



RESEARCH ARTICLE

Effect of the Prolonged Lockdown on Student's School Work Engagement in the Post Covid-19 Classroom

Stephen Idachaba and Joseph Toluhi

Department of Integrated Science Kogi State College of Education, Ankpa.

Manuscript Info

Manuscript History

Received: 31 August 2021

Final Accepted: 30 September 2021

Published: October 2021

Key words:-

Schoolwork Engagement, Covid-19, Prolonged Lockdown, Students

Abstract

Insinuations suggest that prolonged academic break occasioned by the dreaded coronavirus pandemic may have impacted student's participation in schoolwork activities, especially at the secondary education level in Nigeria. The current study aimed to determine the variation in students' schoolwork engagement based on the long Covid-19 break. Two hundred and four students randomly pooled from secondary schools in Kogi State, Nigeria, participated in the study. The participants completed a self-report measure of schoolwork engagement inventory originally developed by Salmela-Aro and Upadaya (2012). A simple regression analysis was conducted on the data. The result revealed a positive interaction between prolonged academic break and schoolwork engagement. Findings, implications, and conclusions are discussed.

Copy Right, IJAR, 2021, All rights reserved.

Introduction:-

Over the years, there has been a constant disruption in the education calendar in the Nigerian school system occasioned by incessant industrial actions between management and the labor unions. The effect of academic strikes in Nigeria's education system is well documented (Adavbiele, 2015; Bamigboye & Adeyemi, 2016; Davies et al., 2016; Ibrahim, 2015; Offem et al., 2018; Ohiwerei & Onimawo, 2016; Orok-Duke et al., 2016; Suleiman et al., 2019; Ugar, 2018). However, the recent pause in the school system caused by the deadly coronavirus disease seems unprecedented. The disease believed to originate from the Republic of China was referred to as Covid-19 and became a pandemic due to its rapid spread (Dhall & Singh, 2020). Thus, the advent of the virus made the world motionless. The rapid spread of the Covid-19 led to an unprecedented socioeconomic crisis (Béland et al., 2020; Dani & Menéndez, 2020; Gratz et al., 2020; Hashemi-Shahri et al., 2020; Abel & Gietel-Basten, 2020; Luis et al., 2020; Mishra et al., 2020; Pak et al., 2020; Safonov & Borshch, 2020; Schubert, 2020). It also created substantial personal and public health complications (Hancher-Rauch et al., 2021). The World Health Organization categorized the Covid-19 virus as a communicable disease based on its characteristics, including rapid infestation (Chaurasia & Pal, 2020). The mortality rate progressed from hundreds in its earlier stage to millions in few weeks (Bone et al., 2020; Karim & Chen, 2021; Krieger et al., 2020; Rubino et al., 2020). The coronavirus pandemic took an overwhelming toll on human life and raised considerable concern about its impact on mental health (El-Zoghby et al., 2020; Goyal & Selix, 2021; Haider et al., 2020; Mancini, 2020; Nearchou et al., 2020; Octavius et al., 2020). The sustained stay at home harmed the mental well-being of most people, with students taking their share of the situation.

The pandemic greatly affected the education systems of many countries (Adebisi et al., 2020; Almazova et al., 2020; Balakrishnan, 2020; Ifijeh & Yusuf, 2020; Leacock & Warrican, 2020; Oyediran et al., 2020; Stepanović, 2020).

Corresponding Author:- Stephen Idachaba

Address:- Department of Integrated Science Kogi State College of Education, Ankpa.

Consequently, the Global Education Monitoring Report (2020) reported that about one billion students across over 188 nations globally were reported to have been affected by the closure of schools in response to the increased spread of the virus. The Covid-19 pandemic disrupted students' academic activities in different ways, including their level of study and the point they ought to have reached in their programs (Daniel, 2020). Indeed, more research is needed for in-depth knowledge of the adverse effects of the virus students.

