

ORIGINAL RESEARCH ARTICLE

Parental involvement, learning participation and online learning commitment of adolescent learners during the COVID-19 lockdown

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During the escalating coronavirus disease-2019 (COVID-19) pandemic, attempting to contain its spread, a large number of educational institutions shut down face-to-face teaching and learning activities globally due to a complete lockdown. This lockdown revealed emerging vulnerabilities of education systems in the low- and middle-income countries of the world, with Nigeria being no exception. Given these concerns, this research study assessed parental involvement, learning participation and the commitment to online learning of adolescent learners during the COVID-19 lockdown in Nigeria. An online survey questionnaire was employed to examine the level of online learning commitment and the contributory roles of each of the factors to online learning commitment of adolescent learners. In total, 1407 adolescents (male = 38.8%; female 61.2%) aged between 12 and 20 years (mean = 15: SD = 4.24) responded to the online survey, which was open for 2 months. Data were analysed using descriptive statistics of frequency distribution and inferential statistics of multiple regression. The findings revealed that the commitment level of adolescent learners to online learning was high. The findings further yielded a coefficient of $R = 0.439$ and $R^2 = 0.192$ variance in the prediction of the outcome measure. Parental involvement contributed 32% ($\beta = 0.322$, $p < 0.05$) and learning participation contributed 23% ($\beta = 0.234$, $p < 0.05$) towards online learning. The study concludes that parental involvement and learning participation played a significant and positive role in the commitment of adolescent learners towards online learning during the COVID-19 lockdown in Nigeria. The authors suggest that parents be encouraged to synergise with the digitalised revolution, while the need for further in-depth research on the subject is emphasised in the suggestions for future research.

Keywords: adolescent learners; COVID-19 lockdown; online learning commitments; learning participation; parental involvement

Introduction

To contain the spread of the coronavirus disease-2019 (COVID-19) pandemic and minimise its impact on all social and economic activities, including education, many schools across all levels of education in approximately 188 affected countries (UNESCO 2020) were temporarily closed to protect school-going children and adolescents

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from the risks of contracting the disease. By April 2020, an estimated 1.6 billion students were temporarily out of school owing to social restrictions (Azevedo *et al.* 2020). This had become necessary, as school environments are risky places where large numbers of students meet and share, resulting in the rapid spread of the virus (Sintema 2020). Most African countries adopted practices of social restriction as the only definite way of preventing the spread of COVID-19 (Ghosh *et al.* 2020). This resulted in a serious threat to education functionality. The economic and educational impacts of the pandemic could be grievous, mostly in low- and middle-income countries. The impact on the academic programme and the performance of adolescent learners who should be getting ready for national examinations, such as Junior and Senior General Certificate Examinations, could be devastating (Sintema 2020).

In order to salvage the 2020 academic year, schools across the globe shifted to remote, virtual or online learning during the pandemic period (Duraku and Hoxha 2020). There are some challenges in the implementation of online learning in many low- and middle-income African countries due to inadequate power supply and poor internet connectivity. Scholars have, nevertheless, acknowledged several advantages of remote learning. These include digital education offering the opportunity for rapid learning, as well as significant innovative and creative opportunities for teachers and students. This technology makes learning available from different locations, encourages collaborative learning and the achievement of tasks, and enhances learning competence (Yaniawati *et al.* 2020). It furthermore enhances motivation and the development of a personal learning style (Karkar, Fatlawi, and Al-Jobouri 2020), as well as offers access to an unlimited amount of learning resources, among others (Lurvnik 2020; Moreno-Guerrero *et al.* 2020; Yokozeki 2020). These advantages are mostly being explored by adolescents who are regarded as digital natives (Stickel 2017). The online presence of adolescents during the lockdown may even have increased to a level only found among divided generations before the COVID-19 pandemic, as a result of being confined to their homes by the threat of the disease (Ghosh *et al.* 2020).

