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The Impact of COVID-19 on Teaching-Learning Process: The Case of School Adolescents in Kaffa Zone Bonga College of Teacher Education

Zerihun Anibo * and Belay Bekele **

Abstract: *The purpose of this study was to investigate the impact of COVID-19 on Education in the Kaffa zone. 384 participants (male= 222 and female =162) were randomly selected from 13 woredas of the Kaffa zone. Researchers used a questionnaire as the main data collection technique and exploratory factor analysis (EFA) and two-way ANOVA were used to analyze the data. The findings revealed that the main impacts of COVID-19 pandemic in the Teaching-Learning process in the Kaffa zone were: lack of proper use of time for students in studying their subjects; absence of equitable use of Teaching-Learning process and educational materials; social impacts like the absence of group work and cooperative learning. The finding also disclose significant differences in impact of COVID-19 in Teaching-Learning process, due to Woreda ($F= 11.592$, $p=.000<.05$), school type ($F= 7.415$, $p=.007<.05$) and school location ($F= 10.233$, $p=.000<.05$) but there is no significant different based on gender ($F=.000$, $p=.999>.05$), age level ($F=.572$, $p=.565>.05$), grade level ($F= 2.281$, $p=.079>.05$) and families occupation: father's job ($F=.308$, $p=.873>.05$) and mother's job ($F=.291$, $p=.918>.05$). Based on the findings, the study recommend that support and means of reducing the impact of COVID-19 should be given especially to maximize student's proper use of time, to minimize student's social and psychological impacts; and to make students use of education and educational materials fair and equitable in the Kaffa zone. In this respect, the government has to provide easy – to understand distance teaching and learning materials for the teachers and students, and facilitate the Teaching-Learning process to be continued in schools with keeping the social distance and other ways of prevention COVID-19; Teachers has to give a home to home support and support in schools keeping the social distance and other prevention cares of COVID-19; Family members have to follow-up the students not to lose their time of studying during staying at home.*

Keywords: Impact of COVID-19, Teaching-learning process, Demographic characteristics.

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Introduction

COVID-19 is a pandemic that occurred in the world in 2019. It is one of the factors which seriously affect the Teaching-Learning process all over the world. It is a severe disease in the world. It affects the socio-economic development and political environments all over the world. For example, Ethiopian National Election scheduled to take place in August 2020, was postponed creating a constitutional and political crisis. According to UNICEF (2020), Ethiopia confirmed the first COVID-19 case on 12 March 2020 (Ministry of Health, 2020). Since then, (as of 22 June 2020) 4663 people are infected and 75 have died, and through time, the case is increasing in an increasing rate. To prevent the spread of the pandemic, the country established a National Ministerial Committee on 16 March 2020. As the concern was mounting, the government and the parliament declared a state of emergency on April 8 and April 10, 2020 respectively, and the Council of Ministers issued regulation 11 in April 2020.

According to Demuyakor (2020), 188 countries imposed countrywide closures, affecting more than 1.5 billion children and youth and this worldwide closure of schools did not have historical precedent. To minimize these losses, many schools were offering distance learning to their pupils. However, this option was only available to some students. While more than two-thirds of countries introduced a national distance learning platform, only 30 percent of low-income countries did done so (Demuyakor, 2020).

As both formative and summative types of assessments are very important in the teaching-learning process, the absence of these assessments harms students' learning (Black & Wiliam 2018). According to (Buckler, Chamberlain, Stutchbury, & Hedge, 2020), schools and teachers. Consequently, there might be a danger that a priority placed only on covering the courses rather than on develop repare students for higher education were closed, there was a fear that many students would get entry into higher education without developing the skills they need to cope with higher education. Buckler et al. (2020) argue that "the longer schools are closed, the more drop-outs occur. It becomes much harder (logistically and psychologically) to re-enroll and re-engage". As Tiruneh (2020) rightly points out, "Parents from rural localities may be reluctant to send their children back to school because they may prefer their children to continue to support them in farming and livestock herding."

The education sector is the one that is highly affected by the spread of COVID-19 all over the world. Some of the effects of COVID-19 on the Education system in Ethiopia is listed as follows: The online learning harms the students' extracurricular activities including the social skill and communication capabilities (Yitayih, Y., et.al, 2020). The closure of schools is now a global phenomenon, but unlike other countries, even though there are Television programs in urban areas of Ethiopia, students in rural areas of Ethiopia provided neither online nor television and radio teaching for weeks. Since, nearly months from the closure, students in all levels are far apart from their learning, and alternative methods of learning are never employed. (Yitayih, Y. et. al, 2020). Now, school leaders, principals, teachers, supervisors, supporting staff, and all communities in both public and private institutions become idle, leaving behind lagged education (Yitayih, Y., et.al, 2020).

