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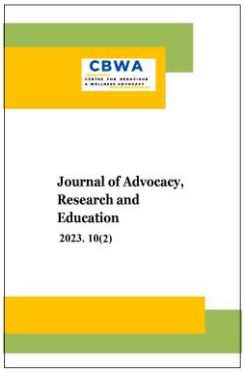

Secondary School Learners' Online Learning Experiences During COVID-19 Lockdown

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Abstract

This study investigated secondary school learners' experiences and perceptions of online learning during COVID-19. A convenient sample of 69 learners participated in the study. The data was collected with the aid of a questionnaire. Thematic analysis was applied to open-ended responses. Descriptive statistics and frequencies were calculated on both closed- and open responses with the aid of SPSS software. The paper exploits the Community of Inquiry framework on classifying learners' online learning experiences. It was discovered that learners had both positive and negative experiences in the social, cognitive, and teaching dimensions of online learning. They experienced greater online learning challenges in the social dimension than in other dimensions. The teaching dimension contributed most to learners' enjoyment of online learning, while the least enjoyment was contributed by social presence. They approached online learning with varied perceptions that could be classified into negative, positive, and very positive perceptions. Moreover, their perceptions of online learning could be classified as positive.

Keywords: COVID-19, online experiences, perception, online learning, secondary school learners.

1. Introduction

COVID-19 is an acute respiratory illness in human beings that is caused by the coronavirus (World Health Organization, WHO, 2020). The disease has the potential to produce severe and devastating symptoms, and in some people, it may cause death (WHO, 2020). The outbreak of COVID-19 in China in December 2019 (WHO, 2020) and its fast worldwide spread in early 2020 endangered the livelihood of all nations. South Africa is one of the countries strongly hit by the coronavirus pandemic and declared a state of emergency in March 2020 (Chirinda et al., 2021). It introduced the nationwide lockdown in late March 2020 as one way to mitigate the coronavirus's spread and flatten its exponential growth curve.

The closure of schools and universities resulted in a sudden and probably unplanned pedagogical paradigm shift in the education system. Teachers must shift from traditional face-to-face to online teaching methodologies (Ganesh Kumarau et al., 2021). Online learning is internet-based learning that is synchronous (e.gs., Zoom, Microsoft Teams) and/or asynchronous (e.g., E-mail, Forums, WhatsApp) (Sridevi, 2021). Online teaching and learning emerged with its pros and cons. Most schools were caught unprepared for the new 'norm'. To rescue the school

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academic year, they had to abruptly implement online teaching and learning methods without proper training of teachers, learners and parents' education on the necessity of online learning (Panaoura, 2020). Most schools had inadequate technological software and hardware. Most teachers and learners were learners of online teaching and learning systems (Saboowala, Mishra, 2021). They must learn new digital teaching and learning ways, seek solutions to emerging challenges, and acquire knowledge from the worldwide community (Chirinda et al., 2021).

Several lessons might be learnt from both teachers' and learners' experiences of teaching and learning in the COVID-19 lockdown era. The rich experiences might inform and possibly resolve some pedagogical and learning issues in the education system (Darragh, Franke, 2021; Means, Neisler, 2021). Reflections and evaluation of the COVID-19 teaching and learning practices could be valuable in designing, developing, and implementing both the teacher and learner development courses. Moreover, based on the findings of this study, institutions might improve the quality of and tailor online learning to meet the needs and expectations of learners in respective socio-economic conditions (Cranfield et al., 2021; Harefa et al., 2022). Bast (2021) views a learner's perceptions of online learning as the primary determinant of motivation and persistence in and dropout from learning. In contrast, Armstrong (2011) views them as determinants of a learner's approach to online learning. Hence, this study investigated secondary school learners' online learning experiences during COVID-19 in South African schools.

The study aims to answer the research questions:

- What are the secondary school learners' online learning experiences during the time of the COVID-19 lockdown in South Africa?

- How do secondary school learners perceive online learning during the COVID-19 lockdown?

