loss of jobs	3.21	1.42
Teachers' Turnover	3.41	1.23

Table 4 shows the short and long-term effects of covid-19 on the education system. The mean value ($x = 4.23, SD = 1.02$) shows that respondents agreed on the incompleteness of courses. Similarly, the mean score ($x = 4.03, SD = 1.13$) indicates that learning assessments were inadequate. In the same fashion, mean values ($x = 3.94, SD = 1.19$, $x = 3.86, SD = 1.23, x = 3.65, SD = 1.50$) confirmed that the COVID-19 pandemic has resulted in school dropouts, exposed students to emotional and behavioral disorders, and led students to unplanned marriages, respectively. On the other hand, the mean value ($x = 2.22, SD = 1.47$) shows the pandemic doesn't result in grade repetitions. This implies that, regardless of the disruptions in the teaching and learning process across the education system (see table 2), no student was left behind to repeat a given grade level. However, no evidence was found to indicate whether the global crisis caused the turnover of teachers, withdrawal of students from the system, and loss of jobs or not.

4.1.2 School Responses to COVID-19 Pandemic

Under this section of the study, the researchers took a look at the responses of the schools to the pandemic situation to maintain the functioning of the education system. A total of twenty variables were employed to consider the responses made in a real sense. The lists of variables were further grouped into three grand variables for the sake of ease of analysis and interpretation of results. To this end, variables including adequate preparation to face the crisis, training of teachers to manage online instruction, the adequacy of hygiene and sanitation supply, the existence of an emergency treatment center, the recruitment of additional teachers as per the government's directive, the construction of additional classrooms, and service delivery as per the standard of the COVID-19 protocol were teamed up under the administrative response variable. Another variable considered grand was the academic response variable. Under this category,

there existed specific academic indicators such as the provision of adequate online instruction, the distribution of materials to students, the existence and adequacy of online tutorials, and the adequacy of online assessment offered. Indicators that most probably resembled structural issues were considered and classified under system response. These concerns were a response subject to being made system-wide, not at a specific school level. The adaptive nature of the curriculum thought to be

in such a crisis; classroom size to maintain social distance; class to student ratio was as per the government's directive; the adjustment of the school calendar; and the introduction of a multiple shift system are examples of such variables. The last theme was the variable branded as the student's response. Whether most students had access to online services at home and the extent to which students were familiar with managing online courses were grouped into this sub-theme.

Table 5: School Response (SD in the parenthesis)

Variables	Academic Response	Administrative Response	System Response	Student's Response
Mean	2.00	2.27	2.77	1.80
	(1.20)	(0.95)	(0.87)	(1.13)

Table 5 shows the extent to which schools respond to the pandemic. For the sake of analysis, the variables were categorized into academic responses, administrative responses, system responses, and responses related to students. The mean scores of all variables ($x = 2.00$, $SD = 1.20$, $x = 2.27$, $SD = 0.95$, $SD = 2.77$, $SD = 0.87$, $x = 1.08$, $SD = 1.13$) revealed that the school's response to the pandemic was considered to be low. Just to be relative, the response from the system (structural activities) is far superior to any response made by the schools.

Key informants were interviewed on the condition by which the education system responded to the outbreak of the pandemic across the globe. Concerning the responses made, most informants confirmed that most activities related to the teaching-learning process were found to be performed at home with sets of tasks given by teachers, including worksheets and assignments. They also stressed the use of social media, such as telegrams, as a means of sharing materials and activities from teachers to students and vice versa. The interviewee, however, revealed that regardless of all the attempts made, the responses were not found to be tremendous in fulfilling all the learning requirements and standards. Exclusively, participant 1 from Southwest Shoa stated:

"*I am a principal in a relatively better school where infrastructure like internet access and personal hy-*

giene materials is available. Because the internet is available in the school, teachers should be able to manage their classes. Most students were also urban dwellers whose families could afford such access. With these all-favourable situations, we were not able to manage the classes as they were supposed to be managed".

From this, one can come to understand that the way schools respond to managing the process of teaching and learning during a crisis could be labeled as poor practice.