To mitigate the impact of the COVID-19 pandemic on students' education in various countries around the globe adopted a range of measures to respond to the pandemic depending on their available resources. Some of these were technologically advanced counties, Italy, France, Germany, Australia, the UK, and the US. These co portals and providing students with access to e-content and repository through mobile devices. In these countries, all stakeholders, institutions, teachers, publishers, and parents joined hands to create digital resources (e.g., textbooks and learning materials) so that they delivered lessons through virtual classrooms (Azzi-Huck & Shmis 2020); China and India both established national e-learning portals with access to the national repository of learning resources for parents, teachers, students, and Education administrators. (Azzi, Huck & Shmis, 2020); India has provided access to thousands of complete courses in multiple languages (Azzi, Huck & Shmis, 2020); China mobilized all provincial and national online platforms, Telecom service providers upgraded the bandwidth of major digital platforms. They mobilized the society-wide resources, both human and material. To ensure learning is undisrupted when classes are disrupted (Azzi-Huck & Shmis 2020). China adapted flexible online teaching methodology to facilitate learning, strengthened online security through the collaboration of all service providers, and created a provision of psych-social support to ensure 100 % online learning (Azzi-Huck & Shmis 2020). Countries like Argentina, Brazil and Chile, which are without adequate infrastructure turned to traditional technologies, such as radio and TV, as a means to compensate for the classes students missed. . Since their access to internet and internet connectivity is a major issue, their respective ministries have used a

combination of new (mobile, digital) and traditional technologies to deliver lessons and resources from a single, coordinated national education portal for students, teachers, educational managers, and parents. Radio, television, YouTube channels, recorded lessons, and digital educational materials on-demand are combined to provide lessons to students, who do not have reliable access to the internet (International Association of Universities, Mohapatra, A. K. 2020); Indonesia and Malaysia have mobilized all major technology providers, internet providers, and TV communication channels to join hands of their ministries to provide live Education programs for students as well as teachers (Mohapatra, A. K, 2020).

Kaffa zone is one of the zones in South-western Ethiopia. The zone tried to facilitate the education according to the goals of MOE, before COVID-19 has appeared. Kaffa zone is more than 1000 km far away from Hawassa- the capital of South Nation Nationalities People Regional State (SNNPR) and hence due to inequitable distribution of materials and other educational resources. Therefore, it is more exposed to COVID-19 and Students in Kaffa zone are the main risk takers of this pandemic that has been occurred suddenly. However no study was not conducted in the Kaffa zone. Therefore, it was found important to check the depth of the impacts of COVID-19 as well as the type of impact on the Teaching-Learning process. Thus this study aimed at investigating the impact of the COVID-19 pandemic on the Teaching-Learning process and to find out how much these impacts differ from student to student, from one school location to another school location that is a rural or urban location, in the Kaffa zone. As the Kaffa zone is more than 1000km far apart from the capital of the South Nations Nationalities of People Region (SNNPR), Hawassa, students in the Kaffa zone were seemed to be more risk-takers in the teaching and learning process during the COVID-19 period. Another purpose was to examine the role of seven demographic variables (gender, age, grade level, woreda, school location, school type, and parents' occupation) to see the impacts of COVID-19 on the Teaching-Learning process.

Recently, Geda (2020) studied the economic and social impact of COVID-19. In Ethiopia similarly, many viewpoints have been recently published on the potential impact of COVID-19 in Ethiopia on the economy (Geda 2020; UNICEF 2020), agricultural value chains (Tamru et al. 2020), and food security and nutrition (Baye, K. 2020). No or little have known concerning the impact of COVID-19 on the teaching-learning process in Ethiopia. The education system of Ethiopia allows cooperative procedure of teaching and learning which involves a close contact among students and

teachers, students and students, teachers and teachers, students and parents, teachers and parents, administrators and students, administrators and teachers, administrators and administrators, parents and parents, etc. and is mostly provided by face to face way in schools outside the home. That is the education system of Ethiopia mostly provides outside home principle. But COVID-19 is a pandemic disease that can be protected by staying home. This stay-at-home - outside home contradiction of COVID-19 with Education may bring a series impacts on the teaching-learning process.

As a guide for the issues under investigation, the study attempted to work through the following research questions

1. What are the main impacts of COVID-19 on the Teaching-Learning process?
2. Is there a significant difference in the impacts of COVID-19 on the Teaching-Learning process due to students' demographic characteristics?
3. Is there a main and joint effect of demographic characteristics of students towards the impact of COVID-19 on their Teaching-Learning process?