Therefore, online learning could be much easier, more interesting and interactive for adolescents, as long as technological tools and resources are available and accessible. Thus, Joshi and Rose (2018) noted that adolescents' use of information and communication technology extends beyond just social networking. It also offers a learning platform for immediate access to comprehensive information. Online learning is defined as learning activities conducted in either a blended or hybrid format over the Internet without face-to-face interaction (Gilbert 2015; U.S. Department of Education 2010). Online learning, which is also often referred to as e-learning, occurs in an internet-enabled environment or classroom. It can be grouped into fully web-based, blended or hybrid, as well as traditional approaches, using online materials as supplements. Fully web-based learning involves teaching and learning all subjects on an internet platform with no room for face-to-face contact, while blended learning comprises both classroom sessions and online methods. Before the lockdown, blended learning was commonly practised in higher education institutions, while a traditional approach using online materials as supplements was mostly common in elementary and high schools (Gilbert 2015; Herodotou *et al.* 2020). It is, however, important to promote online education as an alternative to face-to-face classroom teaching in times, such as this pandemic era. Simultaneously, knowledge of the preparedness of learners from low- or middle-income societies in terms of parental support and learners' participation and commitment is a gap to be filled, as the authors know of no research in this regard.

Past studies

Online learning commitment

Although online learning is rapidly gaining universal acceptance and is fast becoming an inevitable means of making education accessible to all globally, many developing countries in Africa are unfortunately still deficient in several ways. They experience problems with poor power supply and internet network connectivity, as well as a shortage of trained, technologically skilled teachers (Gunga and Ricketts 2007), thus limiting access to education on the continent. Despite these challenges, it is likely that traditional methods of learning may no longer be permissible, which could have a seriously negative impact on numerous adolescent learners in developing nations, such as Nigeria, where economic hardship is worsening on a daily basis (Odunayo, Otito, and Otito 2013). These issues, among others, may have resulted in low attendance or poor participation of students in online learning, as established by Adeoye, Adanikin and Adanikin (2020). In addressing these concerns, access to any e-learning platforms, such as Adobe Captivate, Bamboo Learning, Blackboard Learn, Docebo, Microsoft Teams, Google Classroom, Google Hangout (meet), Skype, WiZIQ, Elucidat, Zoom and so on, requires some level of commitment on the part of all education stakeholders, in this case the learners.

Learning commitment is a necessary prerequisite for the academic success and educational attainment of any student. While there are insufficient literature on learning commitment, related constructs, such as academic commitment, school engagement and teachers' commitment, have gained much attention in the literature. For instance, Buchanan, as cited in Mart (2013), perceived commitment as an addictive function related to job, organisation or employee involvement. Viljoen (2015) conceptualised academic commitment as the proportion of time and effort devoted to educational activities. According to Human-Vogel (2013), commitment involves alternative quality, investment, meaningfulness, satisfaction and long-term persistence with studies by students. In the same vein, Hew (2016) viewed students' engagement as an abstract and multidimensional construct that involves cognitive, behavioural and emotional engagement. Similarly, online learning commitment encompasses learners' affective, behavioural and cognitive engagement with online education. Markowitz (2017) described behavioural commitment as students' involvement in all educational or school-based activities, while the cognitive aspect of learning commitment reflects students' mental efforts directed towards school tasks (self-regulated learning) in anticipation of the eventual benefits of learning. Affective commitment, furthermore, explains students' responses to the online or virtual community (peers and teachers) in terms of connectedness and/or sense of association with all online educational activities (Fredricks, Filsecker, and Lawson 2016; Reschly and Christenson 2012; Wang and Fredricks 2014).

Previous studies have established the significance of online learning commitment for students' learning outcome, satisfaction and course completion (Hew 2016; Robinson and Hullinger 2008). In particular, Dumford and Miller (2016) found that online learning encourages and provides opportunities for learners' cognitive development at the expense of collaborative learning. Another study by Dixon (2015) discovered that online learning promotes higher order thinking, as well as collaborative work. Buelow, Barry and Rich (2018) revealed that students' online learning activities, such as interactive assignments, especially those that are thought-provoking, enhance

their personal development. Hew, Qiao and Tang (2018) and Jena (2020) recently argued that virtual learning during the COVID-19 lockdown is beneficial and ensures the continuity of learning because it is flexible and easily accessible. A qualitative study conducted by Dube (2020) in South Africa on rural online learning during the COVID-19 pandemic observed that there was an urgent need for online learning in the context of the pandemic to contain the spread of the virus. However, many rural learners were excluded from learning owing to inadequate internet connectivity resources, low-tech software and hardware, and the learning management system. Given this evidence, the level of adolescent learners' commitment to online learning education in Nigeria, where 40.1% of its population live in abject poverty and 52.1% are rural dwellers (National Bureau of Statistics [NBS], 2019) is of concern to the authors of the current study.