The widespread coronavirus pandemic prompted numerous measures aimed to mitigate its spread and impact. One of the widely adopted measures was movement restriction. In this regard, Nigeria's government recommended a nationwide closure of educational institutions across all levels in alignment with the globally accepted measure of movement restrictions (Lawal et al., 2020; Oladipo et al., 2020). Although the educational institutions massively employed e-learning in an attempt to reach their students while at home. The online learning method proved to be helpful during the period. However, there was a concern about student's readiness to embrace online learning in Nigeria. Equally, Nwagwu (2020) stated that an assessment of student's willingness to adapt to online learning modules indicated a broad uncertainty among the instructors about the student's readiness and knowledge of e-learning. Also, the IT and web skills of the student were issues of concern relating to e-learning. Extensive literature has linked the challenges of digital learning in Nigeria to unstable power supply, high internet subscription costs, inadequate internet access, and other factors (Adanikin et al., 2020; Ebelogu et al., 2021; Hassan et al., 2021; Igbokwe et al., 2020; Kola & Opeyemi, 2020; Philomina et al., 2020). Also, research revealed that technology-related factors (ease of use, speed accessibility, and service delivery) are of concern when thinking of e-learning. Accordingly, Eze et al. (2020) stated that organizational, environmental, and impact-related factors, such as training support and diversity, user's attitudes, learning experience, skill development, academic performance, including the degree of engagement, are likely to influence the students' adoption of e-learning facilities. The challenges associated with the adoption and utilization of e-learning in the Nigeria context is well documented (Aboderin, 2015; Adeyeye, 2019; Ajadi et al., 2008; Ali, 2014; Bugi, 2012; Folorunso et al., 2006; Kamba, 2009; Kuliya & Usman, 2021; Nwegbu et al., 2011; Odunayo & Izu, 2013). Similarly, the National Universities Commission (NUC) warned that the country might not fully adopt digital learning as an alternative teaching method due to infrastructure, power, and internet access (Umeh, 2020). Perhaps, many learners were disadvantaged in this regard. Thus, they spent the entire lockdown period in activities other than education. This extended stay at home without academic-related exercise could negatively impact their interest, motivation, and memory, including academic regression.

As used in this study, schoolwork engagement refers to the duration committed towards school-related activities that contribute to the desired outcomes (Hu et al., 2007). Schoolwork engagement entails learner's cognitive, affective, and behavioral responses to in-class and out-of-class activities (Fredricks et al., 2004; Gunuc, 2014). The concept of schoolwork engagement is widely viewed as a multidimensional construct relating to completing homework and taking part in classroom responsibilities, affective demand such as school connectedness and mates collaborations, and behavioral activities like class attendance and extracurricular participation (Appleton et al., 2006; Fredricks et al., 2004; Jimerson et al., 2003). Schoolwork engagement is currently gaining research and policy attention because it presents a pathway to addressing familiar student's challenges, including boredom and isolation, poor performance, and a high dropout rate. Thus, understanding schoolwork engagement offers several benefits for research and practice (Fredricks et al., 2004). Research focusing on schoolwork engagement suggests that participation in academic activities demands motivation, vigor, and dedication to classwork (Salmela-Aro et al., 2009; Salmela-Aro & Upadaya, 2012; Schaufeli et al., 2002). Thus, motivation denotes the drive characterized by a high level of energy and zeal towards learning.

On the other hand, vigor represents the willingness to devote oneself to studies, including mental flexibility. Accordingly, dedication is demonstrated in a favorable cognitive attitude towards studying in general, including interest in academic work and encouragement, passion, and the ability to confront academic challenges (Salmela-Aro & Upadaya, 2014). Stefansson et al. (2016) noted that behavioral engagement in school had measured academic achievement. Students' schoolwork engagement increases the motivational framework for better educational participation (Deci & Ryan, 2000), plus it prepares the students to confront related academic difficulties (Skinner & Pitzer, 2012).

The Present Study

The prolonged academic disruption following the outbreak of the Covid-19 pandemic triggered a broad concern that many students may be disengaged from their various schoolwork demands. Perhaps intimations suggest that students' dedication to their schoolwork is implicated in improved academic outcomes (Abubakr, 2018; Dogan,

2015; Lee, 2014; Odu, 2020; Valle et al., 2016; Wonglorsaichon et al., 2014). Conversely, student's inability to fully engage in schoolwork activities could undermine their academic achievement (Enwereuzor et al., 2016). An observation of secondary school students suggests that the motivation to copy notes and complete homework has declined, probably due to the more extended stay-at-home period. Regarding the importance of schoolwork engagement in students' academic achievement, research has explored different variables that could contribute to the variation in schoolwork engagement, for example, intrinsic motivation, teacher behaviors, teaching practices, and perfectionism (Assor et al., 2002; Lavrijsen et al., 2021; McKellar et al., 2020; Shih, 2012). However, research must explore different relevant variables capable of impacting schoolwork engagement continuously. Thus, the present study is aimed to determine schoolwork engagement based on the prolonged lockdown.

Research hypothesis

It is hypothesized that there will be a relationship between the Covid-19 prolonged academic lockdown and schoolwork engagement among secondary school students in the post-Covid-19 classroom.

Method:-

Secondary school students within the Kogi State, Nigeria, constituted the study's population. Two hundred and sixteen secondary school students comprising males and females from junior and senior classes were randomly pooled from public and private secondary schools in the state. The students were approached with the assistant of school teachers and research assistants. The purpose of the study was described to the participant, and they were informed that participation is voluntary and no harm is associated with the study. Two hundred and sixteen copies of the study instrument were distributed, and the students were urged to complete the questions accordingly following a brief explanation of the items. The questionnaires were collected on the spot. However, it was observed that 12 copies of the questionnaires were incorrectly filled, and thus they were discarded. In all, the 204 correctly completed questionnaires were subjected to statistical analysis. The study adopted a correlational design.

