

Emergency Remote Online Course Experience from Students Perspective: A Case Study

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Abstract

The Coronavirus has changed the world in many ways, including education. The epidemic outbreak led to the conversion of courses in many schools and universities from traditional face-to-face classrooms to virtual courses. This situation is a major challenge in a country like Kenya, where IT facilities remain basic. Not all students have the advantage of technological conditions or a supportive family environment. This qualitative case study design is aimed to explore how students portrayed their participation in remote online courses. This study focuses on the experiences of six Standard Eight students in one of the elementary schools in Kisii, Kenya, with ages between 13-15 years old, to cope with multilevel challenges during the Covid-19 pandemic. The data were collected through semi-structured telephone interviews with each participant after permissions were acquired from the students' parents or guardians. The findings of the study show six emergent themes and sub-themes. The themes that emerged from the interviews are 1) Course descriptions; 2) learning experience; 3) Delivery methods; 4) Materials; 5) Interactions; 6) Challenges.

Index terms— students' perceptions, online course, emergency curriculum, pandemic, case study.

1 Introduction

The world has changed in many areas, including education. It all started at the end of 2019 when the Wuhan health authority reported that 27 pneumonia cases originated from a mysterious aetiology (Committee WCH, 2019). These cases were associated with the Wuhan Huanan Seafood Wholesale Market closing. Shortly after that, medical investigations concluded this pneumonia as a novel Coronavirus or COVID-19. Then, a month later, on January 30, 2020, the World Health Organization (WHO) declared COVID-19 as a pandemic (Liguori, & Winkler, 2020). Up to this moment, on July 1, 2021, COVID-19 has spread to 222 countries internationally, with around 182,977,255 cases and 3,962,824 fatalities (source: <https://www.worldometers.info/coronavirus/>).

The outburst of the coronavirus epidemic has forced many schools, universities, and other learning institutions around the world to convert their courses from classroom-based to virtual versions. The global epidemic has modified the course delivery mode and how language teaching and assessment are presented. According to Tam and El-Azar (2020), this alteration brought challenges to the regular curriculum with campus-based in-person education. It is predicted that online or virtual teaching will be accepted as the new normal for many educational institutions in the postpandemic future (Wang & East, 2020). The global crisis could be a stimulus to change and innovate more realistic solutions for language teachers and universities in coping with the virtual future or an opportunity to restructure their entire curriculum systems (OECD, 2020).

Wang and East (2020) stated that this change could be categorized as "a series of involuntary curriculum reforms, or even revolutions, as a digital coping strategy for the pandemic crisis" (p.2). Moreover, Wang and East (2020) define the ratified curriculum as an "emergency curriculum" to set it apart from the regular curriculum before Covid-19 and a possible virtual curriculum after the crisis. The objective of the emergency curriculum

was to maintain the courses functionality and feasibility for distant virtual delivery with no stress to the students and teachers during difficult times (Wang & East, 2020).

Hodges, Moore, Lockee, Trust, and Bond (2020) define emergency remote teaching as an unexpected short-term change in educational delivery from a face-to-face basis to a virtual basis because of a global disaster. On the contrary, online or virtual courses are purposely developed and created to be delivered virtually. Shifting the regular classroom-based curriculum to a remote virtual curriculum allowed the teachers to acknowledge the difficulties of planning and implementing the course and ensuring that students can be supported to achieve the learning outcomes equally. Thus, an emergency curriculum that can assist teachers and course coordinators in deciding their courses in the crisis context was crucial.

The case presented in this study is situated in the Kenyan context. On March 12, 2020, The Ministry of Health confirmed the first COVID-19 case in Kenya. The fast spread of the coronavirus pandemic has forced a change of routine behaviour of the education sector. In Kenya, there was a nationwide closure of schools since March 2020. The closure of schools affected learners and teachers and brought numerous economic and social issues, including interrupted and loss of learning, education exclusion, homelessness, nutrition, and economic crisis, among others (Itimu, 2020, March 18). The effects have been more severe for the underprivileged children and their households from the poor urban communities. The closure of schools serves as the government strategy to contain the further spread of the Covid-19 virus. It also implied that all of the students would be learning from home.

The strategy has interrupted the existing education system where teachers are required to seek alternative means to replace the interactions with students in physical classrooms. Professor Magoha, the Cabinet Secretary for Education, stated that the government would facilitate the learning through radio, television, YouTube and the Kenya Education Cloud for the 15 million learners that are home during the pandemic (Itimu, 2020, March 18). However, implementing emergency online courses might bring some challenges. Among these challenges are funding for distance education and the ability to hire enough teachers that meet the mandated requirement of being "highly qualified" (Hannum, Irvin, Banks, & Farmer, 2009). Other challenges for rural secondary schools that wish to add distance education courses to their class offerings include the rigor of school-level courses of which many now have access to and personnel not being adequately trained to implement such a program (Matuga, 2009; Irvin, Hannum, de la Varre, & Farmer, 2010).

This study is significant because it will help the teachers and school administrators understand the factors that motivate students and help them sustain and increase participation. This study also provides a foundation for further research. It is a resource for entrepreneurs desiring to start new institutions offering online programs. Although most studies of online learning have focused on how to present materials to learners, little attention has been devoted to the experiences and perceptions of students on online learning environment (Gao & Lehman, 2003). The participants were asked to describe their experiences and perceptions in the current study by answering some interview questions presented to them.

2 II.

3 Remote Online Education

The COVID-19 pandemic has affected educational systems worldwide, leading to the near-total closures of schools, universities and colleges (Sintema, 2020). Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of COVID-19. Thus, the development of online education has intensified competition between institutions (Loyen, Magda, & Rikers, 2008). The competition has come to a growing emphasis on dealing with student satisfaction (Jackson, Jones, & Rodriguez, 2010). Dobbs, Waid, and del Carmen (2009) found that online learning attracted the students because it is accommodating and flexible. Boekaerts (2008) asserts that most studies on online programs examine technical features and disregard the students' perceptions. Bollinger and Martindale (2004) and Tallent-Runnels, Thomas, Lan, Cooper, Ahern, Shaw, and Liu (2006) argued that the growth of online education should motivate more studies on students' contentment with online instruction. In an online learning environment, students are required to have actively participated in their education and learning outcomes (Neely & Tucker, 2010). But what about the other countries? Many studies have not been able to counter the current problems when transferring the conventional curriculum online. Wang & East (2020) argue that there are some occurrences in practical and methodological gaps such as: 1) students are forced to study online involuntarily and ill-prepared; 2) studies on advanced technologies may not apply to many poorly resourced contexts. According to Light (2001), accomplished online teaching runs by well-resourced infrastructure and advanced software do not acknowledge the reality of digital segregation, that is, the unequal access to information technology. These situations may be uncommon in countries like China, the US, UK and other developing countries. However, these situations are major challenges in some other countries like Kenya, where IT facilities remain basic. Therefore, the pedagogical challenge is engaging the students and making sure they do not fall behind during this Covid-19 pandemic period.