Parental involvement

Previous studies indicate that online education of secondary school learners requires resources that can only be made available by parents. Hence, the involvement of parents in sustaining online education is of great importance to the continuity of such education. Parental involvement is generally defined as all forms of support given to school-age children by parents, guidance teachers or caregivers in order to ensure the accomplishment of a particular academic programme (Waters, Menchaca, and Borup 2014). In the conceptualisation of parental involvement, Epstein (1987) identified various forms of parental involvement in learners' educational success, among other learners' psychological and academic needs (food, clothing, shelter, a place to study and school material supplies), school-to-home communications, school activities and attendance of extra-curricular events, and learning activities. In the current study, parental involvement is perceived as the provision of online learning resources made available and accessible to learners for online learning purposes, which include internet-enabled tablets, smart phones, laptops and internet data or airtime. Essentially, in view of socio-economic disparity among adolescent learners in low- and middle-income countries, such as Nigeria, it is certain that without adequate involvement of parents during these unprecedented times of the COVID 19 pandemic, online learning may be an illusion. Typically, online learning requires some electronic resources or gadgets to facilitate the process, such as a desktop computer or laptop, internet connectivity or a smart phone, and power supply (Dube 2020; Odunayo, Otito, and Otito 2013).

Many of the studies published previously have demonstrated the link between parental involvement and students' academic achievement, performance, positive attitude to learning and successful schooling both within and outside Nigeria (Boonk *et al.* 2018; Fajoju *et al.* 2016; Ntekane 2018; Tran *et al.* 2020; Ugwuegbulem 2018; Umeana 2017; Waters, Menchaca, and Borup 2014). Specifically, Ntekane (2018). These studies focused on parental involvement in education, indicating that parental involvement plays an encouraging role that is beneficial for learners' academic outcome. Ugwuegbulem (2018) explored the role of parents' involvement in their children education in public schools of Imo State, Nigeria. The study entailed a qualitative enquiry involving 30 sampled parents from different socio-economic backgrounds as participants. The result of the study revealed that the low self-esteem of parents from low socio-economic backgrounds limits their adequate involvement in their children'

education. Likewise, the study of Boonk *et al.* (2018) revealed a significant positive correlation between parental involvement in terms of support for learning and academic achievement. Lawrence and Nkoane (2020) argued that parental engagement significantly contributed to the educational attainment of school-going adolescents in South Africa. Similarly, the outcome of the study of Tran *et al.* (2020) proved that when parents provide their children with the required support, it stimulates the home environment and promotes cognitive development. However, the link between parental involvement and online learning commitment among adolescent learners in Nigeria has not been studied yet.

Online learning participation

Learner participation is vital to the enhancement of online learning. Fundamentally, participation was conceptualised, as long ago as 1998 by Wenger, as taking part in or sharing with others some activities or enterprises. That makes it a process of being part of a group and relating in a reflective way with others. In other words, participation is a combination of actions, such as belonging, doing, feeling, thinking and talking with someone. Specifically, Davies and Graff (2005) perceived participation as the degree of students' access to information and communication and their engagement in many other activities. These include obtaining teaching and learning materials, contributing to discussions and persisting in group activities. In the view of Hrastinski (2008), participation is conceptualised as joining and taking part in a dialogue for active and engaged learning regardless of the total number of individuals involved in a discussion forum. To put it differently, participation is not measured by the percentage of the whole population or age group that takes part in a given activity, whether education or something else, as perceived by Harris *et al.* (2004). Drawing from these concepts, online learning participation, in this current study, involves individual adolescent learners taking part in online learning activities through any platform designed for such activities (Ahn *et al.* 2013). Simply put, it is the process of learning by taking part in online education.

