Journal of Innovation in Psychology, Education and Didactics
ISSN: 2247-4579, E-ISSN: 2392-7127
http://www.jiped.ub.ro/
Covered in : EBSCO, CEEOL, ProQuest, DOAJ, Scipio,
International Innovative Journal Impact Factor, CiteFactor,
EuroPub database, Open Academic Journals Index, ResearchBib,
Universal Impact Factor
2022, Volume 26, Issue 1, pages: 7-16, doi:10.29081/JIPED.2022.26.1.01

Pandemic-Propelled Proposal for Paradigm Shift in Pedagogic Practices at Post-Primary Programme Level of Nigerian Education System

Titus O. AJEWOLE [1]*, Adedotun S. ALONGE[2], Dominic O. ADEBAYO[3], Musediq O. LAWAL[4]

Received: 27 November 2021/ Accepted: 20 January 2022/ Published: 09 February 2022

Abstract

With the likelihood of SARS-CoV-2 perpetuating itself within human population, reform of educational policies becomes imperative in many nations of the world, especially Nigeria where the experience of the COVID-instilled lockdown has revealed that the existing pedagogic practices at post-primary level of education does not provide for circumstances that could, on emergency, prohibit in-person physical classes. In the country, digitalization of education process is thus no more a concept for the future, but an imperative need of the present. Investigated in this study, therefore, is the acceptability by the end-users (teachers and students), of a teaching-learning procedure that blends physical and virtual instructional methods into a pedagogic model for use at secondary school level of education in Nigeria. A 4-item questionnaire was validated and administered to a total of 171 randomly chosen teachers and students, then statistical tools of chi-square, frequency, percentage and mean were used in analyzing their responses. It was obtained that 55.6% of the respondents agrees with having the two instructional approaches blended for use at post-COVID dispensation. Most likely it is, also, that this percentage of acceptance increases should there be improvement in the skills and competences of the end-users of the blend pedagogy, as well as availability of necessary Internet-of-Things facilities, access to quality telecommunication services and provision of stable electricity supply. This study reveals that Nigerian education system is mature to have the upgrading of its instructional process at the level of secondary school programme achieved seamlessly.

Key words: Blended instructional method; effectiveness; pedagogic practices; protective protocols; secondary schools; teaching-learning

How to cite*:* Ajewole, T.O, Alonge, A.S., Adebayo, D.O., Lawal, M.O. (2022). Pandemic-Propelled Proposal for Paradigm Shift in Pedagogic Practices at Post-Primary Programme Level of Nigerian Education System. *Journal of Innovation in Psychology, Education and Didactics*, 26(1), 7-16. doi:10.29081/JIPED.2022.26.1.01

[1] PhD, Associate Professor, Department of Electrical and Electronic Engineering, Osun State University, Osogbo, Nigeria, E-mail: titus.ajewole@uniosun.edu.ng
[2] PhD, Facilitator and Centre Manager, Ilesa Study Centre, National Teachers' Institute, Kaduna, Nigeria, E-mail: alongeadedotun@gmail.com
[3] MSc, College of Education, Osun State University, Osogbo, Nigeria, E-mail: dominic.adebayo@ uniosun.edu.ng
[4] PhD, Senior Lecturer, Department of Sociology, Osun State University, Osogbo, Nigeria, E-mail: musediq.lawal@uniosun.edu.ng
* Corresponding author

1. Introduction

As the third wave of the pandemic started hitting hard, full compliance with the protective protocols: social distancing, masking-up, hands washing or sanitizing, and temperature check; are being re-enforced. Enclosed public places in some states in Nigeria have been mandated to operate at not more than 50% of their usual human occupancy capacities (Oyeleke, 2021a), while schools (primary and secondary) across the concerned states are being selectively closed down again in the effort to flatten-out the rising curve of the cases of infection and mortality by the resurgent variant of corona virus disease 2019 (COVID-19) that is regarded as more deadly than the earlier variant (Ojerinde *et al.*, 2021a; Oyeleke, 2021b; Ojerinde *et al.*, 2021b; Oyeleke, 2021c). The first wave of COVID crisis brought about huge negative consequences on educational systems globally, during which Nigeria in particular had all its educational institutions closed for months (Agbele and Oyelade, 2020). Not many nations have fully recovered from the setback brought on education by the crisis. As the only alternative to ensure school children continued to learn amid the pandemic, web-based learning was deployed where possible (Eze *et al.*, 2021). But the effectiveness of this alternative approach has been considered marred by non-availability of or un-effective access to virtual learning facilities and poor competence in handling the technology (Eze *et al.*, 2021; Ajewole, 2020; Ajewole *et al.*, 2021a, Ajewole *et al.*, 2021b).