In Africa, some of the strategies and approaches used in availing education to the learners have been through homeschooling, radio, television, remote learning, online learning, distance learning, blended learning, gamification, and the like (Chidambaram, 2020). The position of remote learning is still bleak in Africa compared to other countries, as less than 25 per cent of low-income countries currently provide any remote learning. Of

these, the majority are using TV and radio. In contrast, close to 90 per cent are providing remote learning opportunities in the developed world, with almost all offering services being offered online (Chidambaram, 2020).

According to Namunwa (2019, March 11), of the 51.58 million total population, only 43.3 million Kenyans possess smartphones and access the internet. However, taking part in an online course would demand more than a computer or a smartphone. In online courses, both teachers and students face challenges, such as unstable access to the internet or lack of a camera or printer. Switching courses from classroom-based to online would hinder the students from regularly participating with others and further broaden the digital gap (Goode, 2010), considering that not all students have the advantage of technological conditions or a supportive family environment. Enforcing a technology-driven curriculum with no consideration of the macro socio-economic environment or resources or full consultation with students may lead to disengagement in learning or worsen social inequality ??Wang & East, 2020, p.3). Due to the digital gap, online teaching becomes an alternative or supporting approach to conventional classroom-based teaching for many educational institutions in Kenya.

4 III.

5 Students' Perceptions of Online Learning

According to Gaytan (2015), two crucial factors in retaining online students: 1) students were observed to have an increasing faculty presence in online courses, and 2) student-instructor interactions. In another study, Luck and Rossi (2015) stated that online students identify distance as the central gap. When the teaching staff and students do not interact, students might feel lonely and isolated. A similar study by Lowenthal, Bauer and Chen (2015) found that online students rated a lower score regarding their opinion of online instruction than face-to-face instruction. The feeling of disconnection and isolation perceived by the students was more intensified online than in face-to-face courses (Otter, Seipel, Graeff, Alexander, Boraiko, Gray, & Sadler, 2013). These feelings may affect student learning, which could lead to course failure or eventually course withdrawal.

In order to promote the success of online learning, the challenges and barriers that the students face must be settled. According to Bacow, Bowen, Guthrie, Lack, and Long (2012), the barriers to adopting online learning systems are fewer compared to face-to-face learning. Bacow et al. (2012) stated that online courses often load quicker than face-to-face courses. One of the barriers identified by Lokken and Mullins (2014) in the research of eLearning development at community colleges was online assessment and student learning and performance. Although the teacher used different methods in online courses, it would result in less successful students. Fetzner (2013) identified the main reasons for the lack of success in online courses: missing out on assignments, personal challenges, and a mixture of job and family responsibilities.

IV.

6 Methodology a) Research Design

This study employed a qualitative case study design. The values underlying qualitative research include the importance of people's subjective experiences and meaning-making processes and acquiring a depth of understanding (i.e., detailed information from a small sample) (Leavy, 2017). The qualitative design in this study aimed to explore how students portrayed their participation in remote online courses. The case study emphasizes employing process and method oriented techniques to provide adaptability (Stake, 2013). The current study aimed to understand a phenomenon that affected education in Kisii and Kenya in general. This study focuses on the experiences of six students to cope with multilevel challenges during the Covid-19 pandemic. Therefore, a case-study method was applicable because it assigned a detailed examination of an experience within a factual context (Yin, 2014).

As suggested by Creswell (2013) and Ritchie, Lewis, Nicholls, and Omston (2013), the number of participants in a case study design is between 4-10 participants. In this study, the number of participants was six. Yin (2014) recommends the sample size for a qualitative case study to be at least six sources, while Creswell (2013) recommends no more than four or five cases. The participants were selected based on the purpose of the study, the questions being asked and the resources available (Patton, 1990).

7 b) Context and Participants

According to Creswell (2014), a case study design is an in-depth exploration of a "bounded system where it separated out for research in terms of time, place or some physical boundaries" (p. 493). Similarly, ??erriam (2009) and Smith (1978) defined a bounded system as a single entity, including a single person, who is a case of sample some phenomenon, an institution, or a community. In this study, the bounded system refers to one of the primary schools located in Kisii, Kenya. This setting is selected because it is one of the best schools in Kisii, where at least 70% of its students study for free, and the rest at a reduced rate.

The sampling strategy used in this study was purposive sampling, based on "the assumption that the investigator wants to discover, understand and gain insight and therefore must select a sample from which the most can learn" ??Merriam, 1998, p. 61). The researchers used their connections with the school administrators to acquire recommendations of students who fit the desire criteria. The participants were selected The profile of the participants can be seen in Table 1 below.

8 c) Data Collection

In this study, the researchers employed an unconventional strategy for data collection. Data collection during crisis contexts can be highly unstructured and irregular (Lin, Xu, Rainer, Rice, Spence, & Lachlan, 2017). The methods for data collection in this study were consulted with course participants. In this pandemic, important and valuable data found in public announcements, electronic communications, and policy enactments. It also found in social media and personal e-mails exchanges. However, the data collected during the crisis is better done by conducting telephone interviews with students.

A semi-structured interview was conducted through the telephone with each of the participants in this study. According to Cohen and Crabtree (2006), a semi-structured interview is categorized as a formal interview with pre-developed and flexible questions that allowing the interviewer to wander with the interviewee as long as the tangents are relevant to the study. The interview questions consisted of seventeen questions, with some prompts to make sure the questions are clearly understood. The interview questions were adapted from Nwankwo (2015) study with some minor changes (see Appendix 1).

The researcher acquired the telephone numbers and the addresses of the students from their respected teachers. The interviews were done after permissions were acquired from the students' parents or guardians. All of the interviews were recorded and transcribed. Participant anonymity was maintained throughout the interview and the transcription processes. Each participant was provided with a code. The codes provided were based on the sequence in which the participant agreed to be interviewed in this study.