Research evidence on online learners' participation in online learning is scanty. The few available studies established the significant impact of learning participation on online learning commitment and course completion. For instance, the study of Ahn *et al.* (2013) revealed that learners' participation in online learning activities depends on the forms of online learning environment. The study suggested peer-to-peer interaction to sustain a participatory online learning environment. A recent study undertaken in India by Jena (2020) demonstrated the importance of online learning participation and engagement by both teachers and learners to adopt safety measures and maintain social distancing during the lockdown as the only way to continue teaching and learning activities. Similarly, Dube (2020) lamented the difficulties faced by numerous rural teachers and learners in respect of online learning participation in South Africa during the COVID-19 pandemic, which frustrate and marginalise efforts to teach and learn. It is important to note that most of these studies were carried out among higher education students, with little or no focus on secondary school learners. This observation is substantiated by a study of Ali (2020), who found that most universities worldwide participated in online learning during the COVID-19 pandemic. Another concern of the current study is that besides resources and staff readiness for online teaching and learning, too little is known about what motivates students'

participation in online learning during the pandemic and beyond. If continuity in implementing and integrating online teaching and learning during exceptional times such as the COVID-19 pandemic is to be maintained, this gap will have to be bridged.

Theoretical framework

The engagement theory of Kearsley and Shneiderman (1998) was used as a theoretical lens to understand the link between parental involvement and learners' online learning participation and the contribution of adolescent learners' commitment to successful online learning. The basic idea of the theory is that learning involves an active psychological state, which entails affective, behavioural and cognitive commitment to technological tasks (Fredricks *et al.* 2005; Wiseman *et al.* 2017). In addition, the theory hypothesises that learners will be intrinsically motivated to learn when the learning environment and activities are technological in nature. This is because the use of online learning tools, such as web conferences, emails, video conferences, WhatsApps and Schoology will significantly increase the learning commitment of all participants. The engagement theory represents a new paradigm for learning and teaching in the divided generation that involves collaborative efforts, project-based assignments and non-academic focus for learning commitment to be achieved. The engagement theory is also based on constructivism that believes in collaborative efforts. This encourages and increases learners' commitment to online learning. Several theories are closely related to online learning, including the constructivist theory, situated learning theory and theory of adult learners (Demuyakor 2020; Wiseman *et al.* 2017). However, given the focus of this study, the authors adopted the engagement theory because it sheds light on how to increase the commitment of adolescent learners towards online learning. This is effected through the involvement of parents in providing digital resources and learners' participation, strengthening the non-academic, collaborative and project-based components of the theory. However, the main objective of this research study was to investigate the role of parental involvement and learning participation in the commitment of adolescent learners to online learning in Nigeria during the COVID-19 lockdown.

This included the following research questions

- RQ1:** What was the level of adolescent learners' online learning commitment during the COVID-19 lockdown?
- RQ2:** Did parental involvement and learning participation contribute significantly to the online learning commitment of adolescent learners during the COVID-19 lockdown?

Method

The authors employed the quantitative research design of a survey approach to achieve the aim of this study. The study participants included were secondary school adolescents from Ibadan, Oyo State in the south-western part of Nigeria. In line with the mandatory social restrictions and home confinement during the lockdown, participation was open to all secondary school adolescent learners who were involved in online digital learning activities. Data were collected over a 2-month period using an

online survey Google questionnaire (**Fill out form**) comprising two sections. Section A deals with demographic characteristics, such as age, gender, class and participants' access to digital devices and social media platforms. Section B includes measures of online learning commitment, learning participation and parental involvement. The participants included were 1407 adolescent learners (male = 38.8%; female 61.2%) aged between 12 and 20 years (mean = 15: SD = 4.24). Data were analysed using descriptive statistics of frequency distribution and inferential statistics of multiple regression. This study complied with all ethics of research. This was done by allowing voluntary participation of the participants and guaranteeing the confidentiality of all the information, provided Pledged that the information supply will only be used for research purposes only.

Results

Table 1 illustrates the demographical characteristics of the study participants. The average age of the participants was 15 years. There were more female (61.2%) participants than males (38.8%) and most (1029%-73%) were in senior classes, with only 378 (26.9%) participants in junior classes. There were more participants who had access to digital devices (1099%-78.1%) than those who depended on their parents' devices for accessibility (308%-21.9%). WhatsApp was popularly used as a social media platform for learning activities by 959 (68.2%) of the study participants, followed by Schoology (343%-24.24%) and YouTube (84%-6.0%). Very few of the participants were accessing learning activities through Facebook (21%-1.5%).

RQ1: What was the level of adolescent learners' commitment towards online learning during the COVID-19 lockdown?