Participant 4 is from a rural school in the Gedeo Zone. He reported that "at least one or no attempt was made in response to sustain schooling during the pandemic, mainly when the schools had undergone a closure". The researchers led him to another question: why so? Why didn't you come up with a way to respond in such a way that educational activities, particularly teaching and learning activities, could be maintained and sustained? In response, not only this informant, but also many others, confirmed a lack of materials and resources to manage normally. On top of that, they didn't hide that almost all the school community, including school leadership, teachers, students, and other staff, lacked the required awareness and skills to deal with such crises.

From the above premises, it is valid to conclude that schools were lacking the required awareness and

skills to manage instruction online on the one hand, and the nonexistence of materials and resources that are imperative for digital learning on the other hand. Hence, one can dare say that because of these factors, the education system was found to be less responsive to sustaining schooling, mainly during the closure.

Table 6: Regression Result (prediction of response variables on school performance)

Dependent Variable: School performance during COVID-19			
Variable	**Coefficient**	**Std. Error**	**Prob.**
C	3.299752	0.352993	0.0000
Admin Responses	0.341852	0.178424	0.0583
Academic Responses	0.115712	0.119403	0.3349
System Responses	0.496154	0.157158	0.0021*
Students Response	0.055087	0.116274	0.6367
R-squared	0.119613		
Adjusted R-squared	0.084		

**Sig at $\alpha < 0.05$

As the table shows (see Table 6), there was no statistical evidence that the effects of the academic, administrative, and student-related responses were significant on the school's performances as proxed by the students' academic performances. It is only the system response that significantly affects the performance of the education system with a p-value of $(p = 0.0021)$. The adjusted R-squared ($r = 0.084$) also shows only 8% of the variations in school performance during the pandemic are associated with the responses made to the pandemic. This implies the responses have made an insignificant contribution.to the educational performance while the system was entangled with the global crisis.

Table 7: Alternate hypothesis testing (H_1)

Hypothesis:	F**-Statistic**	**Prob.**
The school responses affected the performance of the education system	1.92550	0.1513

Table 7 shows the relationship between the responses and the performance of the education system. As can be observed, the probability value ($p = 0.1513, > 0.05$) implies the rejection of the alternate hypothesis. From this, it is possible to infer that the responses made by the school system to the COVID-19 pandemic are insignificant in maintaining school performance.

4.2 Discussions

This study confirms that the COVID-19 pandemic had a significant impact on the country's education system. For example, the face-to-face teaching and learning process was halted for approximately ten months. As evidenced by hypothesis testing, the causal relationship between COVID-19 disruptions and school performance was found to be strong. The result implies that the null hypothesis is rejected with a probability of $F = 0.0265, P 0.05$. The qualitative results also concurred that there were disruptions in teaching-learning processes and most of the community members were panicked about the situation. Even though the new modality was declared, poor and remote communities were not able to perform it because of a lack of technological accessibility and skills. For these reasons, the students do not acquire all the required competencies that they are supposed to possess.

In this regard, this is similar to the study findings of Onyema *et al.* (2020) that found the pandemic has had a negative impact on the education systems of Sub-Saharan African countries. This manifests itself in a variety of ways, including learning disruptions, decreased access to educational facilities, teacher joblessness, and increased student debts. The Ethiopian education system was also experiencing the same fate as these countries in terms of disruption. Despite this, many educators and students in some Sub-Saharan African countries relied on technology to ensure continued learning online during the pandemic (Khodr, 2020; Aborode *et al.*, 2020).

The regression analysis conducted also showed that the main effects of the pandemic on school performance are the incompleteness of courses to be taught, the inadequacy of learning assessments, and the large number of school dropouts. Furthermore, it was revealed that students were subjected to emotional and behavioural disorders and that their homestays led to unintended changes in their lives. However, it was clear that the pandemic did not result in grade repetitions. This means that, despite disruptions in the teaching and learning processes throughout the education system, no student was forced to repeat a grade level. Some of the interviewees also reported that there are some better schools, where infrastructures like internet connectivity and its devices are fairly available. Even though the school communities have technological infrastructure and all-favourable situations, they were not able to manage the classes as they were supposed to be managed. This finding is consistent with previous research, which found that students received limited school support during school closures (York *et al.*, 2020), implying that schoo; ls were underperforming in terms of dealing with the disruption.