While the earlier days of discovering vaccines for the severe acute respiratory syndrome coronavirus 2 (*SARS-CoV-2*) brought hope on imminent eradication of the virus, the currently prevailing slow pace of vaccination across many nations, coupled with the emergence of deadlier variants of the disease, may substantiate an earlier submission that the disease is going to stay long with human population. Thus, authors in Lavine, Bjornated & Anitia (2021) and Phillips (2021) reinforce the importance of behavioural containment even in concurrent with the vaccines rollout. McKenna (2021) in agreement with the possibility of the disease staying long, in a less lethal form though, also advocates continue observance of the protective protocols alongside vaccination, with the admission of the reality that these actions will not suffice to wipe out the novel disease completely. The likelihood of the disease perpetuating, consequentially makes reform of education systems imperative, especially in Nigeria where the experience of the lockdown period has shown that the pedagogic practices and capacities at post-primary level of the country's education system have never provided for such circumstances that could prohibit in-person physical classes.

Nigeria has been conspicuously lagging behind in digitalization of education process. Reasons for this are itemized in Tunmibi *et al.* (2015). Schools were thus either un-prepared or ill-prepared for the switching from physical to virtual schooling that trailed the COVID-propelled lockdown. Bottlenecks to effective implementation of the virtual schooling include: impromptu transition (Bradbury *et al.*, 2020), non-availability of facilities (Mahyoob, 2020; Egielewa *et al.*, 2021; Alyoussef, 2021), unstable access to telecommunication services (Dayagbil, 2021) and electricity supply epilepsy (Lawal, Bada & Ajewole 2021). For the post-lockdown dispensation, however, a model that blends both physical and virtual instructional methods have been advocated for all levels of former education by a number of researchers (Ajewole *et al.*, 2021b; Phillips, 2021; McKenna, 2021; Donnelly, Patrinos & Gresham, 2021). This could make a good way to provide for the protracted challenges in educational system should COVID eventually perpetuates, or for probable occurrence of similar crisis in the future. Adoption of the blend instructional method, therefore, could cultivate seamless transition into the full digitalization of the education system and the blend model will thus, in this wise, lay foundation for a robust educational system of the future.

Reformation of pedagogic process certainly comes with curricular review; provision of relevant technological and teaching-learning delivery facilities; human capacity development or building via acquisition of necessary skills, expertise and competences; and the likes. It is,

definitely, a long-term process during which teachers and learners are at the most receiving end of the toughness that may go along with it. These categories of educational stakeholder (teachers and students) are the end-users, and are very much likely to soon find too daunting, such paradigm shift from the conventional, especially when the transform is too sudden and unprepared for. Therefore, blended instructional method is most likely to provide gradual and hitch-free transition from the traditional to the digital pedagogic practices.

Ascertaining the present level of acceptance of the emerging digital pedagogic model by the receiving-end stakeholders (teachers and students) may make a good way to kick-started the long process. Therefore, this study focuses on investigating the acceptability, by both teachers and students, of the kind of teaching-learning approach that blends in-person and on-line instructional methods into a pedagogic model for use at secondary school level of education system of the country Nigeria. Organization of this paper is as follows: method of the study is presented in the second section; while the results obtained from the investigation are presented in the third section; the fourth section discusses the results; and section five provides conclusion with some recommendations that base on the study.

2. Methods

Descriptive survey design was used in this study. Research questions were formulated, questionnaire was designed and administered, and the responses by the participants were analyzed in drawing inferences. Focus of the investigation was directed at all secondary schools in Ife-East Local Education Authority in Osun State of Nigeria. In the area, there is a total of 97 secondary schools (public and private), with aggregate of 71,493 students and 1,470 teachers. Out of these, only a school with population of 770 students and 41 teachers did take to on-line schooling during the COVID-propelled curfew. Thus, the population of this study constituted students and teachers of the lone school, with the reason for this choice of population being the involvement and experience of the school in virtual teaching-learning activities. Using stratified random sampling technique, 171 persons participated in the survey, comprising of 150 students and 21 teachers (corresponding to 19.48% and 51.22% of their respective stratum population).