The results in Table 2 revealed the level of participants' commitment to online learning during the COVID-19 lockdown in response to RQ1. The results make it clear that the participants' commitment to online learning was high, with 12 items rated above the average mean estimate of 2.7 and only three items scoring a mean below the average mean. Specifically, item 10, 'Online learning makes me remember

Table 1. Participants' demographic characteristics.

Factors		Frequency	Percentage
Age (years)	12–14	371	26.4
	15–17	371	26.4
	Over 17	665	47.3
Gender	Male	546	38.8
	Female	861	61.2
Class	Junior secondary	378	26.9
	Senior secondary	1029	73.1
Digital devices' accessibility	Yes	1099	78.1
	No but use parents' device	308	21.9
Social medial platforms	WhatsApp	959	68.2
	Schoology	343	24.24
	YouTube	84	6.0
	Facebook	21	1.5

Table 2. Simple percentage showing response of the participants to online learning commitment during the COVID-19 lockdown.

S. no.	Items	SD%	D%	A%	SA%	M	St.d
1.	Online learning is boring	959 (68.2)	343 (24.4)	84 (6.0)	21 (1.5%)	1.40	0.67
2.	Most of the time, I look forward to studying online	203 (14.4)	567 (40.3)	595 (42.3)	42 (3.0)	2.33	0.75
3.	I try hard to do all activities given to me online	70 (5.0)	154 (10.9)	1029 (73.1)	154 (10.9)	2.90	0.63
4.	I participate in every online learning activity	98 (7.0)	231 (16.4)	910 (64.7)	161 (11.4)	2.81	0.72
5.	I think participating in all online learning activities is cumbersome	70 (5.0)	301 (21.4)	854 (60.7)	175 (12.4)	2.81	0.71
6.	I like contributing to other learning activities online	91 (6.5)	406 (28.9)	749 (53.2)	119 (8.5)	2.65	0.73
7.	I take an active role in group activities online	77 (5.5)	133 (9.5)	1043 (74.1)	147 (10.4)	2.90	0.64
8.	When I study online I relate it easily with real-life experience	63 (4.5)	329 (23.4)	868 (61.7)	140 (10.0)	2.77	0.68
9.	I make up my own examples to help me understand the important concepts I learn from online classes	77 (5.5)	140 (10.0)	1043 (74.1)	147 (10.4)	2.89	0.64
10.	Online learning makes me remember and relate better with other things I already know (Knowledge)	42 (3.0)	133 (9.5)	1015 (72.1)	217 (15.4)	3.00	0.60
11.	Learning online makes it easy to construct and interpret meanings from materials (Comprehension)	105 (7.5)	182 (12.9)	966 (68.7)	154 (10.9)	2.83	0.71
12.	I have the ability to organise, develop and implement material in new and concrete situations (Application)	77 (5.5)	203 (14.4)	952 (67.7)	168 (11.9)	2.86	0.68
13.	With online learning I can differentiate and attribute components of ideas being taught (Application).	42 (3.0)	210 (14.9)	987 (70.1)	168 (11.9)	2.91	0.61
14.	Things I am learning online enable me to evaluate and create new ideas (Synthesis)	84 (6.0)	238 (16.9)	966 (68.7)	112 (8.0)	2.79	0.66
15.	With online learning I can judge and even critique ideas and contents being taught (Evaluation).	70 (5.0)	189 (13.4)	994 (70.6)	154 (10.9)	2.87	0.65

Average weighted mean value = 2.71

SD, Strongly disagree; D, disagree; A, agree; SA, strongly agree; M, mean; St.d, standard deviation.

and relate better with other things I already know (Knowledge)', yielded the highest score (mean = 3.0), followed by item 13, 'With online learning I can differentiate and attribute components of ideas being taught (Application)' (mean = 2.91), item 3, 'I try hard to do all activities given to me online', and item 7, 'I take an active role in group activities online', which had equal values (mean = 2.90). Then item 9, 'I make up my own examples to help me understand the important concepts I learn from online classes' (mean = 2.89), followed by item 15, 'With online learning I can judge and even critique ideas and contents being taught (Evaluation)' (mean = 2.87); item 12, 'I have the ability to organise, develop and implement material in new and concrete situations (Application)' (mean = 2.86); item 11, 'Learning online makes it easy to construct and interpret meanings from materials (Comprehension)' (mean = 2.83); item 4, 'I participate in every online learning activity', and item 5, 'I think participating in all online learning activities is cumbersome' had equal values (mean = 2.81). Item 14, 'Things I am learning online enable me to evaluate and create new ideas (Synthesis)' (mean = 2.79), and item 8, 'When I study online I relate it easily with real-life experience' (mean = 2.77) scored differently. However, item 1, 'Online learning is boring' had the lowest mean value (mean = 1.40), followed by item 2, 'Most of the time, I look forward to studying online' (mean = 2.33) and item 6, 'I like contributing to other learning activities online' (mean = 2.65).