Methods

Design and Data Analysis Techniques

Two associational research types, causal-comparative and correlational survey research designs (Teresa D, 2019), were used in the study. The causal-comparative design was used to investigate the differences in the impacts of COVID-19 on the Teaching-Learning process concerning gender, school location, age, grade level, and parents' occupation. To investigate the main and cumulative effect of demographic variables of students on COVID-19 based on the impact on their Teaching-Learning process, the data were examined through two-way ANOVA. The factor analysis was used to extract different factors that hinder students Teaching-Learning process concerning COVID-19 Pandemic in Kaffa, zone, SNNPR, Ethiopia. The software SPSS 22 was used for data analysis.

Participants and procedures

The target population of the study was a primary school, secondary school, and University adolescents of the Kaffa zone. The data was collected from the sample of 384 students of different school settings of Kaffa Zone. Primary school students, junior secondary school students, high school students in the Kaffa zone, and students in the Kaffa zone who were enrolled in Universities and who came back and stayed home due to the COVID-19 pandemic, participated in this study. A stratified sampling technique

was employed to collect data from different woredas and different school settings. The stratification is based on woreda, school setting, and gender. As the Morgan (1976) formula of sample size determination, $n = \frac{N}{1+\varepsilon^2 N}$, and the limit as N goes to infinity of this formula for the significance level is 0.05 is 400 (that is $\lim_{N\to\infty} \frac{N}{1+\varepsilon^2 N} = 400$ for $\varepsilon = 0.05$), 384 sample size is more appropriate and representative since the population (N) of Kaffa zone school adolescents are not infinite. Thus 384 students filled the questionnaire prepared to collect their responses regarding the impact of COVID-19 on their Teaching-Learning process. Of 13 woredas (Decha, Chena, Saylem, Gesha, Gimo, Gawata, Bita, Cheta, Tello, Adiyo, Goba, and Shishonde) of the Kaffa zone, five woredas were purposively chosen based on their access to transport. Thus, the respondents were proportionally and randomly taken from purposively chosen five woreda schools (Bonga Zuria, Shishonde, Decha, Telo, and Gimbo). In this regard, five elementary schools and 4 high schools were chosen randomly. Of the 4 high schools, 2 of them were located in a rural area and the rest 2 were located in an urban area. (See table 1a, for the stratification technique employed based on each school setting and gender). Three elementary schools from rural areas were included and the rest two were included from the urban area. Even though all students were staying at home during COVID-19, Stratified sampling was employed to obtain an appropriate number of respondents from male and female, from high school and elementary school, and higher institutions. In this respect, the school principals played a very important role in making the questionnaire to be filled by the sampled students from a variety of grade levels, genders and age levels, etc. Since students filled the questionnaire at their home, the researchers didn't bother with the stratification of students sections and departments because COVID-19 has already made them scattered and thus randomized. University students who were attending the higher institution but who were at home due to the COVID-19 pandemic were randomly included in the sample regardless of their departments and type of university he or she was attending. The questionnaire used in this study included students' demographic characteristics including their age, gender, parents' occupation, grade level, and school location as well as the type of school.

Instruments

A scale to measure the impacts of COVID-19 on the teaching-leearning processs was developed in Amharic. Amharic was used to reduce the cost of forward and backward translation. The analysis was displayed without translation to promote the instrument constructed in Amharic language and to initiate other researchers to develop different scales of measurement in their language. Biographical information on the respondents was obtained with the help of a questionnaire that was administered along with the adapted scales. A 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) was used to measure students' attitude towards the impact of COVID-19 on their Teaching-Learning process. The 18-item scale has been developed to measure individuals' attitudes towards the impacts of COVID-19 on their Teaching-Learning process. The dimension of scale was checked by using factor analysis. The Cronbach alpha for the present study for each scale was computed and the internal consistency of items was obtained.

Ethical considerations

Official letter of Permission to pursue the study on the issue of COVID-19 was given from Kaffa zone Health office and all possible cares of COVID -19 prevision techniques were taken during data collection. Moreover, students were informed that they were filling the questionnaire for the research purpose only and their names and identity would remain confidential. . Students who were consent and willing to do so were made to fill the questionnaire.

Results and Discussions

R Q1 What are the main impacts of COVID-19 on the Teaching-Learning process due to staying home period for students?

To answer the first research question, Exploratory Factor Analysis (EFA) was used. For this, the preliminary analysis, Factor extraction, factor rotation, and screed-plot application were employed. The participants' descriptive information was also included in this analysis.