V.

9 Findings and Discussions

This study was designed to explore students' experiences and perceptions of emergency online learning at a primary school in Kisii, Kenya. The interview questions originally consist of 17 questions.

However, as the interviews proceeded, additional questions arose to clarify participants' learning experiences and perceptions. Participants seemed honest and forthcoming in expressing their views, especially when they were informed that they would not be identified.

The data gathered were thoroughly arranged, organized, coded, searched for keywords and themes. The information on the themes or particular aspects is presented and dramatized in narrative form and tables (Wolcott, 1994). The themes that emerged from this study were mainly originated from the participants' perspectives. In this study, the findings of each theme are presented first, followed by a discussion of them. The themes that emerged from the interviews are: 1) Course descriptions; 2) learning experience; 3) Delivery methods; 4) Materials; 5) Interactions; 6) Challenges.

10 a) Course Descriptions

The participants were asked how much time they spent in online courses per week. Four of the participants spent 30 hours, while the other two spent 35 hours per week. These hours include the interactions of students-teachers, students-students, doing assignments, browsing for materials and reading. All of the participants take ten subjects this term. These subjects are English, Kiswahili, Science, Agriculture, Geography and History, Maths, Religious Education, Arts, PHE, and Social Studies. Four participants expect to get good marks and pass all of the subjects. One expects the lesson to be easier. The other expects that he can better understand the lessons through online courses. Relevant excerpts from the interview are as follows: "I just want to get good marks and pass this semester" (Students A, D, E, F). "I expect that the lesson is easier in these online classes" (Student B). "I hope that I can have a better understanding of the lesson" (Student C). The summary of the course descriptions can be seen in

11 b) Learning Experience

The second emergent theme from the interview is learning experience. There are three sub-themes in this theme. When the participants were asked about their first experience in taking the emergency online classes, one participant (Student A) admitted that she was excited because she will have more time at home studying. Two participants (Student B and D) admitted that their first experience with the online class is difficult because they were unfamiliar with the application use in the online class and computer/internet problems. As an excerpt from Student D: "At first it was awkward. It took a long time for my computer to download the apps, learn how to use them, and be familiar with them. Sometimes the internet is not working, but once when I am familiar with the apps and get used to the slow internet, things are much better" (Student D). The third participant (Student C) said he faced problems such as slow internet, time management during the class, and the lesson's commencement. An excerpt from Student C: "It is difficult because of the slow internet, it took more time than the usual classroom. It is especially difficult for the practical course. The time allocated does not consistent. Usually, the teacher is late" (Student C). Finally, students E and F said that the problem they faced at the beginning of the online class is that they only have one computer at home. Thus, they need to share it with their sisters and brothers who also have online classes. This condition continued until the parents bought some secondhand computers.

The second sub-theme is the ability to focus on the lesson. Unanimously, all participants admitted that it is easier to focus on the lesson when it is a traditional face-to-face class. This is because the teacher pays more attention to everything that is going on in the class, such as students, behavior, explanation, as Student C said in the following excerpt: [The ability to focus in an online class is not the same as an offline class] "It is different, because, in a face-to-face class, the teacher pays more attention to everything that is going on in the class, e.g., students, behavior, explanation" (Student C).

The third sub-theme is the participants' experience so far in taking the online classes. The answers were varied. For instance, Student A admitted that she does not understand the lesson delivered online. Therefore, it is safe to say that the online classroom experience is negative. Similarly, Student B, D, and F revealed that the online classroom is not suitable. They always have problems with the slow internet, the applications used, and with the assignment load. An excerpt from Student B: "Online learning is not suitable for me because of the internet problem, application problem, and the teacher gives many assignments" (Student B). The positive experience of having online classes described by Student C. He claimed that the teacher used videos and pictures in the online class. Therefore, learning becomes more pleasant. In addition, Student E revealed that online classes provide students with freedom over their time and allow them to work in a more comfortable environment. An excerpt from Student E: "Online class gives students more freedom over their time and allows them to work in an ideal environment. You can learn at your own pace and stay in the comforts of your own home while doing so" (Student E). The summary of the learning experience is illustrated in Table 3.

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13 c) Delivery Methods

The third theme that emerged from the data is delivery methods. This theme consists of three subthemes that emerged from the interviews. The first interview question was about the teacher's method of delivery during the online class. Student A, D, E, and F revealed that the teacher used Google Classroom, YouTube, PowerPoint, and Zoom applications in delivering the lesson. However, Student A added that the teacher did not explain the lesson further due to house chores that the teacher needs to attend. An excerpt from Student A: "[the teacher uses] Google classroom, teacher give the PowerPoint or notes on the lesson, sometimes with no explanation, possibly because the teacher is also busy with other chores" (Student A). Other than the applications used in the online class as described by Student A, Student B also included fewer explanations in the lesson, and the teacher gave more assignments than in normal classes. Finally, student C admitted that in his online classes, the teachers use videos, written materials in Pdf format, took attendance, and gave assignments.

The second sub-theme in this theme was the effectiveness of the online method that the teacher use. Student A, B, and F revealed that the online method that the teacher used is not effective. They prefer the method used in face-to-face classes. Student B said: "the method now (the online class) is not suitable for me. I prefer the face-to-face class method because the teacher gives more explanation and encourages the students to ask questions" (Student B).

On the other hand, Student C, D, and E explained the benefits of online classes, such as using videos and pictures to make the lesson more attractive, entertaining, and helpful in better understanding the lesson. The following are the excerpts from Student C and D: "Online class is more effective because it is more attractive with the videos and pictures" (Student C). "The videos are entertaining and helpful in giving more clear explanations" (Student D).

The third sub-theme was about the ideal delivery method that they preferred. The participants responded with various answers. Student A prefers that the teacher used the Zoom application supplemented with more explanation to the students. Student B suggested that the teachers provide one-on-one or small group discussions to the students who have difficulties understanding the lesson. Student C prefers having the class twice a day, i.e. in the morning and the late afternoon. In addition, the teachers should also use more videos in giving the explanation, exercises, and assignments. Student D claimed that the teacher should have a more engaging and challenging method and give more explanations in delivering the lesson. Student E and F revealed that the teacher should have a logical presentation that will help the students have a better understanding of the lessons. A summary of the delivery methods is described in Table 4

14 d) Materials

The next emergent theme from the data is the materials. In this category, there are two sub-themes. The first sub-theme is the accessibility of the materials. All participants reported that the convenience of getting the materials depends on the availability and the speed of the internet. Student A said that it is easier to get the materials over the Wifi. In addition, Student B reported that he could get the materials over the internet by email or through the WhatsApp group. However, Student D and F reported difficulty getting the materials because they live far from the city where the internet is hardly available. Finally, Student C and E admitted that the internet connection in their houses is too slow to download the materials, assignments, and notes from their teachers.