RQ2: Did parental involvement and learning participation contribute significantly to commitment of adolescent learners towards online learning during the COVID-19 lockdown?

Table 3 shows the regression analysis of the collective and relative contribution of parental involvement and learning participation to online learning commitment in response to RQ2. The result established that the two predictive measures collectively and significantly contributed to commitment of the participants to online learning in the current study. The result yielded a coefficient of multiple regressions $R = 0.439$ and multiple $R^2 = 0.192$, indicating that both measures combined accounted for 19.1% (Adj. $R^2 = 0.191$) variance in the prediction of online learning commitment of the study participants. The other factors accounting for 79.1% variance in the prediction of online learning commitment are outside the scope of this study. Furthermore, the Analysis of Co-variance (ANOVA) result shows that the predictive measures significantly contributed to the response measure, $F(2, 1306) = 155.590$, $p < 0.001$. In order to ascertain the weight of the relative contribution of each of the predictive measures, the results revealed that parental involvement made the highest contribution to online learning commitment ($\beta = 0.322$, $t = 12.629$, $p < 0.05$; 0.00), followed by learning participation ($\beta = 0.234$, $t = 9.184$, $p < 0.05$; 0.00). This implies that parental involvement and learning participation were responsible for the commitment of adolescent learners towards online learning during the COVID-19 lockdown.

Discussion

There is no doubt that the impact of the COVID-19 pandemic has made demands that necessitated a paradigm shift in the whole world, resulting in massive technological advancement in all sectors, not excluding approaches in the educational sector. Related goals and aspirations will be pursued even after the lockdown occasioned by the pandemic. Educational institutions across all levels may have to adopt online learning

Table 3. Summary of the multiple regression analysis of the predictors on online learning commitment of adolescent learners.

Model	<i>R</i>	<i>R</i> ²	Adjusted <i>R</i> ²	Std. error of the estimate	
	0.439 ^a	0.192	0.191	3.43848	
Model	Sum of squares	Df	Mean square	<i>F</i>	
Regression	3679.116	2	1839.558	155.590	
Residual	15440.991	1306	11.823		
Total	19120.107	1308			
Model	Non-standardised coefficients		Standardised coefficients	<i>T</i>	Sig.
	B	Std. error	β		
(Constant)	28.421	0.730		38.926	0.000
Parental involvement	0.816	0.065	0.322	12.629	0.000
Learning participation	0.144	0.016	0.234	9.184	0.000

^aPredictors: (Constant), learning participation and parental involvement.

methods, not necessarily as a substitute for a face-to-face approach but as a supplement. In order to ascertain the readiness of secondary school learners in low- and middle-income countries, such as Nigeria, to incorporate an online learning approach in their educational activities and the possibility of implementing this, this study examined the role of parental involvement and learner participation in the online learning commitment of adolescent learners during the COVID-19 lockdown in Nigeria. The findings from this study established that adolescent learners who responded to the online Google survey were highly committed to online learning during the COVID-19 pandemic. This outcome is not surprising, given the digital native nature of the participants who derived pleasure from online interaction even before the pandemic that confined them to their homes (Ghosh *et al.* 2020; Stickel 2017).