Measures:-

Schoolwork engagement was measured using Salmela-Aro and Upadaya's (2012) Schoolwork Engagement Inventory. The scale has been previously validated and used in Nigeria by Enwereuzor et al. (2016).

Result:-

It is assumed in the present study that the prolonged lockdown would significantly predict schoolwork engagement among secondary school students in the post-Covid-19 classroom. A simple linear regression analysis was conducted to determine the correlation between protracted Covid-19 lockdown and schoolwork engagement. The study revealed that the extended stay at home statistically correlated with schoolwork engagement at $F(1,202)$, 60.046, $P < .000$. Thus, the result indicates an affirmation of the study's assumption that the Covid-19 stay at home accounts for the variation in students' schoolwork engagement.

Table 1:- The table shows the simple linear regression analysis conducted to examine schoolwork engagement based on academic regression.

95% CI for B								
	B	LL	UL	SEB	β	R^2	t	Sig
Constant	2.347	2.084	2.610	.133			17.588	.000
Schoolwork engagement	-.477	-.596	-.396	.061	-.477	.523	-7.830	.000

Note. B = Unstandardized regression coefficient; CI = Confident Interval; LL = Lower Limit; UL = Upper Limit; SEB = Standardized error of the coefficient; β = Standardized coefficient; R^2 = Coefficient of determination. * $P < .000$.

Discussion:-

The present study aimed to determine the effect of the Covid-19 related school closure on student's schoolwork engagement in a post-Covid classroom. A simple linear regression analysis was conducted on the data. The result indicated a statistically significant relationship between the prolonged lockdown and schoolwork engagement. Thus, it supports the assumption that the long break contributes significantly to the variation in schoolwork engagement. The study's finding is aligned with previous studies (Kuhfeld & Tarasawa, 2020; Sevilla Vallejo & Ceballos Marón, 2020), who associated decline in schoolwork with prolonged break. In this context, the challenges related to the e-learning platform might have contributed to this outcome. For instance, evidence abounds that suggests that most students were left out of the e-learning system. Consequently, the students who could not partake in the online series undoubtedly invested their time in other activities unrelated to academics. The situation was much difficult considering that extramural classes were equally prohibited. In addition, the study result supports numerous literature that implicates schoolwork in the variation in reading achievement gap among school children (Alexander et al., 2016; Brooke, 2016; Donovan, 2010; Gilbert Baker, 2018; Kent et al., 2011; Nicholson & Tiru, 2019; Pindiprolu & Marks, 2020; Slates et al., 2012; Turner & Tse, 2014; von Hippel & Hamrock, 2019). Thus, the study provides insight into the difficulty in academic readjustment following a long break.

Practical Implication

The current study's revelation of the correlation between the prolonged lockdown and schoolwork engagement among young learners has numerous implications for students' educational participation and performance literature. The study provided valuable data for the education sector in the post-Covid-19 policies. The study further implies that the Covid-19 outbreak negatively impacted students' cognitive, affective, and behavioral correlates of education.

Conclusion:-

This study focuses on the correlation between long academic breaks and schoolwork engagement in the post-Covid-19 classroom. It is concluded that learning loss occasioned by the deadly coronavirus pandemic lockdown influences students' engagement in school work activities. Thus, the present study contributes to the literature by revealing academic relapse as a variable that accounts for variance in schoolwork engagement among secondary school students in the post-Covid-19 era. However, caution is advised regarding generalization. Due to the sample size and methodology, caution is advised in generalizing the result of the study due to the sample size and data collection method. However, it is recommended that educators and policymakers prepare for many students who have substantially regressed academically due to prolonged lockdown in the post-Covid-19 classroom.

References:-

1. Aboderin, O. S. (2015). The Challenges and Prospects of E-learning in the National Open University of Nigeria. *Journal of Education and Learning (EduLearn)*, 9(3). <https://doi.org/10.11591/edulearn.v9i3.1728>
2. Abubakr, A. (2018). Students' engagement in relation to academic performance. *Journal of Education and Social Sciences*, 8(1).
3. Adanikin, A., Adanikin, A., Adeoye, I. A., Adanikin, A. F., & Adanikin, A. (2020). COVID-19 and E-Learning: Nigeria Tertiary Education System Experience. *International Journal of Research and Innovation in Applied Science (IJRIAS)* |, V(May).
4. Adavbiele, J. A. (2015). Implications of Incessant Strike Actions on the Implementation of Technical Education Programme in Nigeria. *Journal of Education and Practice*, 6(8), 134–138. www.iiste.org
5. Adeyeye, B. A. (2019). Challenges and Prospects of E-Learning for Prison Education in Nigeria. *European Scientific Journal ESJ*, 15(25). <https://doi.org/10.19044/esj.2019.v15n25p327>
6. Ajadi, T. O., Salawu, I. O., & Adeoye, F. A. (2008). E-learning and distance education in Nigeria. *Turkish Online Journal of Educational Technology*, 7(4).
7. Alexander, K., Pitcock, S., & Boulay, M. C. (2016). *The Summer Slide: What We Know and Can Do About Summer Learning Loss*. Teachers College Press.
8. Ali, H. (2014). Academic librarians' perceptions of the benefits and challenges of adopting e-learning for continuing professional development in Lagos State, Nigeria. *New Library World*, 115(7–8). <https://doi.org/10.1108/NLW-01-2014-0016>
9. Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology*, 44(5). <https://doi.org/10.1016/j.jsp.2006.04.002>