The impact of COVID-19 on the education system has persisted to the point where teaching and learning processes have resumed following the reopening of schools. Following this, students and teachers were unmotivated to teach and learn once the schools reopened. Furthermore, schools face a poor assessment and monitoring system for their students' performance, as well as an interrupted academic calendar. As a result, the education system of the country was forced to implement an automatic promotion mechanism for its students, with inadequate learning assessments. Previous research has also discovered that many schools lack the physical infrastructure to support this, such as fewer classrooms and insufficient hand-washing facilities (Tamirat, 2020; York *et al.*, 2020).

In terms of dealing with crises after school reopening, the independent variables (school responses) were computed into three categories: systemic, administrative, and academic responses that contribute to crisis-resilient school systems. In this regard, it was found that school responses to the pandemic were deemed negligble. It is also reasonable to infer that the systemic response is far superior to any other response mechanisms implemented by schools, implying that the responsibility for responding to the emergency-led crisis seems solely left to the structural level of the government. This finding is similar to a previous study by the United Nations (2020a:37) that indicated"... in the absence of an effective education response, COVID-19 is likely to cause the greatest disruption in educational opportunities for Ethiopian children in a generation or more." Another study found that there was a significant learning loss among students as a result of the country's education system's lack of a rapid response plan (Belay, 2020).

Finally, the Ethiopian education system lacks established emergency management strategies for such unintended crises as the COVID-19 pandemic, as well as any other type of emergency incident. There is not even a single line that articulates an emergency response plan for education among the strategic directions of the existing education policy and the newly introduced education roadmap, which is why the entire face-to-face teaching-learning system encountered an obstacle for approximately nine months before schools reopened (MoE, 1994; 2017). This implies that there is a clear gap between the rhetoric and current practices.

It is, therefore, critical that the country's education system be informed with possible policy options for sustaining the teaching-learning process in the event of future crises. To that aim, the present researchers have been told that the outcomes of

the study will be utilized to establish an integrative model for crisis-resilient school systems across the country (See Figure 1).The model is grounded in response mechanisms such as systemic, administrative, and academic response mechanisms, as well as possible indicators for each category. The findings of previous studies have emphasized the importance of developing policy responses and implementing appropriate mechanisms to deal with such unforeseen crises in the future, which prioritize people and their rights in terms of education and other aspects of socioeconomic development (United Nations, 2020c; Ataguba, 2020; Cancedda *et al.*, 2020; Babbar & Gupta, 2021).

4.3 The way forward to Crises Resilient School System

The synthesis of the variables in the study came up with the model, which is used to create a resilient school environment that can cope with various forms of crisis. A total of twenty (20) variables were categorized into three major constructs in responding to the crisis. System variables represent the general functioning of the school with the existing school set up to overcome the crisis.