Similarly, the high level of commitment of the study respondents to online learning can be justified by numerous benefits that an online learning environment offers, as well as what provides motivation for online learning commitment. For example, Dumford and Miller (2016) found that online learning encourages and provides opportunities for learners' cognitive development at the expense of collaborative learning. Dixson (2015) discovered that online learning promotes higher order thinking, as well as collaborative work. The outcome of the current study is supported by evidence from several studies published previously, including those of Buelow, Barry and Rich (2018), Hew, Qiao and Tang (2018) and Jena (2020), which emphasised the importance of online learners' commitment in enhancing academic success, socio-personal and cognitive development. Particularly, Joshi and Rose (2018) aver that online engagement provides opportunities for adolescents to address some developmental challenges and complete developmental tasks. The engagement theory adopted for this study also justified this outcome that learners will be intrinsically motivated to learn when the learning environment and activities are technological in nature (Kearsley and Shneiderman 1998). As noted earlier, there are few local studies on the commitment of

adolescent learners to online learning in Nigeria. However, similar studies, such as those of Adigun (2020), Kamba (2009) and Odunayo, Otito and Otito (2013), affirm the importance of e-learning and teaching in enhancing academic achievement, as well as in promoting e-learning education in Nigeria.

The second research question examines the collective and individual contribution of parental involvement and learning participation to the online learning commitment of adolescent learners during the COVID-19 lockdown. The findings revealed that the collective contribution of parental involvement and learning participation was significant for the prediction of online learning commitment, while parental involvement accounted for the highest positive and significant contribution to online learning prediction, followed by learning participation. This suggests that parental involvement and learning participation were potent factors in promoting online learning commitment of adolescent learners in Nigeria. This finding confirms the results from the previously published studies, which concluded that parental involvement is pivotal to learning and for the academic or educational success of their children (Fajoju *et al.* 2016; Lawrence and Nkoane 2020; Ntekane 2018; Tran *et al.* 2020; Ugwuegbulem 2018). On a similar note, Boonk *et al.* (2018) revealed a significant positive correlation between parental involvement in terms of support for learning and academic achievement. Furthermore, learning participation has made a positive contribution to online learning commitment. This also agrees with the findings of Jena (2020), which reveals the importance of online learning participation and engagement by both teachers and learners to adopt safety measures and maintain social distancing during the lockdown as the only way to continue teaching and learning activities.

Conclusion

Considering the escalation of the COVID-19 pandemic and efforts to contain the spread, a large number of educational institutions shut down face-to-face teaching and learning activities globally in response to the complete lockdown. This lockdown revealed emerging vulnerabilities in education systems in the low- and middle-income countries of the world. This lockdown revealed emerging vulnerabilities in the educational sector in the low- and middle-income countries of the world, with Nigeria being no exception. This makes it clear that flexible and resilient education systems are essential in the face of an unpredictable future. Stemming from this, the current study adopted a quantitative survey approach to examine parental involvement, learning participation and the online learning commitment of adolescent learners during the COVID-19 lockdown. The study participants responded to an online Google survey questionnaire, which was open for 2 months. In total, 1407 adolescent learners, who accessed online learning during the pandemic lockdown via WhatsApp, Schoology, YouTube and Facebook, took part in this study. The findings revealed a high level of commitment of adolescent learners towards online learning during the COVID-19 lockdown. Parental involvement and learning participation significantly contributed to the prediction of online learning commitment. This outcome has implications for adolescent learners, educational stakeholders and government. Essentially, this study has contributed to knowledge in the area of literature on online learning commitment locally. Therefore, it is recommended that secondary school system should adopt and keep abreast with online learning education as a supplement to the traditional method of teaching and learning to maintain continuity during exceptional times

such as the COVID-19 pandemic, not only in Nigeria but also in the world at large. Parents should endeavour to synergise with the digitalised revolution in sustaining the educational system for the academic success of their children who have become digital addicts. This study has advanced literature on engagement theory and provides a strong platform for further research.

Limitations and further studies

Naturally, all studies do have some limitations, with the current study being no exception. Although this study used a single method to collect data because of the lockdown occasioned by the COVID-19 pandemic, a mixed-method approach could have been better. The current study only considered two measures, namely, parental involvement and learners' participation. There might be other measures that could have contributed to online learning commitment of adolescent learners and other factors that could have influenced the subject. Further studies can consider other factors if these are applicable to their societies. Consequently, these findings should be viewed as a snapshot of online learning commitment in secondary education in Nigeria, bearing in mind the drastic impact of the COVID-19 pandemic. Thus, these findings present a solid platform for argument and a solid launch pad for further in-depth research on the online learning commitment of adolescent learners in secondary education from other low- and middle-income countries of the world.

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Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

The data used in this work are not available publicly but could be provided by the authors on reasonable request.

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