10. Assor, A., Kaplan, H., & Roth, G. (2002). The choice is good, but relevance is excellent: Autonomy-enhancing and suppressing teacher behaviors predicting students' engagement in schoolwork. *British Journal of Educational Psychology*, 72(2). <https://doi.org/10.1348/000709902158883>
11. Atteberry, A., & McEachin, A. (2021). School's Out: The Role of Summers in Understanding Achievement Disparities. *American Educational Research Journal*, 58(2). <https://doi.org/10.3102/0002831220937285>
12. Bamigboye, G. O., & Adeyemi, G. (2016). Economic Crisis Impact on Education and Teachers: Case Study of southwest Nigeria. *INTED2016 Proceedings*, 1. <https://doi.org/10.21125/inted.2016.1739>
13. Béland, L.-P., Brodeur, A., & Wright, T. (2020). The short-term economic consequences of COVID-19: Exposure to disease, remote work, and government response. *IZA Discussion Paper*, 13159.
14. Bone, A. E., Finucane, A. M., Leniz, J., Higginson, I. J., & Sleeman, K. E. (2020). Changing patterns of mortality during the COVID-19 pandemic: Population-based modeling to understand palliative care implications. *Palliative Medicine*, 34(9). <https://doi.org/10.1177/0269216320944810>
15. Briggs, D. C., & Kattey, K. A. (2020). Nigerian parents' knowledge of COVID-19 and effect of lockdown on monthly earnings: an online survey. *The Pan African Medical Journal*, 37. <https://doi.org/10.11604/pamj.supp.2020.37.53.25335>
16. Brooke, J. A. T. (2016). Preventing the summer slide: Using closed captioning and same-language subtitling on television as a literacy tool in the home to increase reading achievement. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 76, Issues 12-A(E)).
17. Bugi, S. Z. (2012). Challenges of attending E-learning studies in Nigeria. *Turkish Online Journal of Distance Education*, 13(3). <https://doi.org/10.17718/tojde.53263>
18. Chaurasia, V., & Pal, S. (2020). COVID-19 Pandemic: ARIMA and Regression Model-Based Worldwide Death Cases Predictions. *SN Computer Science*, 1(5). <https://doi.org/10.1007/s42979-020-00298-6>
19. Cooper, H. (2003). Summer Learning Loss: The Problem and Some Solutions. *ERIC Digest*.
20. Dani, M., & Menéndez, A. J. (2020). The first EU measures in response to the economic consequences of the COVID-19 crisis. *BioLaw Journal*, 2020(SpecialIssue1).
21. Daniel, S. J. (2020). Education and the COVID-19 pandemic. *Prospects*, 49(1–2). <https://doi.org/10.1007/s11125-020-09464-3>
22. Davies, K. U., Ekwere, G. E., & Uyanga, U. U. (2016). Factors influencing students' unrest in institutions of higher learning and its implications on the academic performance of students in the University of Uyo, Akwa Ibom State, Nigeria. *Research in Pedagogy*, 6(2). <https://doi.org/10.17810/2015.21>
23. Deci, E., & Ryan, R. (2000). What is the Self in self-directed learning? Findings from Recent Motivational Research. In *Conceptions of Self-directed Learning*.
24. Dhall, R., & Singh, B. (2020). The COVID-19 Pandemic and Herding Behavior: Evidence from India's Stock Market. *Millennial Asia*, 11(3). <https://doi.org/10.1177/0976399620964635>
25. Dogan, U. (2015). Student engagement, academic self-efficacy, and academic motivation as predictors of academic performance. *Anthropologist*, 20(3). <https://doi.org/10.1080/09720073.2015.11891759>
26. Donovan, G. G. (2010). A quantitative study of the summer slide in the science of elementary school students. In *Dissertation Abstracts International Section A: Humanities and Social Sciences* (Vol. 71, Issues 3-).
27. Ebelogu, C. U., Ejiofor, V. E., Omeiza, A., & Audu, L. H. (2021). Examining E-learning as an alternative solution to conventional learning during and post Covid-19 in Nigeria. *Journal of Computer Science and Its Application*, 27(2). <https://doi.org/10.4314/jcsia.v27i2.4>
28. El-Zoghby, S. M., Soltan, E. M., & Salama, H. M. (2020). Impact of the COVID-19 Pandemic on Mental Health and Social Support among Adult Egyptians. *Journal of Community Health*, 45(4). <https://doi.org/10.1007/s10900-020-00853-5>
29. Enwereuzor, I. K., Ugwu, L. I., & Ugwu, D. I. (2016). Role of smartphone addiction in gambling passion and schoolwork engagement: a Dualistic Model of Passion approach. *Asian Journal of Gambling Issues and Public Health*, 6(1). <https://doi.org/10.1186/s40405-016-0018-8>
30. Eze, S. C., Chinedu-Eze, V. C. A., Okike, C. K., & Bello, A. O. (2020). Factors influencing the use of e-learning facilities by students in a private Higher Education Institution (HEI) in a developing economy. *Humanities and Social Sciences Communications*, 7(1). <https://doi.org/10.1057/s41599-020-00624-6>
31. Fantini, M. C., Bezerra, G. H., Carvalho, C. R. C., & Gorenstein, A. (1991). Electrochromic properties and temperature dependence of chemically deposited Ni (OH) x thin films. *Optical Materials Technology for Energy Efficiency and Solar Energy Conversion X*, 1536. <https://doi.org/10.1117/12.49215>
32. Folorunso, O., Shawn Ogunseye, O., & Sharma, S. K. (2006). An exploratory study of the critical factors affecting the acceptability of e-learning in Nigerian universities. *Information Management & Computer Security*, 14(5). <https://doi.org/10.1108/09685220610717781>

33. Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. In *Review of Educational Research* (Vol. 74, Issue 1). <https://doi.org/10.3102/00346543074001059>
34. Gershenson, S., & Hayes, M. S. (2018). The Implications of Summer Learning Loss for Value-Added Estimates of Teacher Effectiveness. *Educational Policy*, 32(1). <https://doi.org/10.1177/0895904815625288>
35. Gilbert Baker, J. A. (2018). Summer Learning Loss in Reading Achievement: Effects of Demographic Variables and Summer Activity. In *ProQuest Dissertations and Theses*.
36. Global Education Monitoring Report. (2020). How will Covid-19 affect the internationalization of higher education? UNESCO International Institute for Educational Planning.
37. Goyal, D., & Selix, N. W. (2021). Impact of COVID-19 on Maternal Mental Health. *MCN. The American Journal of Maternal Child Nursing*, 46(2). <https://doi.org/10.1097/NMC.0000000000000692>
38. Gratz, K. L., Tull, M. T., Richmond, J. R., Edmonds, K. A., Scamaldo, K. M., & Rose, J. P. (2020). Thwarted belongingness and perceived burdensomeness explain the associations of COVID-19 social and economic consequences to suicide risk. *Suicide and Life-Threatening Behavior*, 50(6). <https://doi.org/10.1111/sltb.12654>
39. GUNUC, S. (2014). the Relationships Between Student Engagement. *International Journal on New Trends in Education and Their Implications*, 5(4).
40. Haider, I. I., Tiwana, F., & Tahir, S. M. (2020). Impact of the COVID-19 pandemic on adult mental health. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4). <https://doi.org/10.12669/pjms.36.COVID19-S4.2756>
41. Hancher-Rauch, H. L., Bishop, C., Campbell, A., Cecil, K., & Yazel, L. (2021). Effects of COVID-19 Pandemic on the Professional Roles and Responsibilities of Health Educators. *Health Promotion Practice*, 22(2). <https://doi.org/10.1177/1524839920968523>
42. Hashemi-Shahri, S. M., Barfar, E., Ansari-Moghaddam, A., Setoodehzadeh, F., Khammarnia, M., & Okati-Aliabad, H. (2020). Economic consequences of COVID-19 in the middle east and north Africa region countries. In *Journal of Advances in Medical and Biomedical Research* (Vol. 28, Issue 131). <https://doi.org/10.30699/jambs.28.131.304>
43. Hassan, Z., Sa'id, A. S., & Mohammed, H. A. (2021). Is Distance e-Learning Option Acceptable by Nigerians Amidst Covid-19 Pandemic? *African Journal of Education and Practice*, 7(1). <https://doi.org/10.47604/ajep.1193>
44. Ibrahim, A. (2015). Impact Appraisal of Academic Staff Union of Universities (ASUU) Strike on Quality of University Education in Nigeria. In *The Online Journal of Quality in Higher Education-July* (Vol. 2). www.tojqih.net
45. Igbokwe, I. C., Okeke-James, N. J., Anyanwu, A. N., & Eli-Chukwu, N. C. (2020). Managing the Challenges to the Effective Utilisation of E-Learning as a Response in COVID-19 Nigeria. *International Studies in Educational Administration* (Commonwealth Council for Educational Administration & Management (CCEAM)), 48(2).
46. J. Abel, G., & Gietel-Basten, S. (2020). International remittance flows and the economic and social consequences of COVID-19. *Environment and Planning A*, 52(8). <https://doi.org/10.1177/0308518X20931111>
47. Jimerson, S. R., Campos, E., & Greif, J. L. (2003). Toward an Understanding of Definitions and Measures of School Engagement and Related Terms. *The California School Psychologist*, 8(1). <https://doi.org/10.1007/bf03340893>
48. Kamba, M. A. (2009). Problems, challenges, and benefits of implementing e-learning in Nigerian universities: An empirical study. *International Journal of Emerging Technologies in Learning*, 4(1). <https://doi.org/10.3991/ijet.v4i1.653>
49. Karim, S. A., & Chen, H. F. (2021). Deaths From COVID-19 in Rural, Micropolitan, and Metropolitan Areas: A County-Level Comparison. *Journal of Rural Health*, 37(1). <https://doi.org/10.1111/jrh.12533>
50. Kent, A., Feldman, P., Motley, M., Baggett, P., Shaw, E., Byrd, K., Simpson, J., Jackson, T., & Lewis, W. (2011). Limiting the academic summer slide for urban elementary school students. *National Teacher Education Journal*, 4(2).
51. Kola, A. J., & Opeyemi, A. A. (2020). Mitigating the Impact of COVID-19 on the Teaching and Learning of Science in the Nigerian Higher Education. *IJRISS*, IV(July).
52. Kraft, M. A., & Monti-Nussbaum, M. (2017). Can Schools Enable Parents to Prevent Summer Learning Loss? A Text-Messaging Field Experiment to Promote Literacy Skills. *Annals of the American Academy of Political and Social Science*, 674(1). <https://doi.org/10.1177/0002716217732009>
53. Krieger, N., Waterman, P. D., & Chen, J. T. (2020). COVID-19 and overall mortality inequities in the surge in death rates by zip code characteristics: Massachusetts, January 1 to May 19, 2020. In *American Journal of Public Health* (Vol. 110, Issue 12). <https://doi.org/10.2105/AJPH.2020.305913>