2. Literature Review

Countries reacted differently to the closure of schools during the COVID-19 pandemic. It was observed that some countries adjusted their curriculum to cater for the lost days. Some countries trained the teachers and offered some necessary assistance and support to keep abreast of the new change. However, in some countries, schools and teachers reacted indifferently to the closure of schools. They neither adopted remote learning strategies nor trained the teachers and learners to equip them for the new change despite the complete or partial closure of schools for almost a year (Munoz Najar et al., 2021). Batmang et al. (2021) and Kamsurya (2020) cite uncertainty of educators' image as online instructors, high workload, inadequate or lack of technical support, and lack of training to effectively use technology in teaching, and incompetence as some possible causes of resistance to adoption of online teaching and learning by some teachers. Some schools that abruptly resorted to online discovered themselves in an online learning paradox (Cranfield et al., 2021; Almahasees et al., 2021). That is, they chose an online learning approach without proper preparation. For example, they offered online learning lessons, although most learners did not have devices and data to access the internet (Ikram, Rosidah, 2020; Marban et al., 2021; Ogbonnaya et al., 2020). This resulted in an uneven take-up of instruction, thus amplifying inequalities among the 'haves' and 'have not' (Munoz Najar et al., 2021).

Some teachers and learners adopted various teaching and learning online platforms such as WhatsApp, Zoom, WebEx, and YouTube. Though Delima and Chyawatti (2021) assumed that the current generation would easily adapt to online learning because of its conversance with technology, Naidoo (2020) observed that semi-urban learners faced difficulties in using digital platforms during the COVID-19 lockdown. This could be due to inadequate learner preparation for online learning. In South African rural township schools, the WhatsApp platform was discovered to be an invaluable tool in the teaching and learning of high school courses (Chirinda et al., 2021). Similar findings were reported by Agung et al. (2020). The learners in their study considered WhatsApp as a friendly internet data application. They preferred WhatsApp to other e-learning platforms because it uses less data, works well in a poor internet signal, and is familiar with its use. A resort to the WhatsApp platform could be due to financial constraints. Thus, there was limited access to advanced technological online platforms.

Learners approached online learning with mixed feelings and perceptions (Delima, Cahyawatti, 2021; Means, Neisler, 2021). For instance, some learners perceived online lessons as more flexible, convenient, and compatible with other everyday life activities, for example, work

(Khan et al., 2021; Muthuprasad, Girish, 2021). According to Khan et al. (2021), learners had positive perceptions of e-learning because of the perceived benefits of freedom to connect with their teachers and classmates and engage with study materials in the comfort and flexibility of space and time. Some of them viewed online lessons as less effective for learning as compared to face-to-face lessons (Harefa et al., 2022). Negative perceptions of online learning could compromise their level of engagement and learning outcomes (Bast, 2021). Most of the learners' negative experiences of online learning were, notably, caused by delayed teacher feedback, unavailability of technical support from teachers, lack of self-regulation and self-motivation, the feeling of isolated, monotonous teaching approaches, and poorly designed teaching and learning material (Putra et al., 2021). Because of the lack of direct contact with peers and the teacher and lack of immediate feedback from the teacher, most of the learners were observed to feel lost, frustrated, and isolated.

Teachers were not trained to design learning activities appropriate for online learning. As such, some of the learning materials they used could not promote independent learning among learners. Learners found it challenging to understand it, possibly because of lack of clarity, not systematic, and the language used was not easy to understand (Asrowiah et al., 2021; Elango et al., 2008). Elango et al. (2008) observed learners' dissatisfaction with the graphics and animations included in the course materials and the effectiveness of content delivery methods (Means, Neisler, 2021). Teacher incompetence resulted in the underutilisation of online learning platforms and failure to utilise them to promote active learner participation optimally.

3. Conceptual Framework

For effective online learning, the instruction should take cognisance of the importance of teacher-learner, learner-content, and learner-learner interactions (Bektashi, 2018; Bernard et al., 2009; Garrison et al., 2000; Garrison, 2009; Jaggars, Xu, 2016). Jaggars and Xu (2016) contend that the level of learner-teacher and learner-learner interaction in an online lesson might predict learning outcomes. On this note, Bernard et al. (2009) discovered that teaching and learning instructions with a higher level of teacher-learner, learner-content, and learner-learner interactions produced better learning outcomes.