Results

Demographic characteristics of participants

Table 1 a: Stratification

Gender			Woreda					Total
			Decha	Tello	Gim-bo	Shish-onde	Bonga Zuria	
Female	School	Telo primary school	0	28	0	0	0	28
		Others	0	0	0	0	5	5
		Telo High School	0	24	0	0	0	24
		Modiyo Primary school	25	0	0	0	0	25
		Gedam primary school	0	0	0	0	10	10
		Gedam High school	0	0	0	0	17	17
		Wushiwush primary school	0	0	10	0	0	10
		Wushiwush High school	0	0	14	0	0	14
		kutashu shora primary school	0	0	0	13	0	13
		Kuta Shora High school	0	0	0	16	0	16
	Total		25	52	24	29	32	162
Male	School	Telo primary school	0	21	0	0	0	21
		Others	0	0	0	0	2	2
		Telo High School	0	25	0	0	0	25
		Modiyo Primary school	24	0	0	0	0	24
		Gedam primary school	0	0	0	0	30	30
		Gedam High school	0	0	0	0	22	22
		Wushiwush primary school	0	0	22	0	0	22
		Wushiwush High school	0	0	25	0	0	25
		kutashu shora primary school	0	0	0	27	0	27
		Kuta Shora High school	0	0	0	24	0	24
	Total		24	46	47	51	54	222

Total	School	Telo primary school	0	49	0	0	0	49
		Others	0	0	0	0	7	7
		Telo High School	0	49	0	0	0	49
		Modiyo Primary school	49	0	0	0	0	49
		Gedam primary school	0	0	0	0	40	40
		Gedam High school	0	0	0	0	39	39
		Wushiwush primary school	0	0	32	0	0	32
		Wushiwush High school	0	0	39	0	0	39
		kutashu shora primary school	0	0	0	40	0	40
		Kuta Shora High school	0	0	0	40	0	40
	Total		49	98	71	80	86	384

Table 1b: Frequency table for Demographic data

Demographic variables	Categories	Frequency	Percentage (%)
Woreda	Decha	49	12.76%
	Tello	98	25.52%
	Gimbo	71	18.49%
	Shishonde	80	20.83%
	Bonga Zuria	96	25.00%
School Type	Primary school	211	54.95%
	High school	173	45.05%
School Location	Rural	209	54.43%
	Urban	175	45.57%
Sex	Male	222	57.81%
	Female	162	42.19%
Age in years	15 and below	204	53.13%
	16-18	166	43.23%
	19 and above	14	3.65%
Grade level	Grade 8th and below	203	52.86%
	Grade 9-10	118	30.73%
	11-12	56	14.58%
	Other	7	1.82%
Father's Job	Farmer	236	61.46%
	Government employed	95	24.74%
	Self-employed	39	10.16%
	Other	14	3.65%
Mother's Job	House- wife	320	83.33%
	Government employed	39	10.16%
	Self-employed	19	4.95%
	Other	5	1.30%

The descriptive part in table1b indicate that of 384 participants: 162 (42.19%) female and 222 (57.81%) male; 204 (53.13 %) 15 years and below, 166 (43.23 %) 16- 18 years old, and 14 (3.65%) 19 years old and above; 203 (52.86%), 118 (30.73%) Grade 9-10, 56 (14.58%) grade 11 -12, and 7 (1.82%) others; fathers' job which is farmer 236(61.46%), government employed 95 (24.95%), self-employed 39(10.16%), and Others 14(3.65%); mother job which is House-wife 320 (83.33%), Government Employed 39(10.16%), Self Employed 19(4.95%), and Other 5(1.30%); Primary school 211 (54.95%); High school 173(45.05%); Rural 209 (54.43%), Urban 175(45.57%). Table 1a depicted that the stratification employed based on different woredas, schools, and gender, and the Table 1b shows that the participants of the study were from different woredas, from schools, age and grade levels as well as from different family backgrounds.

Validity and Reliability

Items scales were commented on by 3 experts who were researchers and the three experts accepted measurement specialists and all 18 items were chosen from Bonga College of Teacher Education, SNNPR. The Cronbach's alpha of all items measured together was (α = .82) which is acceptable. Deleting an item from the item list did not increase the reliability level. Thus, all the 18-item scale were taken without reducing any of the items from the item list.