The second sub-theme from this theme is the adequacy of materials. Participants were asked whether they think that the materials are adequate for them to understand the lessons. All of the participants reported that the materials given were not enough to understand the lessons better. The following are excerpts from the interview.

"The materials are not enough, Because I mostly do not understand the lesson, especially when teacher give assignment" (Student A).

"The materials are not enough. Because I need more explanation on the lesson" (Student B).

"The materials given are not enough. Sometimes I need more time to understand the lesson. So the time allocated also is not enough" (Student C). "For me, the materials from the teachers are not enough because sometimes the file size that the teacher sent is too big for me to download with many difficult words, and my internet is too slow. So I need books or the hard copies of the materials" (Student D). "I live far from the city, so the internet is a big problem. I prefer to have books or photocopies of materials from my teachers" (Student E). "My house is 40 km from the school. We have no internet. I have to go to the nearest town to get internet every day. Travelling is the problem. Also, when I can access the internet, the internet is too slow and take a long time to download the materials. I wish I can have books or photocopies for materials from my teachers" (Student F) A summary of participants' perceptions of the materials can be seen in Table 5

15 e) Interaction

This theme consists of three sub-themes that deal with the interactions between teachers-students and students-students. The sub-themes emerging in this theme are preferred interactions of teachers-students or students-students, frequency and method of interaction, and interaction benefits. Most of the participants revealed that they prefer teachers-students interaction because they benefit more from it.

In teachers-students interactions, most participants reported that their interactions with their teachers were frequent and had the most benefits. Students A, B, D, E, and F reported that their teachers regularly interacted with them. As a result, they can quickly contact their teachers personally if there is an area that needs more clarification. Student B said, "It is easy to contact the teachers. I can ask them personally and directly through WhatsApp" (Student B). Student E said, "Since the internet is my main problem, the teachers are usually helping me by sending the materials or the schedule by SMS to my phone or my parents so that it is easier for me to photocopy it" (Students E). Contrary, Student C prefers interactions between students-students. Student C explained that he gained more benefit in interacting with his fellow students. Student C said, "The interactions with the teachers were quite okay. The interaction in a face-toface class is more steady than in online classes, and the teacher would ask the students whether they understand or not, one by one. Interaction with the other students is better for me because my friend can help me with the lessons and remind me about the due date of the assignments" (Student C).

The second sub-theme is the frequency and method of interactions. The results show that all participants unanimously reported that the interactions between students-teachers and students-students occurred regularly during the school weeks. The interactions happened through Zoom, Google Classroom, and WhatsApp groups. During the interactions, the students can ask questions to the teacher directly about the lessons, exercises, and assignments they do not understand. Students can also ask questions to other students regarding the lessons, exercises, and assignments.

The third sub-theme is the benefit of interactions. There were various responses when the participants were asked about the benefits of the interactions between teachers-students and students-students. For instance, Student A reported that from the interactions, she got to know the assignments, share courses materials, and receive other information regarding the lessons. Student B admitted that he could get detailed information on the lessons, assignments, and materials he missed. Student C revealed that the most significant benefit he got from the interactions is that he could get more information regarding the lessons and assignments from his peers. Student D admitted that the interactions allow teachers to explain the students who have difficulties in understanding the materials. Student E reported that student-teacher interactions helped students organize their thoughts and encourage them to be more organized in their studies. Finally, Student F revealed that the interactions between students-teachers and students-students made students aware of their ability, thus, encourage them to share ideas so they can develop together. Table 6 illustrates the summary of the students-teachers and students-students interactions.

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17 f) Challenges

The last emergent theme is the challenges that the participants faced in their online classes. This theme consists of two sub-themes: the challenges and the efforts made by the teachers to overcome the challenges. When questioned about the challenges that the participants faced in their online classes, various responses were given. For example, student A explained that the biggest challenge that she faced in her online classes is time management. Online classes require students to read a lot and to search for more materials in order to have a better understanding of the subject. Therefore, she finds it difficult to arrange her time between classes, assignments, internet browsing, and house chores. Student B admitted that he and his classmates did not tell their teachers about their challenges. They felt that the teacher might get upset when the students ask too many questions. Student C revealed that

his biggest challenge is the internet. Most of the time, the internet is not available. In addition, the teachers made many WhatsApp groups for each subject. Thus sometimes, he got confused about the assignments and the submission deadline. Student D explained that the most significant challenge that she faced in online classes is internet speed. Even the teachers also faced the same problem. Therefore, when this problem occurs, the classes become longer because they wait for the teacher to connect to the internet. Sometimes, the teacher has to postpone the class and change the schedule. Student E explained that her challenge is distractions. At home, there are many distractions include siblings, parents, pets, cell phones, and other devices. She also finds it difficult to get a designated quiet workspace. Lastly, Student F asserted that the challenges that she faced are organizing her works and time management. Although online classes provide flexible time, she finds it difficult to organize and manage her time between classes, assignments, browsing and reading the required materials.

The last sub-theme that emerged from this theme is efforts made to overcome the challenges. Various responses were given by the participants when they were asked about the efforts made by their teachers to overcome the challenges. For instance, Student A and F explained that sometimes their teachers contacted them personally by SMS or private message through WhatsApp to remind them about the assignments. Sometimes the teachers even went the extra mile by providing the students with hard copies of the materials. Student B revealed that although he and his classmates felt hesitant to inform their teachers about their challenges in online classes, the teachers somehow understand and change their method to be more open and approachable. Currently, whenever they face problems in their online classes, such as the excessive study load and assignments, they will inform the teacher and get feedback from the teacher immediately. Student C explained that regarding his problem with too many WhatsApp group, the teacher made efforts to reduce the confusions by selecting a designated student for each subject who will then pass the information from the teacher regarding the materials, additional explanations, and assignments. Student D revealed that to overcome the internet speed problem faced by the students and the teachers, the government provide learning from home program that can be accessed through the national TV. Finally, Student E said that to overcome her challenges in limiting distractions, her teacher suggests that she find a suitable place to study. The place should be quiet and comfortable with a simple table and a chair. Her teacher even let her use the teacher's headphones when necessary. A summary of the theme and sub-themes of the challenge can be seen in Table 7 below.