Garrison et al. (2000) developed a Community of Inquiry (COI) model for an effective online learning experience. The COI framework highlights social, teaching, and cognitive presence as essential elements to facilitate effective online teaching and learning experiences. Social presence is the ability of the participants to develop interpersonal relationships and to communicate in an environment of mutual trust (Garrison et al., 2000). Cognitive presence involves the construction and confirmation of knowledge through dialogue and reflection on learning experiences. The teaching presence is the teaching and learning content and climate the teacher develops to realise optimal learning outcomes (Flock, 2020). The skilful use of the three presences in the design of productive online learning environments facilitates meaningful knowledge construction (Bektashi, 2018; Fiock, 2020). Fiock (2020) arguably considers the COI framework as a concrete asset for designing online environments that could resolve the currently experienced online learning issues.

Thus, this study utilises the COI conceptual framework of Garrison et al. (2000) to categorise and analyse the learners' online experiences. It categorises the learners' online experiences into three dimensions: social, cognitive, and teaching. Moreso, it hypothesises that if these dimensions were utilised optimally, learners' perceptions of online learning would be 'very positive'. Some challenges faced in online learning could mirror poor and ineffective marshalling of the three dimensions into the e-learning environments.

4. Methods

Research design

This study used a descriptive research design to determine secondary school learners' online learning experiences and perceptions during the COVID-19 lockdown.

Population

The study was conducted in a city secondary school in the Western Cape province of South Africa.

Sampling and sample size

A purposive selection of the school that offered online learning lessons to grades 10 to 12 during the lockdown was done. A convenient sample of 69 learners who consented to participate in the study was selected. They were composed of 22 grade 10, 29 grade 11, and 18 grade 12 learners. During the COVID-19 lockdown, they attended online Mathematics, Mathematical literacy, business studies, Life sciences, physical sciences, Accounting, and English lessons.

Research instruments

Data was collected using a questionnaire. The questionnaire was divided into three sections. The first section collected demographic data of the learners, for example, grade, gender, and subjects learnt online. The second section was composed of 24 Likert scale items that elicited the learners' perceptions of online learning. Learners had to rate each statement from strongly disagree to strongly agree. The last section was an open-ended questionnaire that was made up of 10 questions. It required learners to justify or explain why they preferred some forms of online learning, the challenges they experienced learning online, and suggestions on how to improve online learning. As such, the first and second sections of the questionnaire elicited the learners' experiences of online learning.

The Likert scale items had a Cronbach's reliability coefficient $\alpha = 0.94$, which was highly acceptable. The learners' responses to the two open-ended questionnaires were cross-validated to highlight any converging and diverging views on online learning. As such, a learner's consistency in response to the questions was used as a measure of the reliability of the open-ended questionnaires.

Data presentation and analysis

The data was presented in tables, extracts of learners' responses, and descriptions of the findings. The Likert scale items were analysed using SPSS, and the variables favouring online learning, for example, 'I enjoy online learning', were coded from 1 = strongly disagree to 4 = strongly agree. The variables that did not favour online learning, for example, 'I hate learning online', were coded from 1 = strongly agree to 4 = strongly disagree. Each learner's and all learners' average online learning perception scores were calculated. Their perceptions were determined using the criteria in Table 1. The frequency of learners in each classification of perceptions was computed and analysed. Their average scores on each item were used to identify the examples of variables that reflected the learners' perceptions.

Table 1. Criteria for classifying learners' perceptions

Classification	Average perception score ($\bar{x}$)
Very negative	$0 < \bar{x} \leq 1$
Negative	$1 < \bar{x} \leq 2$
Positive	$2 < \bar{x} \leq 3$
Very positive	$3 < \bar{x} \leq 4$

The data from open-ended questions were analysed using thematic analysis. The paper analysed each learner's response to every question, noting the keywords on every relevant statement. The keywords served as the codes used to develop the main themes. The themes were used as a category for all learner responses that had the same meaning. The categories of learners' experiences in online learning were further classified and analysed using Garrison et al.'s (2000) Community of Inquiry framework. Learners' experiences were classified into cognitive, teaching, and social dimensions. Proportions of learners whose experiences fall into each dimension were calculated and analysed. This assisted in data reduction.