Table2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	1922.262
	Df	153
	Sig.	.000

According to Field (2009), the Kaiser-Meyer-OIkin (KMO) measure should be greater than .70 to be good and is inadequate if less than .50. The KMO test tells one whether or not enough items are predicted by each factor. For our data, we observed from Table 2 that the KMO statistic is .804 which is greater than 0.8 which is in the very good category, showing that the sample size is adequate for Principal component (factor) analysis. Field (2009) also describes that the Bartlett test should be significant (i.e., a significance value of less than .05); this means that the variables are correlated highly enough to provide a reasonable basis for factor analysis. We see from table 2 that Bartlett's Test of Sphericity is highly significant (p=.000<.05) for this data. Thus, the variables under this study were correlated to provide a reasonable basis for factor analysis.

The Impact of COVID-19

Factor extraction

Table 3: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.138	22.987	22.987	4.138	22.987	22.987	3.300
2	3.028	16.821	39.809	3.028	16.821	39.809	3.139
3	1.390	7.722	47.531	1.390	7.722	47.531	2.681
4	1.159	6.437	53.967	1.159	6.437	53.967	1.762
5	.927	5.150	59.118				
6	.893	4.961	64.079				
7	.801	4.451	68.530				
8	.761	4.228	72.758				
9	.708	3.931	76.689				
10	.623	3.461	80.150				
11	.584	3.247	83.396				
12	.538	2.986	86.382				
13	.527	2.930	89.312				
14	.456	2.532	91.844				
15	.435	2.416	94.260				
16	.408	2.268	96.527				
17	.319	1.771	98.298				
18	.306	1.702	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

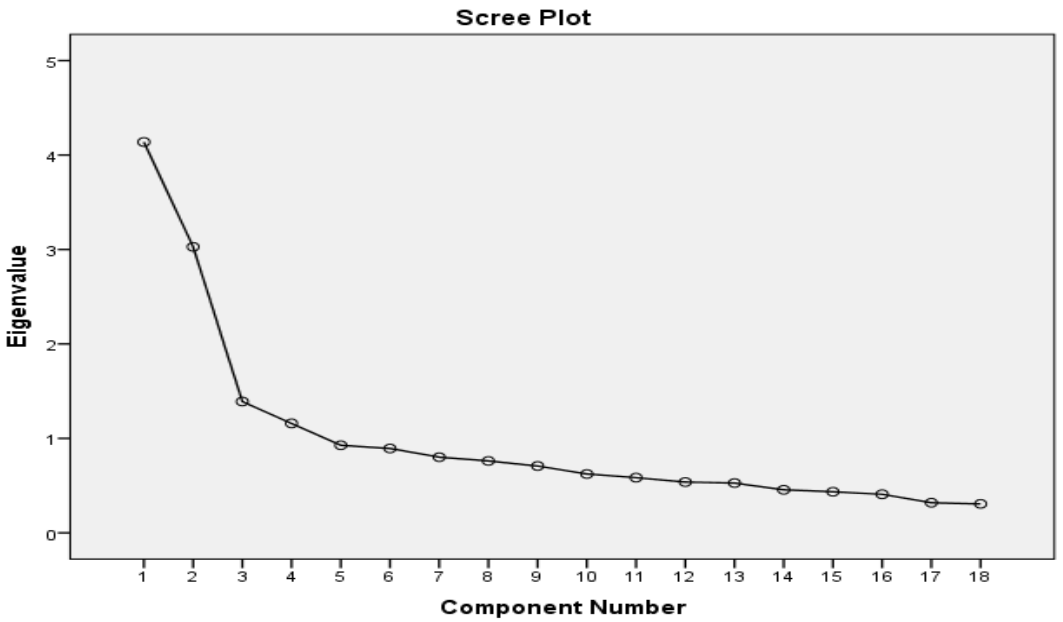

Fig. 1 The scree Plot

Based on Field (2009), the Total Variance Explained, in Table 3 shows how the variance was divided among the 18 possible factors. The SPSS provided four factors having **eigenvalues** (a measure of explained variance) greater than 1.0, which is a common criterion for a factor to be useful. When the Eigen-value is less than 1.0 this means that the factor explained less information than a single item would have explained. The researchers also considered the scree-plot to extract the number of factors highly affecting Teaching-Learning process based on the COVID-19 Pandemic. We also observed that the scree-plot in figure 1 changed its concavity after four-five components. That is according to Field (2009), we observed that the inflection point occurred at component five, suggesting the components to be 5-1= 4. This was similar to the extraction by explained variance in table 2. These four factors explained about 53% of the total variance (see table 3). Hence, we extracted the 4 components and proceeded to the next step which was factor rotation to load items to corresponding factors or components.

Factor Rotation:

The results of the data supported that the factors were not related. In this respect, the orthogonal rotation with the Varimax option was selected for factor rotation. This rotation enabled to load of each item to the corresponding factor (s).