54. Kuhfeld, M. (2019). Surprising new evidence on summer learning loss. *Phi Delta Kappan*, 101(1). <https://doi.org/10.1177/0031721719871560>
55. Kuhfeld, M., & Tarasawa, B. (2020). The Covid-19 slide: What summer learning loss can tell us about the potential impact of school closures on student academic achievement. *NWEA Research*, April.
56. Kuliya, M., & Usman, S. (2021). Perceptions of E-learning among undergraduates and academic staff of higher educational institutions in north-eastern Nigeria. *Education and Information Technologies*, 26(2). <https://doi.org/10.1007/s10639-020-10325-x>
57. Lavrijsen, J., Preckel, F., Verachtert, P., Vansteenkiste, M., & Verschueren, K. (2021). Are motivational benefits of adequately challenging schoolwork related to students' need for cognition, cognitive ability, or both? *Personality and Individual Differences*, 171. <https://doi.org/10.1016/j.paid.2020.110558>
58. Lawal, B. K., Haruna, A., Kurfi, F. S., & David, K. B. (2020). Covid-19 pandemic and pharmacy education in a developing country: A case study from Nigeria. *Pharmacy Education*. <https://doi.org/10.46542/pe.2020.202.1516>
59. Lee, J. S. (2014). The relationship between student engagement and academic performance: Is it a myth or reality? *Journal of Educational Research*, 107(3). <https://doi.org/10.1080/00220671.2013.807491>
60. Lenhoff, S. W., Somers, C., Tenelshof, B., & Bender, T. (2020). The potential for multi-site literacy interventions to reduce summer slide among low-performing students. *Children and Youth Services Review*, 110. <https://doi.org/10.1016/j.childyouth.2020.104806>
61. Luis, P.-C., Gisella, C., & Paolo, P.-C. (2020). Pandemic Covid-19: Political - economic situation and health consequences in Latin America. *Ciencia Unemi*, 13(33).
62. Mancini, A. D. (2020). Heterogeneous Mental Health Consequences of Covid-19: Costs and Benefits. *Psychological Trauma: Theory, Research, Practice, and Policy*. <https://doi.org/10.1037/tra0000894>
63. McKellar, S. E., Cortina, K. S., & Ryan, A. M. (2020). Teaching practices and student engagement in early adolescence: A longitudinal study using the Classroom Assessment Scoring System. *Teaching and Teacher Education*, 89. <https://doi.org/10.1016/j.tate.2019.102936>
64. McNeish, D., & Dumas, D. (2020). A seasonal dynamic measurement model for summer learning loss. *Journal of the Royal Statistical Society. Series A: Statistics in Society*. <https://doi.org/10.1111/rssa.12634>
65. Mishra, N. P., Das, S. S., Yadav, S., Khan, W., Afzal, M., Alarifi, A., Kenawy, E.-R., Ansari, M. T., Hasnain, M. S., & Nayak, A. K. (2020). Global impacts of a pre-and post-COVID-19 pandemic: Focus on socio-economic consequences. *Sensors International*, 1. <https://doi.org/10.1016/j.sintl.2020.100042>
66. Nearchou, F., Hennessy, E., Flinn, C., Niland, R., & Subramaniam, S. S. (2020). Exploring the impact of covid-19 on mental health outcomes in children and adolescents: A systematic review. In *International Journal of Environmental Research and Public Health* (Vol. 17, Issue 22). <https://doi.org/10.3390/ijerph17228479>
67. Nicholson, T., & Tiru, S. (2019). Preventing a summer slide in reading—the effects of a summer school. *Australian Journal of Learning Difficulties*, 24(2). <https://doi.org/10.1080/19404158.2019.1635499>
68. Nwagwu, W. E. (2020). E-learning readiness of universities in Nigeria- what are the opinions of the academic staff of Nigeria's premier university? *Education and Information Technologies*, 25(2). <https://doi.org/10.1007/s10639-019-10026-0>
69. Nwegbu, M. U., Osadebe, N. E., & Asadu, B. (2011). The Impact of Digital Divide on E-learning in Nigeria. *Journal of Applied Information Science and Technology*, 5(1).
70. Octavius, G. S., Silviani, F. R., Lesmandjaja, A., Angelina, & Juliansen, A. (2020). Impact of COVID-19 on adolescents' mental health: a systematic review. In *Middle East Current Psychiatry* (Vol. 27, Issue 1). <https://doi.org/10.1186/s43045-020-00075-4>
71. Odu, K. O. (2020). Human Capital Development in Science and Technology Education: Challenges and New Responsibilities of the Teacher. *Contemporary Educational Technology*, 2(3). <https://doi.org/10.30935/cedtech/6056>
72. Odunayo, S. M., & Izu, G. O. (2013). The Reality and Challenges of E-Learning Education in Africa: The Nigeria Experience. *International Journal of Humanities and Management Sciences (IJHMS)*, 1(3).
73. Offem, O. O., Anashie, A. I., & Aniah, S. A. (2018). Effect of strikes on management and planning of educational activities in Nigerian universities. *Global Journal of Educational Research*, 17(1). <https://doi.org/10.4314/gjedr.v17i1.1>
74. Ohiwerei, F. O., & Onimawo, M. J. A. (2016). Effects of Strike on the Academic Performance of Business Education Students in Nigerian Universities. *International Journal of Academic Research in Progressive Education and Development*, 5(3), 77. <https://doi.org/10.6007/IJARPED/v5-i3/2225>