5. Results

Firstly, their perceptions of online learning were presented. These responses were mainly tapped by the closed-form questionnaires. Descriptive statistics and frequencies were presented in tables. Then, learners' online learning experiences were categorised into cognitive, social, and teaching dimensions. They were tapped by the open-ended questionnaire and inferred from the responses to the closed-form questionnaires. Extracts of their responses to the open-ended questions were presented as empirical evidence of the findings.

Learners' perceptions of online learning

An analysis of the average perceptions score shows that the learners had 'very positive perceptions of the variables: 'I am willing to actively communicate with my class classmates online ($\bar{x} = 3.06, \sigma = 0.62$)'; 'I am willing to actively communicate with my teachers online ($\bar{x} = 3.03, \sigma = 0.62$)', 'I could easily complete my online assignments on time ($\bar{x} = 3.15, \sigma = 0.73$)', 'I have enough computer skills for doing online learning ($\bar{x} = 3.13, \sigma = 0.69$)'; and 'I feel that face-to-face contact with my teachers is necessary to learn ($\bar{x} = 3.25, \sigma = 0.81$)'. Most of them (85.5 %, 87.4 %, 82.6 % and 86,9 %, respectively) strongly agreed and agreed with the variables. They had positive perceptions of the variables: 'I could easily access the internet as needed for my studies ($\bar{x} = 2.99, \sigma = 0.86$)', 'I could manage my online learning time effectively ($\bar{x} = 2.82, \sigma = 0.73$)', 'I feel comfortable communicating online ($\bar{x} = 2.81, \sigma = 0.74$)', 'I receive a quick response during online learning activities ($\bar{x} = 2.84, \sigma = 0.68$)', and 'I can work with other students during online learning activities ($\bar{x} = 2.83, \sigma = 0.69$)'. The learners who strongly agreed and agreed with these variables were 73.9 %, 71.0 %, 68.1 %, 66.6 %, and 72.4 % of them, respectively. Negative perceptions were on the variables, 'I believe that learning online is more motivating than face-to-face learning ($\bar{x} = 2.00, \sigma = 0.90$)', and 'Online learning is as good as face-to-face class learning ($\bar{x} = 2.10, \sigma = 0.93$)'. A few of them (21.7 % and 30.4 %, respectively) strongly agreed and agreed with these variables (see Table 2).

Table 2. Learners' perception of their online learning experience (n = 69)

Items	**Frequency**						
	SA	**A**	**D**	**SD**	**N**	**Mean**	**Std. Dev.**
I could easily access the internet as needed for my courses	20	31	13	4	1	2.99	0.86
I am comfortable communicating online	8	38	18	4	1	2.74	0.75
I am willing to actively communicate with my classmates online	14	45	8	1	1	3.06	0.62
I am willing to actively communicate with my teachers online	12	49	6	2	0	3.03	0.62
I find it easy to set aside time for learning online	13	28	22	5	1	2.72	0.86
I could manage my online learning time effectively	10	39	16	3	1	2.82	0.73
I hate learning online	17	11	37	3	1	2.38	0.91
I could easily complete my online assignments on time	21	36	7	2	3	3.15	0.73
I enjoy online learning	11	24	25	7	2	2.58	0.89
I enjoy working with other students in online groups	9	35	18	4	3	2.74	0.77
I have enough computer skills for doing online learning	19	41	6	2	1	3.13	0.69
I feel comfortable communicating online	10	37	17	3	2	2.81	0.74
I feel comfortable to ask my teachers questions during online learning activities	12	35	18	3	1	2.82	0.77
I receive a quick response during online learning activities	11	35	22	0	1	2.84	0.68
I feel that face-to-face contact with my teachers is necessary to learn	0	16	20	33	0	3.25	0.81
I can discuss with other students during online learning activities	6	44	13	5	1	2.75	0.72
I can work with other students	9	41	17	2	0	2.83	0.69