Table 4: Rotated Component Matrix[a]

	Component			
	1	2	3	4
q1			-.697	
q2	.373	-.472		
q3	.604			
q4	.552			.414
q5	.610			
q6			.712	
q7				.746
q8	.454		.391	
q9	.648			
q10			-.456	.418
q11		.496		.513
q12	.718			
q13	.467		.440	-.330
q14	.638			
q15		.725		
q16		.685		
q17		.740		
q18		.752		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

As depicted in Table 4, the eight items namely, question 2, question 3, question 4, question 5, question 8, question 12, question 13, and question 14 were loaded to the first factor. The four items, namely q15, q16, q17, and q18 are loaded to the second factor. q6, q8, and q13 are loaded to the third factor. q4, q7, q10, and q11 are loaded to the fourth factor.

Table 5: Factor - 1

2	በኮቪድ-19 ወረርሽኝ ወቅት ለትምህርት ብዙ ትኩረት እሰጣለሁ
3	በኮቪድ-19 ወረርሽኝ ወቅት በትምህርት የበለጠ በርትቻለሁ
4	በኮቪድ- 19 ወረርሽኝ ወቅት ከሌሎች ተማሪዎች ጋር በጋራ አጠናለሁ
5	በኮቪድ- 19 ወረርሽኝ ወቅት በቴሌቭዥን ተጠቅሜ እየተማርኩ ነው
8	በኮቪድ- 19 ወረርሽኝ ወቅት በርቀት በሚሰጡ ኖቶችና የቤት ሥራዎች አጋዥነት እማራለሁ
12	የኮቪድ- 19 ወረርሽኝ የበለጠ እንዳጠና ምቹ ጊዜ ፈጥልኛል
13	የኮቪድ- 19 ወረርሽኝ የጥናት ጊዜ ስለፈጠረልኝ ከወረርሽኙ በኋላ በጣም የሚጎብዝ ይመስለኛል
14	የኮቪድ- 19 ወረርሽኝ ለትምህርት ምቹ አጋጣሚ ፈጥሯል

Table 5 depicts that due to COVID-19 students lacked conducive environment and thus they could not focus on their lessons or they were unable to refer to different materials. They were also unable to use their time properly. Thus, the first main impact that COVID -19 brought on the students in the Kaffa zone was students' inability to use their time properly. This result is supported by (Yitayih, Y., Mekonen, S., Zeynudin, A., Mengistie, E., & Ambelu, A. 2020) those both public and private institutions become idle, leaving behind the lagged Education.

Table 6: Factor 2

15	ከኮቪድ- 19 ወረርሽኝ በኋላም ቢሆን የትምህርት ቤት ጓደኞቼን በነጻነት የሚጠቃ አይመስለኝም
16	በኮቪድ- 19 ወረርሽኝ ምክንያት ቤት ዉስጥ በመቀመጥ ጭንቅላቴ የዛገ ይመስለኛል
17	የኮቪድ- 19 ወረርሽኝ ለወደፊቱ መሆን ያሰብኩትን ዓላማ አዛብቶብኛል
18	የኮቪድ- 19 ወረርሽኝ ምክንያት ወደ ቀጣይ ክፍል ነፃ ስለተዛወርኩ በትምህርቴ እደክማለሁ ብዬ አስባለሁ

Table 6 shows that students did not feel free to contact their friends, they were psychologically affected by staying home, they felt that this pandemic was an obstacle to their long term goal. Also the free promotion to the next grades created fear in their mind. Thus all these factors could be taken as psychological factor, which was the second main factor that COVID- 19 caused to the students in the Kaffa zone. This result is supported by the work of Buckler et al. (2020) who argue that the longer schools are closed, the more drop-outs occur and it becomes much harder logistically and psychologically.

Table 7: Factor-3

6	በኮቪድ- 19 ወረርሽኝ ወቅት ሬድዮ ተጠቅሜ ትምህርት እያገኘሁ ነዉ
8	በኮቪድ- 19 ወረርሽኝ ወቅት በርቀት በሚሰጡ ኖቶችና የቤት ሥራዎች አጋዥነት እማራለሁ
13	የኮቪድ- 19 ወረርሽኝ የጥናት ጊዜ ስለፈጠረልኝ ከወረርሽኙ በኋላ በጣም የሚጎብዝ ይመስለኛል

Table 7 above shows that during the COVID - 19 period there were some students who were studying via radio and other distance materials but others were not using this Option. Thus COVID-19 impacted students' equitable use of resources and equitable access to education. Thus the third main impact caused by COVID-19 pandemic was inequity in the provision of education and educational resources, including the use of technology. This finding is supported by the finding of Dawadi, Giris, & Simkhada, (2020) which indicate that the pandemic has had serious impacts on students' learning and well-being and that it potentially widens the gaps between advantaged and disadvantaged children in their equitable access to quality education.