75. Oladipo, A. T., Fashola, O. T., Agboola, E. I., Adisa, O. O., Oyekanmi, O. D., & Akinsete, A. M. (2020). Challenges with medical education in Nigeria in the covid-19 era. *Pan African Medical Journal*, 37. <https://doi.org/10.11604/pamj.2020.37.223.26418>
76. Orok-Duke, O. E., Sackey, J., Usiabulu, M., & Bassey, O. I. (2016). The Impact of Incessant Strike Actions and Industrial Disputes in the Cross River University of Technology and Its Effect on Students Motivation to Learning. *Journal of Education and Practice*, 7(17).
77. Pak, A., Adegboye, O. A., Adekunle, A. I., Rahman, K. M., McBryde, E. S., & Eisen, D. P. (2020). Economic Consequences of the COVID-19 Outbreak: The Need for Epidemic Preparedness. *Frontiers in Public Health*, 8. <https://doi.org/10.3389/fpubh.2020.00241>
78. Philomina, M., Bosco, J., & Okekeokosisi, O. C. (2020). Challenges of Implementing E-Learning in Nigeria Educational System in The Covid-19 Pandemic Era. *Social Sciences and Education Research Review*, 2(7).
79. Pindiprolu, S. S., & Marks, L. J. (2020). Preventing Summer Reading Slide: Examining the Effects of Two Computer-Assisted Reading Programs. *Rural Special Education Quarterly*, 39(3). <https://doi.org/10.1177/8756870520914281>
80. Rubino, S., Kelvin, N., Bermejo-Martin, J. F., & Kelvin, D. J. (2020). As Covid-19 cases, deaths, and fatality rates surge in Italy. Underlying causes require investigation. *Journal of Infection in Developing Countries*, 14(3). <https://doi.org/10.3855/jidc.12734>
81. Safonov, Y., & Borshch, V. (2020). Economic Consequences of Covid-19 and the Concepts of Their Overcoming. *Efektivna Ekonomika*, 5. <https://doi.org/10.32702/2307-2105-2020.5.1>
82. Salmela-Aro, K., Savolainen, H., & Holopainen, L. (2009). Depressive symptoms and school burnout during adolescence: Evidence from two cross-lagged longitudinal studies. *Journal of Youth and Adolescence*, 38(10). <https://doi.org/10.1007/s10964-008-9334-3>
83. Salmela-Aro, K., & Upadaya, K. (2012). The schoolwork engagement inventory: Energy, Dedication, and Absorption (EDA). In *European Journal of Psychological Assessment* (Vol. 28, Issue 1). <https://doi.org/10.1027/1015-5759/a000091>
84. Salmela-Aro, K., & Upadyaya, K. (2014). School burnout and engagement in the context of the demands-resources model. *British Journal of Educational Psychology*, 84, 137–151. <https://doi.org/10.1111/bjep.12018>
85. Schaufeli, W. B., Martínez, I. M., Pinto, A. M., Salanova, M., & Barker, A. B. (2002). Burnout and engagement in university students a cross-national study. *Journal of Cross-Cultural Psychology*, 33(5). <https://doi.org/10.1177/0022022102033005003>
86. Schubert, S. F. (2020). Covid-19: Economic Consequences for a Small Tourism Dependent Economy. *Revista Brasileira de Pesquisa Em Turismo*, 15(1). <https://doi.org/10.7784/rbtur.v15i1.2297>
87. Sevilla Vallejo, S., & Ceballos Marón, N. A. (2020). Theoretical and applied study of the psychological and educational effects of lockdown in primary school students in Argentina. *Social Sciences & Humanities Open*, 2(1). <https://doi.org/10.1016/j.ssaho.2020.100039>