Items	Frequency						
	SA	A	D	SD	N	Mean	Std. Dev.
during online learning activities							
Online learning is as good as face-to-face class learning	6	15	27	20	1	2.10	0.93
I believe that learning online is more motivating than face-to-face learning	6	9	32	21	1	2.00	0.90
I believe a complete course can be taught online without any difficulty	8	27	24	7	3	2.55	0.84
I can pass a course online without any face-to-face class lecture	9	28	18	11	3	2.53	0.93
I found it difficult to adjust to the online learning context	18	22	24	2	3	2.15	0.86
Online learning encouraged the exchange of ideas	7	36	15	5	6	2.71	0.77
Online learning enhanced my learning	4	28	23	10	4	2.40	0.83
I enjoy learning online	8	28	18	11	4	2.51	0.92
SA= Strongly agree; A= Agree; D= Disagree; SD= Strongly disagree; N= non-response							

They could be grouped into three categories based on their perceptions of online learning. The proportions of them with negative, positive, and very positive perceptions of online learning were 13.0 %, 66.7 %, and 20.3 %, respectively. Thus, 87 % of them had positive and very positive perceptions of online learning. Their average perception score was 2.63, with a standard deviation of 0.54. Consequently, they could all be classified as having positive perceptions of online learning.

The cognitive dimension of learners' online learning experiences

A few learners (18.8 %) rated their digital literacy as poor and limited. Most (82.2 %) declared adequate, good, very good, and excellent digital literacy. Many of them (76.8 %) used a laptop computer for online learning. The smartphone only or a smartphone and laptop/desktop computer were used for online learning by 15.9 % of the learners. Only 7.2 % of them stated using only a desktop computer for online learning. They enjoyed online learning because of receiving less cognitively demanding tasks (26.7 %) and 'accessing many different online resources (11.1 %) (see Table 3). The cognitive presence contributed to 37.8 % of learners' enjoyment of online learning. Some examples of learners' responses are:

"My teacher explained things well and tackled any confusion that had arisen in online learning."

"I focus better, and I'm able to understand the work much better than I would do in a class. I have more access to more resources as well."

"Active examples were carried out. One can view an experiment and its results without carrying out the physical experiment."

Table 3. Explain why you enjoyed learning the subject or subjects online

Variables	Frequency	Percent
Less demanding tasks are given	12	17.4
Well explained concepts	9	13.0
Engaging activities	12	17.4
Access to many different online resources	5	7.2
Quick feedback	4	5.8
Not enjoyable	3	4.3
No response	24	34.8
Total	69	100.0

They faced challenges in understanding concepts (33.3 %). This is evident in the following examples of learners' responses: *"Some concepts were difficult to understand especially in*

Mathematics, Physical sciences, and life sciences ….." and "Explanation of physics and mathematics work…It required a great deal of thinking and understanding". Their positive experiences of online learning with the highest frequency were 'engaging lessons and tasks' (11.1%)', and 'understanding concepts better 15.6 %)'. Below are some extracts of their responses:

"It is easier to work at my own pace, and I understand the work better when doing extra research."

"I was able to go back to videos or topics discussed in groups and enhance my understanding."

The teaching dimension of learners' online learning experiences

Most of them (92.3 %) spent at most 6 hours per day on online lessons. WhatsApp, Zoom and YouTube were the common online platforms used for online learning. Many of them (81.3 %) found WhatsApp as the most valuable online learning platform. A few learners (15.6 %) declared using Zoom only or Zoom and WhatsApp to be the most valuable for online learning. Most of them (70.8 %) preferred a combination of video, audio and typing presentations to one form of online learning. Their reasons for enjoying learning certain subjects were 'well-explained concepts' (20 %)', and 'engaging activities (26.7 %)'. In total, the 'teaching presences' contributed to 46.7 % of the learners' enjoyment of online learning. Below are some of their responses:

"I have such a motivated teacher, and even through these crazy times, he continued with his dedication and constantly reminded us that we will get through this…"

"The teacher made it fun and enjoyable."

"It's more adventurous."