Table 8: Factor - 4

4	በኮቪድ- 19 ወረርሽኝ ወቅት ከሌሎች ተማሪዎች ጋር በጋራ አጠናለሁ
7	በኮቪድ- 19 ወረርሽኝ ወቅት መጽሐፍት ስለሌለኝ አላጠናም
9	በኮቪድ- 19 ወረርሽኝ ወቅት ላይብረር አነባለሁ
10	በኮቪድ- 19 ወረርሽኝ ወቅት ሜዳ ላይ ወጥቼ አለመዝናናቴ በትምህርቴ ላይ ጫና አሳድሮብኛል
11	የኮቪድ- 19 ወረርሽኝ መጽሐፌን፤ ደብተሬንና እስክብርቶዬን እንድጠራጠር አድርጎኛል

Table 8 depicts that due to the COVID-19 pandemic students could not study together, playing together, use their library individually or together, share their textbooks and other materials this factor mostly looks like a social factor. Hence, social impact was the fourth main impact that COVID-19 caused to students in the Kaffa zone. The results were supported by the World Health Organization (2020) which states that children

may also lack access to medical treatment, and suffer mental health and psychosocially, in addition to suffering malnutrition during the COVID -19 pandemic.

Factors mediating the impacts of COVID-19

R Q 2. Is there a significant difference in the impacts of COVID-19 on the Teaching-Learning process based on students' demographic characteristics?

R Q 3. Is there a main and joint effect of demographic characteristics of students towards the impact COVID-19 on their Teaching-Learning process?

To answer the second and third research questions, a two-way analysis of variance (ANOVA) was used. The data under this study confirmed every assumption of ANOVA so that is possible to apply the analysis of variance for this analysis.

Table 9: Tests of Between-Subjects Effects

Dependent Variable: Q-average					
Source	Type III Sum of Squares	Df	Mean Square	F	p
Corrected Model	1.739[a]	5	.348	1.717	.130
Intercept	484.702	1	484.702	2393.100	.000
Gender	4.726E-007	1	4.726E-007	.000	.999
Age	.232	2	.116	.572	.565
Gender * Age	.282	2	.141	.695	.500
Error	76.561	378	.203		
Total	2537.549	384			
Corrected Total	78.299	383			
a. R Squared = .022 (Adjusted R Squared = .009)					

Table 9 shows that the impact of the COVID -19 pandemic on the Teaching-Learning process was not significantly different based on gender (F=.000, p=.999>.05) and age level (F=.572, p=.565>.05) That is, being male or female, and being younger or elder did not bring difference based in COVID-19 impact on Teaching-Learning process in the zone. Male and Female, younger and elder students in the zone were equally impacted COVID -19. Moreover, the interaction of gender and age level did not bring significant difference (F=.695, p=.500>.05) based on COVID-19 impact on the Teaching-Learning process in the Kaffa zone.

Table 10: Tests of Between-Subjects Effects: School type and school location

Dependent Variable: Q_average					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.527[a]	4	1.132	5.814	.000
Intercept	1453.939	1	1453.939	7469.500	.000
School Type	1.443	1	1.443	7.415	.007
School Location	3.984	2	1.992	10.233	.000
School Type * School Location	.444	1	.444	2.282	.132
Error	73.772	379	.195		
Total	2537.549	384			
Corrected Total	78.299	383			
a. R Squared = .058 (Adjusted R Squared = .048)					

Table 10 exhibits that there was a significant difference in the impacts of COVID-19 on the Teaching-Learning process based on their school type (F= 7.415, p=.007<.05) and school location (F= 10.233, p=.000<.05). But there was no significant interaction effect of school location and school type (F= 2.282, p=.132 >.05) concerning the impact of the COVID-19 on students in the Kaffa zone.

Table 11: Tests of Between-Subjects Effects: father's and mother's job

Dependent Variable: Q average					
Source	Type III Sum of Squares	df	Mean Square	F	P
Corrected Model	2.222[a]	17	.131	.629	.869
Intercept	197.515	1	197.515	950.224	.000
Father Job	.256	4	.064	.308	.873
Mother Job	.303	5	.061	.291	.918
Father Job * Mother Job	1.126	8	.141	.677	.712
Error	76.077	366	.208		
Total	2537.549	384			
Corrected Total	78.299	383			
a. R Squared = .028 (Adjusted R Squared =-.017)					

As per the results in table 11, Fathers' job did not have a significant effect (F=.308, p=.873>.05) on students' attitude concerning the impact of the COVID-19 on their Teaching-Learning process. Similarly, Mothers' job did not have a significant effect (F=.291, p=.918>.05) on students' attitude towards the impact of the COVID-19 c on their Teaching-Learning process. There was also no significant interaction effect of fathers' job and mothers' job (F=.677, p =.712>.05) on students attitude about the impact of COVID-19 pandemic on students' Teaching-Learning process.