The existence of a platform for managing online courses, the existence of adequate classrooms, the creation of emergency treatment sections, room for adjusting the school calendar, and the introduction of multiple shift systems were considered. On the other hand, school leaders and other stakeholders are expected to take administrative measures for the smooth functioning of the teaching-learning process with minimum disruption. In this regard, the use of adaptive curriculum, the provision of adequate internet services, adequate preparation to keep sanitation, orientation to the school community, the creation of emergency treatment centers, recruitment of new teachers, building additional classrooms, and the provision of other standardized services as per the CoVID-19 protocols were supposed to be fulfilled. Similarly, to harness the academic performance of students, adequate offering of online courses, dispatching of teaching-learning materials, provision of online tutorials, students' motivation, and applying variable online assessment techniques were part of the academic variables. As shown in the picture, the interplay of these important criteria will decide the pandemic's successful aversion at a low cost.
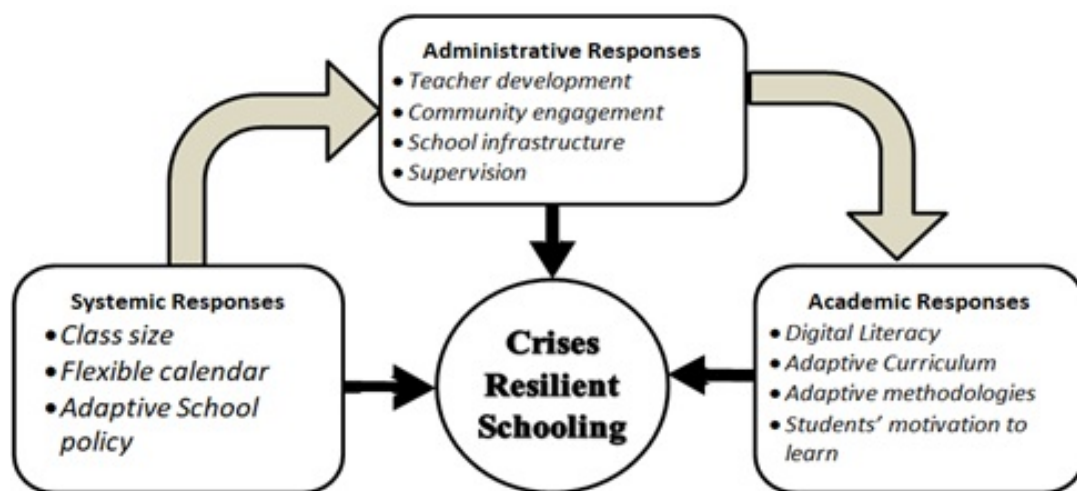

Figure 1: Integrative model for crises resilient school system

5 Conclusions

This study was an empirical analysis of managing the Ethiopian education system amid the COVID-19 global crisis. More specifically, it focuses on the level of disruption, impacts, and responses made

to sustain the system. As the study identified, all school activities, mainly tasks related to the teaching and learning process, were highly disrupted by the pandemic. The situation was more likely to occur during the periods of the school's closure.

Schooling during these times was highly disrupted, implying that students were not adequately taught, assessed, and simply promoted to the next grade, providing them with the minimum learning competencies by compromising quality education. It also has a strong implication that the schooling system that Ethiopia is experiencing is not resilient to such crises that, perhaps, arise at one or another time. As stipulated explicitly, the pandemic, mainly the closure, has made students drop out of the system and exposed them to different social engagements, resulting in adverse consequences like marriage and pregnancy, since the school system has no or little experience of letting students actively engage in the process of teaching and learning. This means that the disruption has caused significant disruptions in both short- and long-term time courses.

Another important variable dealt with in this study is the way schools were managed to sustain schooling, which we call the study response to COVID-19. The study tried to look into the responses to the pandemic from a system perspective: academic responses, administrative and different student-related responses. The result revealed that only the systemic responses have made significant contributions to the school's performance during the pandemic. On the other hand, the remaining grand variables have made insignificant contributions to the performance of schooling in the education system. In a nutshell, the responses made to sustain the education system were found to be less significant. Regardless of the rhetoric, in which the government has claimed that adequate responses have been made both at the systemic and grass-root levels, the reality shown in this study implies that strategies set by the government to avert the situation were not adequately implemented at grass-root levels. By implication, the country was undergone with inadequate education strategies that are supposed to respond to the emergency contexts.

6 Recommendations

This study confirmed that the COVID-19 global pandemic has seriously disrupted the Ethiopian education system. Alternative strategies to mitigate the effects of the pandemic were not adequately implemented at the grass-root level-schools. The

disruption, on the other hand, provided a lesson on the need for a paradigm shift in traditional teaching methods, infrastructure development, teacher training, and the implementation of multiple emergency response policy alternatives.

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Conflict of Interest

This research was entirely funded by Dilla University. However, the university will not take any responsibility for the results beyond reporting purposes. All the authors are affiliated with Dilla University as teaching and research staff. For publication purposes, we all, as group members, confirm that we have thoroughly read and approved the manuscript to be published in this journal.

Ethical Approval

Consent was sought form the research participants. Confidentiality was maintained in reporting information.

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