Some challenges they faced in learning online were 'unsuitable learning environment (8.9 %)' and 'too much workload (8.9 %)'. Only 6.7 % of them did not enjoy learning any subject online (see Table 3) due to, for example, delayed feedback, noisy learning environment, and poor-quality pictures or audio.

The social dimension of learners' online learning experiences

They enjoyed online learning because of receiving quick feedback (8.9 %). The presence of teacher-learner interactions in lessons is evident in the following responses:

"I could easily ask questions because my teachers were always responsive."

"It was easy to understand and manageable, activities were explained to us, and clear instructions were given."

Most of their challenges in online learning were social. Fewer opportunities were created for learner-learner interactions in the form of group work or working on a project. They could hardly share ideas or assist each other in problem-solving. This is evident in the following response: *"I don't always understand and can't see how and what to do to seek help from other learners".* Some of them (37.9 %) could not join the online lessons on time because of lack of data (38.5 %), competing personal or household programs (34.6 %), poor or loss of connectivity (23.1 %), and other reasons, e.g., health issues (3.8 %).

Most of them (91.9 %) encountered disturbances or challenges from their respective homes during online lessons. The disturbances or challenges encountered could be classified as 'noisy environment (51.4 %)', 'loss of connectivity (8.1 %)', and 'competing personal and household programs' (32.4 %)'. Some additional challenges they faced in learning online were 'unsuitable learning environment (8.9 %)', 'delayed feedback or assistance not readily available (15.6 %)', and 'too much workload (8.9 %)'. Some of their responses were:

"Chores or somebody needing help. Television is a major disturbance as well. I also frequently check my cell phone."

"I didn't always have data and had to, sometimes, skip my classes until I was able to get some sort of internet connection."

Amid the online learning challenges learners faced, they had some positive experiences. The social presence contributed to 20 % of the learners' online learning positive experiences. Their positive online learning experiences could be classified as 'quick on-spot feedback (2.2 %)' and 'free self-expression without stage fright (17.8 %)'. The learners posted some suggestions to curb some

of the online learning challenges and improve the quality and effectiveness of online learning. Their suggestions could be categorised as 'provide learners with devices and data (28.9 %)', 'use more interactive online platforms, e.g., Zoom (23.7 %)', 'blend visuals and text lessons (5.3 %)', 'suitable online learning pace; give more explanations (18.4 %)', 'reduce learner workload; give important notes (21.1 %)', and 'improve home online learning environment (2.6 %)'.

6. Discussion

WhatsApp was discovered to be the most valuable online learning platform in the secondary school in this study. This finding agrees with Chirinda et al. (2021) and Agung et al. (2020), who discovered the WhatsApp platform as a valuable tool that could support the teaching and learning of courses outside the classroom in economically challenged communities. A relatively large number of learners could not log in or join lessons on time. Most of them failed to do so due to not having data and some competing personal and household programs. The school might have overlooked this factor of data or internet connectivity as one of the determinants of success in online learning. The lack of data might have affected their consistency in online learning. This finding resonates with those several studies discovered that in some low- and middle-income countries, although the governments provided schools with online learning solutions, most of the learners could not access them due to a lack of devices and connectivity constraints (Almahasees et al., 2021; Ikram and Rosidah, 2020; Munoz Najar et al., 2021; Munoz Najar et al., 2021). Some learners could not access the learning content because of the use of mobile phones, which were not compatible with e-learning platforms (Agung et al., 2020). Almahasees et al. (2021) discovered that some learners could not afford to always buy the data. Similarly, Ikram and Rosidah (2020) posit that they could not participate fully in online learning mainly because of limited internet connectivity. Moreover, Batmang et al. (2021) discovered that the learners' success and enjoyment in online learning were, to some extent, connected to data packages.