88. Shih, S. S. (2012). An examination of academic burnout versus work engagement among Taiwanese adolescents. *Journal of Educational Research*, 105(4). <https://doi.org/10.1080/00220671.2011.629695>
89. Shinwell, J., & Defeyter, M. A. (2017). Investigation of Summer Learning Loss in the UK—Implications for Holiday Club Provision. *Frontiers in Public Health*, 5. <https://doi.org/10.3389/fpubh.2017.00270>
90. Skinner, E. A., & Pitzer, J. R. (2012). Developmental dynamics of student engagement, coping, and everyday resilience. In *Handbook of Research on Student Engagement*. https://doi.org/10.1007/978-1-4614-2018-7_2
91. Slates, S. L., Alexander, K. L., Entwisle, D. R., & Olson, L. S. (2012). Counteracting Summer Slide: Social Capital Resources Within Socioeconomically Disadvantaged Families. *Journal of Education for Students Placed at Risk*, 17(3). <https://doi.org/10.1080/10824669.2012.688171>
92. Stefansson, K. K., Gestsdottir, S., Geldhof, G. J., Skulason, S., & Lerner, R. M. (2016). A Bifactor Model of School Engagement: Assessing General and Specific Aspects of Behavioral, Emotional and Cognitive Engagement among Adolescents. *International Journal of Behavioral Development*, 40(5). <https://doi.org/10.1177/0165025415604056>
93. Suleiman, Y., Olanrewaju, M. K., & Suleiman, J. M. (2019). Perceived Problems of Strike Action and Deviant Behavior at Selected Higher Institutions in Ekiti State, Nigeria. *Indonesian Journal of Educational Counseling*, 3(2). <https://doi.org/10.30653/001.201932.78>
94. Turner, L., & Tse, L. (2014). Solving summer slide: Strategies and suggestions. *Set: Research Information for Teachers*, 1. <https://doi.org/10.18296/set.0004>
95. Ugar, A. A. (2018). ASUU strike: the federal government and Nigerian educational system. In *International Journal of Education and Research* (Vol. 6, Issue 5). www.ijern.com

96. Valle, A., Regueiro, B., Núñez, J. C., Rodríguez, S., Piñeiro, I., & Rosário, P. (2016). Academic goals, student homework engagement, and academic achievement in elementary school. *Frontiers in Psychology*, 7(MAR). <https://doi.org/10.3389/fpsyg.2016.00463>
97. von Hippel, P. T. (2019). Is summer learning loss real? Educationnext.Org.
98. Von Hippel, P. T., & Hamrock, C. (2019). Do test score gaps grow before, during, or between the school years? Measurement artifacts and what we can know in spite of them. *Sociological Science*, 6. <https://doi.org/10.15195/V6.A3>
99. Wonglorsaichon, B., Wongwanich, S., & Wiratchai, N. (2014). The Influence of Students School Engagement on Learning Achievement: A Structural Equation Modeling Analysis. *Procedia - Social and Behavioral Sciences*, 116. <https://doi.org/10.1016/j.sbspro.2014.01.467>
100. Yoo, D., & Kweon, I. S. (2019). Learning loss for active learning. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, 2019-June. <https://doi.org/10.1109/CVPR.2019.00018>.