18 Conclusion

This study explores students' experiences and perceptions of emergency online learning at a primary school in Kisii, Kenya. The study used a qualitative case study design with six participants. The participants were students of Standard 8, with ages between 13-15 years old. The data were collected through semi-structured telephone interviews with each participant after permissions were acquired from the students' parents or guardians. The findings of the study show six emergent themes and sub-themes. The themes that emerged from the interviews are 1) Course descriptions; 2) learning experience; 3) Delivery methods; 4) Materials; 5) Interactions; 6) Challenges. A summary of the themes and sub-themes that emerged from the interviews can be seen in Table 8 below. The first theme that emerged from the study is course descriptions. In this theme, there are four subthemes, namely, time spent per week, number of the subject taken, name of subjects, and expectations. The participants spent 30 to 35 hours per week in their online classes. This includes the interactions between students-teachers, students-students, browsing for materials, reading and doing assignments. All of the Volume XXI Issue IX Version I 22 () participants are students of Standard 8. Therefore they all take the same ten subjects. Different expectations were extracted from the participants, namely, getting good marks, easier subjects, and a better understanding of the subjects.

The second theme is learning experience. Three sub-themes emerged, namely, first experience, ability to focus, and learning experience descriptions. The first experience in the online classroom for the participants was varied. Some were excited because of the time that the participant will spend at home. On the other hand, others have difficulties due to the unfamiliarity with the computer and the applications, the internet connection, and the limited number of computers. Therefore, all participants prefer to study in a normal condition, that is, face-to-face classroom because it is easier to focus on the lesson. In addition, the participants describe their experience as unfit with their poor preparation for online classes. This described by the slow internet, limited computers, and study load. However, some of the participants admitted that the online classes brought positive experience as they provided the students with freedom in arranging their time and work at their own pace. The finding of this study is in line with Nwanko's (2015) study. Nwanko (2015) pointed out that the students' basic knowledge in using the computer is not the only requirement for one to be successful in online classes. Other technical tasks, such as using online applications, in this case, Zoom, Google Classroom, email, WhatsApp and other digital tools, are equally important factors to be successful in the online class and increasing the students' participation.

The third theme is delivery methods. This theme consists of three sub-themes, namely, teacher's method of delivery, effective methods and ideal delivery method. In delivering the lesson, the teachers use Google classroom, PowerPoint, YouTube, Zoom, and materials in PDF format. Some participants reported that the online class is unfit and prefer the face-to-face class, while others prefer the online class because it is presented in a more attractive style with videos and pictures. In addition, the study found that the participants suggested using the Zoom application and giving more explanation to the students using more videos, exercises, and assignments

to engage and challenge the students and provide small-group discussions to the students who have difficulties understanding the lesson. The findings of the study confirm the suggestions made by Sadiku, Adebo, and Musa (2018) in their study. Sadiku et al. (2018) stated that online learning is offered over the internet and used web-based materials and activities. Therefore, students are required to have access to computers with high-speed internet connections.

The fourth theme is materials. Two sub-themes emerged from the interviews, namely, easy access to get the materials and the adequacy of materials. To get the materials, the participants depended on internet access. However, the online materials were inadequate because the files were too big to download and have many tricky and difficult words. Thus, the participants prefer books and hard copies. The finding of the study is confirmed by Murray, Perez, Geist and Hendrick (2013), who described that successful students are those who understand the materials and score high in the test. Furthermore, Kuo, Walker, Belland, and Schroder (2013) claimed that when the materials are easily understood, positive perceptions and learning experiences of online courses increase.

The fifth theme is interactions. The sub-themes emerging in this theme are preferred interactions of teachers-students or students-students, frequency and method of interaction, and interaction benefits. Most of the participants prefer students-teachers interactions. However, both student-teachers and student-students interactions were reported to occur regularly during the school days. This finding is in line with Nwanko (2015) study who reported that learners-instructor interaction is the second strongest predictor, after learners-course content interaction, of their perceptions and learning experience because the learners benefited from the instructor's feedback.

The last emergent theme from the interview is the challenges. This theme consists of two sub-themes: the challenges and the efforts made by the teachers to overcome the challenges. Challenges such as time management, internet speed and distractions at home were reported faced by the participants. As reported by the participants, efforts were made to overcome the challenges, including contacting students personally, if necessary, by SMS or WhatsApp about the assignments and materials. A significant effort also made by the government, including providing a learning from home program that can be accessed through national TV. According to UNICEF Kenya Chief of Education Marilyn Hoar, UNICEF has been working with the government across Kenya to support remote learning via radio, TV and online and inform the parents and guardians how to access the lessons. However, it is estimated that only 47% of the students in Kenya can access the lessons. Thus, UNICEF is tracing areas without radio and distributing 27,500 solar-powered radios for learners without access to lessons (Brown & Otieno, 2020). It implies that the Kenyan government is working closely with other international organizations or institutions to overcome the education problems faced by the country in the pandemic time. A summary of the findings can be seen in Appendix 2.

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Figure 1:

1

1	Student A	15	F	8	A
2	Student B	14	M	8	A-
3	Student C	14	M	7	A-
4	Student D	15	F	8	B+
5	Student E	13	F	7	B+
6	Student F	13	F	7	B+

Figure 2: Table 1 :

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Figure 3: Table 2 :

Participants	First experience	Ability to focus	Learning experience description
Student A	Excited to spend more time at home		Hardly understand the lesson in online classes
Student B	Difficult experience because not familiar with the application and facing some network problems		Online learning is not suitable because of the internet problem, application problem, and more study load
Student C	Difficult experience because of internet problem, time management	Easier to focus on the lesson in a face-to-face classroom because the teacher pays more attention to everything that is going on in the class, e.g., students, behaviour, explanation	In online learning, the teacher use pleasant videos and pictures
Student D	Difficult experience because not familiar with the application and facing some network problems		Online learning is not suitable because of the internet problem, application problem, and more study load
Student E	Difficult experience because only have one computer, share with other siblings		The online class gives students more freedom to work at their own pace and stay at home
Student F	Difficult experience because only have one computer, share with other siblings		Online learning is not suitable because of the internet problem, application problem, and more study load