Failure to log in on time or disturbances in online learning due to some competing personal and household programs could be a result of a lack of proper online orientation and training for both learners and parents. Parents should be taken on board in online learning to play their expected roles to make it a success. Parental involvement in online learning, e.g., creating a conducive learning environment and monitoring learner online engagement, is vital. Panoura's (2020) findings applaud parents' training on online learning issues to get them well informed about it. An unsuitable online learning environment was the most common disturbance encountered by learners at home. Most of them complained of the noise from their homes or neighbours. Some lacked proper facilities to conduct online learning. This disturbance is more likely in low- and medium-income homes or communities. This finding aligns with the results of studies like Munoz Najar et al. (2021), Bast (2021), and Cranfield et al. (2021) findings that the take-up of online is dependent upon the educational and economic level of the parents or families or communities. The poorer families, communities, or countries were observed lagging far behind the richer ones in the scale and scope of their online learning.

Not understanding concepts taught online was one of the major challenges they encountered. This could have been coupled with limited bidirectional teacher-learner interaction in lessons. Learners could not ask questions and receive immediate feedback in some online learning platforms like WhatsApp. Some online learning materials are not suitable for self-access. A similar challenge was discovered by Asrowiah et al. (2021) and Elango et al. (2008). Learners in their study encountered difficulties in understanding the online learning materials.

The major factors contributing to their enjoyment of online learning were receiving less cognitively demanding tasks, well-explained concepts, and engaging activities. Though they enjoyed receiving less cognitively challenging tasks, the expectation is a delivery of a balanced curriculum at cognitive levels. This could jeopardise their engagement and success in online learning if not well managed. The online tasks should be of appropriate cognitive levels as stipulated in the curriculum guidelines and able to engage all learners of different learning styles. On this issue, Kamsurya (2020) discovered that teachers faced challenges in designing the appropriate teaching and learning materials for online learning.

A high proportion of them enjoying satisfactory explanations of concepts and a low proportion of them enjoying quick feedback in learning might, somehow, reflect the dominant kind of interaction that transpired in the lessons. The unidirectional way of communication (teacher to learner) seems to

dominate other forms of interaction. In conjunction with delivering well-explained content, the teacher should assess and verify both the intended and the constructed knowledge in learners. This facilitates on-spot correction of misconceptions and timely feedback. Thus, the active interaction of all participants in a lesson cannot be overlooked (Ganesh Kumarau et al., 2021). Kamsurya (2020) discovered that teachers and learners used online platforms that could not interactively facilitate learning activities. Moreover, Almahasees et al. (2021) point to learners' lack of the influence of peer learning, probably because of a lack of direct contact and interaction among them. Sadly, they viewed online learning as a barrier to their engagement in real class activities.

Although a small proportion of them had poor or limited digital literacy, a small proportion enjoyed accessing many different online resources. This can be attributed to data and connectivity constraints. Exploration of different online resources might largely depend on the availability of data, knowledge of the available online teaching and learning resources, and level of digital literacy. Marban et al. (2021) discovered that learners' limited digital literacy adversely affects their effective online take-up. Most of them battled with online learning platforms. It was sad to note that they could not take advantage of the technological networking platforms for learning.

A higher proportion of them expressed some positive experience of online learning in the teaching dimension. They had memorable, engaging lessons and tasks, access to recorded lessons or videos anytime, fast work coverage, and could do their school anytime-anywhere. Muthuprasad and Girish (2021) discovered that learners in their study preferred recorded classes and questions at the end as a form of assessment. From the social dimension of online learning, a smaller proportion of them could express themselves freely without stage fright, unlike in face-to-face learning. The teaching presence contributed most to learners' enjoyment of online learning. This was followed by cognitive presence. More social presences need to be added to online learning to stimulate learner interest and enjoyment in learning.

Despite having positive perceptions of the social dimension, most of their challenges and dissatisfaction were on inadequate social presence in online learning, especially in class discussions and lack of or delayed feedback. This agrees with the findings of Almahasees et al. (2021). They observed that opportunities for learner-learner interactions were rarely availed to them. They had positive perceptions of the cognitive dimension of online learning. For example, positive perceptions were discovered concerning accessing the internet, exchanging ideas online, enhancing learning, and completing a course online. There was a need to promote more learner-content interactions for effective knowledge construction.