Table 12: Tests of Between-Subjects Effects: Grade level and Woreda

Dependent Variable: Q_average					
Source	Type III Sum of Squares	df	Mean Square	F	P
Corrected Model	22.381[a]	14	1.599	10.549	.000
Intercept	442.485	1	442.485	2919.920	.000
Grade Level	1.037	3	.346	2.281	.079

Woreda	7.027	4	1.757	11.592	.000
Grade Level * Woreda	4.091	7	.584	3.857	.000
Error	55.918	369	.152		
Total	2537.549	384			
Corrected Total	78.299	383			
a. R Squared = .286 (Adjusted R Squared = .259)					

Table 12 shows that there was no significant difference in the impacts of COVID-19 on the Teaching-Learning process based on the students' grade level ($F= 2.281$, $p=.079>.05$) but it is a significant difference as on their Woreda ($F= 11.592$, $p=.000<.05$). There was a significant interaction effect of woreda and grade level ($F= 3.857$, $p=.000<.05$) for the impact of the COVID-19 pandemic on students in the Kaffa Zone.

Discussion

Cornering the impacts of COVID-19 on the Teaching-Learning process in the Kaffa zone, four main results have been displayed in table 5-8. These results imply that COVID-19 pandemic effects on Teaching-Learning process. The effects include improper use of time, inequitable use of education and educational materials, psychological and social problems. The result is similar to results researched as Impact of coronavirus outbreak on psychological health by Khan, Siddique, Li, Ali, Shereen, Bashir, & Xue, (2020); Geda, (2020) who studied the Macroeconomic and Social Impact of COVID-19 in Ethiopia and which broadly showed that COVID-19 had a social impact and which suggested direction for policy response. Aborode, Anifowoshe, Ayodele, Iretiayo, & David, (2020) who researched Impact of COVID-19 on Teaching-Learning process in Sub-Saharan Africa.

Regarding the impact of COVID-19 on the Teaching-Learning process based on students demographic characteristics, the results showed that there were significant differences among students on COVID-19 pandemic based on their school type, school location, and their woredas, whereas the impacts on the students' Teaching-Learning process in Kaffa zone were not significantly different based on the other demographic characteristics namely gender, grade level, age level, and family background.

For the interactions of the demographic characteristics of students' grade level and their woredas had significant interaction effects. This implies that even though students were not significantly different based on their grade level, the interaction of their grade level with their woredas could bring significant differences in the impacts of COVID-19 on their Teaching-Learning process. That is, Teaching-Learning process of high school students in one woreda was significantly differently impacted by COVID-19

pandemic. Similarly, Teaching-Learning process of primary students of one woreda was significantly differently impacted by the COVID-19 pandemic on their

Conclusions and Recommendations

Conclusions

In Kaffa zone, COVID-19 Pandemic hindered students' proper use of time to study their subjects; affected equitable use of education and educational material. Psychological problems like fear, lack of self- confidences and anxiety resulted in social problems preventing students from working in a group, playing and studying together and sharing material like books, exercise books and pens.

These impacts of COVID -19 were significantly different from woreda to woreda, from school type to school type, and from the school location to school location. Whereas the impacts were not different in gender, in families' occupation, in grade level, and age level. That is, males and females at any age and grade level, were hindered by the impacts of the pandemic on their Teaching-Learning process. The students had fears, lost their self-confidence and became anxious as they were affected; by lack of equitable use of education and educational materials in Kaffa zone.

Recommendations

Every pertinent organization and person including government, educational managers, teachers, family, and so on have to provide support and means to reduce the impact of COVID-19 on students Teaching-Learning process, especially to maximize students' proper use of time, to minimize students social and psychological impacts; and to make students use of educational materials fair and equitable in Kaffa zone. In this regard, the necessary support should be given for different woredas, to different school types, and school locations. But the same or similar support should be given to male and female students of every age level, education level, and family background. The government has to provide easily written distance teaching and face-to-face learning materials for the teachers and students, and facilitate the Teaching-Learning process to be continued in schools with keeping the social distance and other ways of prevention COVID-19; Teachers has to give a home to home support and support in schools keeping the social distance and other prevention cares of COVID-19; Family members have to follow-up the students not to lose their time of studying during staying at home.

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