Figure 4: Table 3 :

4

Year 2021
18
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Figure 5: Table 4 :

5

Year 2021
19
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Figure 6: Table 5 :

6

Participant	Preferred interactions	Frequencies and method	Benefits
Student A	Students-teachers interactions	Interactions regularly occur during the weekdays through Zoom, Google Class-room, and WhatsApp group	know the assignments, share courses materials, and receive other information regarding the lessons
Student B	Students-teachers interactions		get detailed information on the missing lessons, assignments, and materials
Student C	Students-students interactions		get more information regarding the lessons and assignments from other peers
Student D	Students-teachers interactions		allow teachers to explain the students who have difficulties in understanding the materials
Student E	Students-teachers interactions		help students organize their thoughts and encourage them to be more organized in their studies
Student F	Students-teachers interactions		make students aware of their ability, thus, encourage them to share ideas so they can develop together

Figure 7: Table 6 :

7

Participant Challenges	Efforts made to overcome the challenges
Student A Time management in attending classes, doing assignments, browsing, and reading the materials	The teachers contacted personally by SMS or by WhatsApp about the assignments and materials
Student B Hesitate to tell his teachers about his challenges	The teachers somehow understand and change their method to be more open and approachable
Student C Internet speed and too many WhatsApp groups	The teachers select a designated student for each subject who will then pass the information from the teacher explanations, and assignments. regarding materials, additional
Student D Internet speed. The teacher also has the same difficulties	The government provide a learning from home program that can be accessed through national TV
Student E Distractions at home including siblings, parents, pets, and gadgets	The teacher suggests finding a quiet and comfortable place with a simple table and a chair to study
Student F Organizing works and time management	The teachers contacted personally by SMS or by WhatsApp about the assignments and materials
VI.	

Figure 8: Table 7 :

8

No. Themes	Sub-Themes
1 Course descriptions	Time spent per week Number of subjects taken Subjects taken Expectations First experience
2 Learning experience	Ability to focus Learning experience descriptions Teacher's method of delivery
3 Delivery methods	Effective methods Ideal delivery methods
4 Materials	Easy access to get the materials Adequacy of the materials Preferred interactions
5 Students-teachers and Students-students Interactions	Frequencies and method Benefits of interactions
6 Challenges	Challenges Efforts made to overcome the challenges

Figure 9: Table 8 :

		?	Using Google classroom, PowerPoint, YouTube, Zoom, and materials in PDF	
		?	Few explanations and more assignments	
		?		
	Effective methods			
4	Materials	?	Students-teachers interactions	Volume
	Easy access to get the materials	?	Students-students interactions	XXI
	Preferred interactions	?		Issue
				IX
				Version
				I
	Frequencies and method		Interactions regularly occur during the weekdays through Zoom, Google Classroom, and WhatsApp group	
5	Students and teachers	?	know the assignments, share courses materials, and receive other information regarding the lessons allow teachers to explain the students who have difficulties in understanding the materials	
	Students-students			
	Inter-			
	ter-			
	ac-			
	tions			
	interactions?		help students organize their thoughts and encourage them to be more organized in their studies and make students aware of their ability, thus, encourage them to share ideas so they can develop together	
		?	Time management in attending classes, doing assignments, browsing, and reading the materials	
	Challenges	?	Internet speed problem and too many WhatsApp groups	
		?	Distractions at home Organizing works and time management	
6	Challenges	?	Contacting students personally if necessary by SMS or by WhatsApp about the assignments and materials	
	Efforts made to overcome the challenges	?	The government provide a learning from home program that can be accessed through national TV Finding a quiet and comfortable place with a simple table and a chair to study	

[Note: 27()]

Figure 10:

433 What course did you take? 4
434 Tell me about your expectations for the course? 5
435 What was your experience with that first online course? 6 Do you feel that your ability to pay attention is
436 the same as with face-to-face classes? 7
437 Having taken so many online courses within a short period of time, how would you describe your learning
438 experiences? 8
439 Please tell me about your online content delivery -what methods of delivery are adopted for your courses? 9
440 Which of the methods do you find effective and why? 10 Please describe what you think the ideal online course
441 delivery process would be like? 11 Do you find it easy to access online course information? 12 Do you perceive
442 the online course information to be adequate? Why or why not? 13 How do you feel about the interaction with
443 instructors and other students in your program? Which interaction do you prefer? 14 When do these interactions
444 occur, and how often? What is the method of interaction? 15 How beneficial are the interactions? 16
445 [Murrayft114 and Pdf] , Murrayft114 , Pdf .
446 [Eubanks et al. ()] , J F Eubanks , H T Yeh , H Tseng . 2018.
447 [Tam and El-Azar ()] ‘3 ways the coronavirus pandemic could reshape educa-
448 tion’. G Tam , D El-Azar . [https://www.weforum.org/agenda/2020/03/](https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-isreshaping-education-and-what-changes-might-be-here-to-stay/)
449 [3-ways-coronavirus-isreshaping-education-and-what-changes-might-be-here-to-stay/](https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-isreshaping-education-and-what-changes-might-be-here-to-stay/)
450 *World Economic Forum*. Available at 2020.
451 [Kuo et al. ()] *A predictive study of student satisfaction in online education programs. The International Review*
452 *of Research in Open and Distance Learning*, Yu-Chun Kuo , A E Walker , B R Belland , K E Schroder .
453 <http://files.eric.ed.gov/fulltext/EJ1008076.pdf> 2013. 14 p. .
454 [Liaw and Huang ()] ‘A study of investigating learners attitudes toward e-learning’. Shu-Sheng & Liaw , Hsiu-
455 Mei Huang . *5th International Conference on Distance Learning and Education IPCSIT*, (Singapore) 2011.
456 2011. IACSIT Press. 12 p. .
457 [Irvin et al. ()] *Barriers to distance education in rural schools. The Quarterly Review of Distance Education*, M
458 Irvin , W Hannum , C De La Varre , T Farmer . <http://www.infoagepub.com/> 2010. 11 p. .
459 [Yin ()] *Case study research: Design and methods*, R K Yin . 2014. Thousand Oaks, CA: Sage publications.
460 [Gaytan ()] ‘Comparing faculty and student perceptions regarding factors that affect student retention in online
461 education’. J Gaytan . *American Journal of Distance Education* 2015. 29 (1) p. .
462 [Otter et al. ()] *Comparing student and faculty perceptions of online and traditional courses. The Internet and*
463 *Higher Education*, R R Otter , S Seipel , T Graeff , B Alexander , C Boraiko , J Gray , K Sadler .
464 10.1016/j.iheduc.2013.08.001. <https://doi.org/10.1016/j.iheduc.2013.08.001> 2013. 19 p. .
465 [Wang and East ()] ‘Constructing an emergency Chinese curriculum during the pandemic: A New Zealand
466 experience’. D Wang , M East . 10.46451/ijclt.2020.06.01. [https://doi.org/10.46451/ijclt.2020.](https://doi.org/10.46451/ijclt.2020.06.01)
467 [06.01](https://doi.org/10.46451/ijclt.2020.06.01) *International Journal of Chinese Language Teaching* 2020. 1 (1) p. .
468 [Creswell ()] J W Creswell . *Qualitative inquiry and research design: Choosing among five approaches*, (Thousand
469 Oaks, CA) 2013. SAGE. (3rd ed.)
470 [Worldometer (2021)] *Current world population*, Worldometer . [https://www.worldometers.info/](https://www.worldometers.info/coronavirus)
471 [coronavirus](https://www.worldometers.info/coronavirus) June 26, 2021. (Retrieved)
472 [Jin ()] ‘Digital affordances on We Chat: Learning Chinese as a second language’. L Jin . *Computer Assisted*
473 *Language Learning* 2018. 31 (1-2) p. .
474 [Hannum et al. ()] ‘Distance education use in rural schools’. W H Hannum , M J Irvin , J B Banks , T W Farmer
475 . <http://www.jrre.psu.edu/articles.html> *Journal of Research in Rural Education* 2009. 24 (3) p. .
476 [Sintema ()] ‘E-learning and smart revision portal for Zambian primary and secondary school learners: A
477 digitalized virtual classroom in the COVID-19 era and beyond’. E J Sintema . 10.29333/aquademia/8253.
478 <https://doi.org/10.29333/aquademia/8253> *Aquademia* 2020. 4 (2) .
479 [Itimu (2020)] *Education Ministry to Use YouTube and Kenya Education Cloud*
480 *as Remote Learning Tools*, K Itimu . [https://techweez.com/2020/03/18/](https://techweez.com/2020/03/18/kenya-remote-learning-youtube-kenya-education-cloud/)
481 [kenya-remote-learning-youtube-kenya-education-cloud/](https://techweez.com/2020/03/18/kenya-remote-learning-youtube-kenya-education-cloud/) 2020. March 18. (Techwez)
482 [Oecd ()] *Education responses to COVID-19: Embracing digital learning and online*
483 *collaboration*, Oecd . [https://www.oecd.org/coronavirus/policy-responses/](https://www.oecd.org/coronavirus/policy-responses/education-responses-to-covid-19embracing-digital-learning-and-online-collaboration-/)
484 [education-responses-to-covid-19embracing-digital-learning-and-online-collaboration-/](https://www.oecd.org/coronavirus/policy-responses/education-responses-to-covid-19embracing-digital-learning-and-online-collaboration-/)
485 2020.
486 [Wang et al. ()] *Enhancing beginner learners’ oral proficiency in a flipped Chinese foreign language classroom*, J
487 Wang , N An , C Wright . 2018. 31 p. . Computer Assisted Language Learning
488 [Hart ()] ‘Factors associated with student persistence in an online program of study: A review of the literature’.
489 C Hart . *Journal of interactive online learning* 2012. 11 (1) p. .