They had mixed perceptions of the teaching dimension of online learning. Positive perceptions were centred on the effectiveness of online learning in bringing joy, easy communication, quick feedback, corroboration, and satisfaction in learning. On the other hand, they doubted its effectiveness compared to face-to-face learning. Similarly, Ikram and Rosidah (2020) observed that learners in their study became less motivated, less active, and less productive when their courses turned to online instruction, probably because they preferred face-to-face to online learning. This finding contradicts Ogbonnaya et al. (2020), who found that Ghanaian learners' motivation to learn increased when their courses were turned to online learning. Overall, they were discovered to have positive perceptions of online learning. These perceptions could be partially regarded as products of their past online learning experiences and social peer interactions. Arguably, they are constantly evolving due to exposure to new experiences. For rich online learning experiences, an effective blend of the cognitive, social, and teaching presences in the online learning environment should be aimed for (Fiock, 2020; Garrison, 2009). This could optimise the learning outcomes and modify learners' perception of e-learning.

7. Conclusion

The experiences of learners in online learning could be classified into social, cognitive, and teaching dimensions. They had both positive and negative experiences in each dimension. Under the cognitive dimension, they had challenges with data, connectivity, and understanding concepts. They enjoyed working on engaging activities and exploration of various online learning resources. In the social dimension, they enjoyed the freedom of speech (free self-expression). They could freely express themselves in online lessons. Most of their dissatisfaction was with the inadequate social presence in the online lessons. They queried the available opportunities for learner-learner interactions, as the teacher-learner interaction dominated the lessons and delayed or lacked immediate feedback.

In the teaching dimension, they enjoyed good explanations from the teachers, though they perceived it to be inadequate and inconsistently provided in lessons. Some negatives were difficulties in understanding the learning materials and high learner workload with sometimes no explanations. The WhatsApp platform dominated other platforms of e-learning. This platform was in favour of learner-content interaction at the expense of other forms of interaction. Learners received more work sets than explanations. The problem was worsened by a lack of immediate teacher feedback on the challenges encountered in learning and unconducive home learning environments.

Their perceptions of online learning could be classified into negative, positive, and very positive perceptions. They had both negative and positive perceptions of the teaching dimension of online learning. Some positives were well-explained concepts and enhanced understanding of concepts. Teachers could explain some concepts clearly with the aid of technology. An example of teaching presence found inadequate was the ability to bring motivation and satisfaction to learning. Some learners preferred face-to-face to online learning. They had positive perceptions of the cognitive dimension of online learning. Their positive perceptions were on issues relating to accessing the internet, exchanging ideas online, understanding concepts, and completing the course through online learning. Very positive perceptions were on the social dimension of online learning. Seemingly, they approached online learning with high expectations of engaging in different learning interactions. It was disappointing to note that their interactions were probably limited due to circumstances or factors beyond their control, such as data and connectivity or the online learning platform.

Overall, the perceptions of learners on online learning were positive. Based on this finding, it can be concluded that they approached online learning as directed by their positive perceptions. The positive perceptions could enhance or be a barrier to effective learning if the teaching, cognitive and social presences are not skilfully mixed in the online learning lessons.

8. Limitations

This paper presents an analytical description of learners' online perceptions under the Community of Inquiry framework. It utilises the strengths of both quantitative and qualitative research techniques in quantifying and describing their online teaching and learning perceptions. However, the data analysis did not consider the possible interactions among the independent variables, the teaching, cognitive, and social presences. A more integrated analytical data analysis approach, such as structural equation modelling or multiple regression analysis, could have explored the relationships between the constructs. This paper studied one city school. As such, the results obtained might only apply to this school.

9. Implications for research and intervention

In light of these findings, this paper recommends (a) the adoption of more interactive online learning platforms; (b) teacher development workshops on effective implementation of the Community Of Inquiry framework in the design and delivery of lessons; (c) teacher development workshops on the production of teaching and learning materials that are suitable for online learning; and (d) teacher and learner support on the provision of devices, data, high-speed internet, and conducive teaching and learning environments.

Declarations

Ethics approval and consent to participate

Informed consent was obtained from the participants to conduct the study.

Consent for publication

Not applicable.

Availability of data and materials

Please contact the author for data and materials associated with this study.

Conflict of interest statement

The authors of the manuscript declare that there is no conflict of interest, and all reference materials were duly acknowledged.

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