- [Jackson et al. ()] 'Faculty actions that result in student satisfaction in online courses'. L C Jackson , S J Jones , R C Rodriguez . *Journal of Asynchronous Learning Networks* 2010. 14 (4) p. .
- [Liguori and Winkler ()] *From offline to online: challenges and opportunities for entrepreneurship education following the COVID-19 pandemic*, E Liguori , C Winkler . 2020. Sage, Los Angeles.
- [Qi and Wang ()] 'Investigating the building of a WeChat-based community of practice for language teachers' professional development'. G Y Qi , Y Wang . *Innovation in Language Learning and Teaching* 2018. 12 (1) p. .
- [Namunwa (2019)] 'Kenya leads Africa in Smartphone usage'. K Namunwa . <https://businesstoday.co.ke/kenya-leads-africa-smartphone-usage/> *Business Today* 2019. March 11.
- [Bollinger and Martindale ()] 'Key factors for determining student satisfaction in online courses'. D U Bollinger , T Martindale . *International Journal on E-Learning* 2004. 3 (1) p. .
- [Learning Chinese through a twenty-first century writing workshop with the integration of mobile technology in a language immersion elementary school] 'Learning Chinese through a twenty-first century writing workshop with the integration of mobile technology in a language immersion elementary school'. *Computer Assisted Language Learning* 31 (4) p. .
- [Brown and Otieno (2020)] *Learning from home in Kibera, during COVID-19: As classrooms remain closed, children continue their education from their Kibera homes. UNICEF for Every Child*, A Brown , B Otieno . <https://www.unicef.org/kenya/stories/Learning-from-home-in-Kibera-during-COVID-19> 2020. May 7.
- [Boekaerts ()] *Motivation to learn. Educational Practices*, M Boekaerts . 2008. 10 p. .
- [Stake ()] *Multiple case study analysis*, R E Stake . 2013. New York NY: Guilford Press.
- [Sadiku et al. ()] 'Online teaching and learning'. M Sadiku , O Adebo , P , O Musa , S , M . *International Journals of Advanced Research in Computer Science and Software Engineering* 2018. 8 (2) p. .
- [Zhang et al. ()] 'Online tutorial support in open and distance learning: students' perceptions'. W Zhang , K Perris , L Yeung . 10.1111/j.1467-8535.2004.00492.x. 36: 789 804. <https://doi.org/10.1111/j.1467-8535.2004.00492.x> *British Journal of Educational Technology* 2005.
- [Patton ()] *Qualitative evaluation and research methods. 2 nd Ed*, M Q Patton . 1990. Thousand Oaks, CA, US: Sage Publications.
- [Merriam ()] *Qualitative Research and Case Study Applications in Education. Revised and Expanded from "Case Study Research in Education"*, S B Merriam . 1998. San Francisco, CA: Jossey-Bass Publishers.
- [Cohen and Crabtree ()] *Qualitative research guidelines project*, D Cohen , B Crabtree . <http://www.qualres.org/HomeSemi-3629.html> 2006.
- [Ritchie et al. (ed.) ()] *Qualitative research practice: A guide for social science students and researchers*, J Ritchie , J Lewis , C M Nicholls . & Ormston, R. (ed.) 2013. Thousand Oaks, CA: Sage.
- [Leavy ()] *Research design: Quantitative, qualitative, mixed methods, arts-based, and community based participatory research approaches*, P Leavy . 2017. New York: The Guilford Press.
- [Lin et al. ()] 'Research in crises: Data collection suggestions and practices'. X Lin , Z Xu , A Rainer , R Rice , P Spence , R Lachlan , K . *Data Collection: Methods, Ethical Issues and Future Directions*, 2017. Nova Science Publishers, Inc. p. .
- [Light ()] 'Rethinking the digital divide'. J Light . *Harvard Educational Review* 2001. 71 (4) p. .
- [Matuga ()] 'Self regulation, goal orientation, and academic achievement of secondary students in online university courses'. J M Matuga . [http://www.ifets.info.ezproxy.liberty.edu:2048/ Educational technology & society](http://www.ifets.info.ezproxy.liberty.edu:2048/Educational%20technology%20&%20society) 2009. 12 (3) p. .
- [Loyen et al. ()] 'Selfdirected learning in problem-based learning and its relation to self-regulated learning'. S Loyen , J Magda , R M Rikers . *Educational Psychology Review* 2008. 20 (4) p. .
- [Murray et al. ()] *Student interaction with content in online and hybrid courses: Leading horses to the proverbial water. Informing science: The International Journal of an Emerging Transdiscipline*, M C Murray , J Perez , D Geist , A Hedrick . <http://www.inform.nu/Articles/Vol16/ISJv16p099-115> 2013. 16 p. .
- [Lowenthal et al. ()] 'Student perceptions of online learning: An analysis of online course evaluations'. P Lowenthal , C Bauer , K Z Chen . *American Journal of Distance Education* 2015. 29 (2) p. .
- [Northrup et al. ()] 'Students' Learning Experiences and Perceptions of Online Course Content and Interactions'. P Northrup , R Lee , V Burgess . <https://scholarworks.waldenu.edu/dissertations> *Paper presented at ED-MEDIA 2002 World Conference on Educational Multimedia, Hypermedia & Telecommunications*, ERIC Document Reproduction Service No. ED (Denver, CO) 2002. 2015. 477 p. 75. Walden University (Learner perceptions of online interaction. Doctoral Dissertation, College of Education)
- [Dobbs et al. ()] 'Students' perceptions of online courses: The effect of online course experience'. R R Dobbs , C A Waid , A Del Carmen . *Quarterly Review of Distance Education* 2009. 10 (1) p. .

-
- 546 [Chidambaram ()] 'Success of online teaching and learning in higher education Covid-19 Pandemic: A case study
547 Valley View University'. S M D N Chidambaram . *Ghana. International Journal of Applied Engineering*
548 *Research* 2020. 15 (7) p. .
- 549 [Tallent-Runnels et al. ()] 'Teaching courses online: A review of the research'. M K Tallent-Runnels , J A Thomas
550 , W Y Lan , S Cooper , T C Ahern , S M Shaw , X Liu . *Review of Educational Research* 2006. 76 (1) p. .
- 551 [Hodges et al. ()] 'The difference between emergency remote teaching and online learning'. C Hodges ,
552 S Moore , B Lockee , T Trust , A Bond . [https://er.educause.edu/articles/2020/3/](https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning)
553 [the-difference-between-emergency-remote-teaching-and-online-learning](https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning) *EDUCAUSE Rev*
554 2020.
- 555 [Goode ()] 'The digital identity divide: How technology knowledge impacts college students'. J Goode . *New*
556 *Media and Society* 2010. 12 (3) p. .
- 557 [Gao and Lehman ()] 'The Effects of Different Levels of Interaction on the Achievement and Motivational
558 Perceptions of College Students in a Web-based Learning Environment'. T Gao , J D Lehman . *Journal*
559 *of Interactive Learning Research* 2003. 14 (4) p. .
- 560 [Hong et al. ()] 'The effects of intrinsic cognitive load and gameplay interest on flow experience reflecting
561 performance progress in a Chinese remote association game'. J C Hong , M Y Hwang , K H Tai , P H
562 Lin . *Computer Assisted Language Learning* 2019. p. .
- 563 [Lokken and Mullins ()] *Trends in elearning: Tracking the impact of e-learning at community colleges*, F Lokken
564 , C Mullins . 2014. Washington, DC: Instructional Technology Council.
- 565 [Neely and Tucker ()] 'Unbundling faculty roles in online distance education programs'. P W Neely , J P Tucker
566 . *International Review of Research in Open and Distance Learning* 2010. 11 (2) p. .
- 567 [Luck and Rossi ()] *University policy vs students' expectations: Investigating students' perceptions of online*
568 *learning (EJ1084335)*, J Luck , D Rossi . [https://eric.ed.gov/?q=luck&ffl=autLuck%2c+Jo&id=](https://eric.ed.gov/?q=luck&ffl=autLuck%2c+Jo&id=EJ1084335)
569 [EJ1084335](https://eric.ed.gov/?q=luck&ffl=autLuck%2c+Jo&id=EJ1084335) 2015.
- 570 [Fetzner ()] 'What do unsuccessful online students want us to know'. M Fetzner . *Journal of asynchronous learning*
571 *networks* 2013. 17 (1) p. .
- 572 [Committee ()] *Wuhan Municipal Health and Health Commission's briefing on the current pneumonia epidemic*
573 *situation in our city*, W Committee , C , H . [https://crofsblogs.typepad.com/h5n1/2019/12/](https://crofsblogs.typepad.com/h5n1/2019/12/wuhan-municipal-health-commission-announces-pneumonia-epidemic.html)
574 [wuhan-municipal-health-commission-announces-pneumonia-epidemic.html](https://crofsblogs.typepad.com/h5n1/2019/12/wuhan-municipal-health-commission-announces-pneumonia-epidemic.html) 2019. 2019.