2.1 Research questions

Four research questions were developed, to which answers were provided through the analysis of the responses given to each item of the questionnaire by the participants in the survey. While research questions (i), (ii) and (iii) were designed to probe into the past experiences of the respondents by the way of comparing the effectiveness of pre-COVID physical schooling with in-COVID virtual schooling; the design of research question (iv) was intended to inquire into the future, on the acceptability of a blend of the two schooling methods at post-COVID.

- **(i)** Must there be remedial physical classes for the instructional deficiencies of the on-line classes held during the lockdown?
- **(ii)** Should virtual instructional method be fully adopted at post-pandemic dispensation without reverting to the traditional in-class method again?
- **(iii)** Is there need to revert fully to the conventional classroom-based instructional method after the pandemic?
- **(iv)** Would a blend of in-class and e-class instructional methods make an acceptable pedagogic model at post-pandemic dispensation?

2.2 Questionnaire design and administration

A 4-item questionnaire was used as the instrument for data collection. To ascertain the face validity of this questionnaire, it was handed in for scrutiny by 5 experts: two secondary school teachers, a facilitator (instructor) at a teachers' training institute, and two faculty members of a university's college of education who are e-learning users and advocators. Chi-Square method of reliability testing was, thereafter, employed to measure the extent to which the items of the questionnaires all measured the same underlying construct (Ratner, 2009; Schober, Boer & Schwarte, 2018). With the questionnaire administered physically within the school premises and under a normal atmosphere of teaching-learning condition, it was ensured that in completing it each participant was not influenced by any opinion other than personal.

2.3 Data analysis

Completed questionnaire was returned by 100% of the respondents. Inferences were drawn from the evaluation of the collected data. This was achieved by application of chi-square, frequency, percentage and mean analysis, then the results are represented in table and charts.

3. Results

The questionnaire was completed and returned by 150 students (of whom 52.7% were male while 47.3% were female) and 21 teachers (of whom 66.7% were male and 33.3% were female). By class grade, while 50 of the students were in junior classes, 50 were in senior classes (Sciences) and 50 were in senior class (Arts). By their areas of specialization, 8 of the teachers belonged to the field of Sciences (Physics, Chemistry, Biology, Geography, Introductory Technology and Agricultural Sciences), 10 belonged to Arts (Civics, Government, History, Commerce, Fine Arts and Paintings, and Economics), while 1 belonged to each of Mathematics and Languages, and 1 was the School Principal.

In Table 1 is presented the mindset of the respondents on the instructional methods of in-class, on-line, as well as blend of the two; based on their experiences of the COVID lockdown period. From the analysis of these responses, answers are provided to the four research questions. Prospect of the blend pedagogy and its acceptability by the end-users, for educational advancement in Nigeria, is also identified for advocacy.

Table 1. Determining the Acceptability of Blend Pedagogy for Post-Pandemic Dispensation

Variables	$\chi^{2\,Cal}$	Degree of freedom	Teachers	Students
For fulfilling learning experience, topics taught on-line during lockdown need to be repeated physically when students resume	0.4140	1	AG = 16 DG = 05	AG = 104 DG = 46
On-line method must continue after the lockdown, without reverting to the normal in-class method again	2.5693	1	AG = 02 DG = 19	AG = 38 DG = 112
On-line method must be stopped completely after the lockdown and the normal in-class method should start fully again	2.7042	1	AG = 17 DG = 04	AG = 94 DG = 56
After the lockdown, the mode of teaching-learning in Secondary Schools should be a blend of both e-class and in-class methods	1.1970	1	AG = 14 DG = 07	AG = 81 DG = 69

Note: AG = Agree, DG = Disagree

Based on the analysis of the responses provided to the questionnaire's items (i) to (iv), answers were provided to the research questions (i) to (iv) respectively. Premised on the answers, a three-point proposal on the need for upgrade in the instructional process is put forward.

3.1. The existence of physical remediation courses for training deficiencies of online classes held during the block

As presented in Figure 1 that shows the responses of the participant to the Item 1 of the questionnaire, 70.2% of the respondents wants the topics taught on-line during the lockdown to be repeated face-to-face on resumption from the lockdown. This position indicates that the on-line method of instruction, as deployed during the lockdown, was not completely satisfying to these end-users. However, the fact that up to 29.8% did not consider remedial physical classes necessary is a pointer to some recognizable appreciation for the on-line method by some of the respondents. The request for make-up classes is possibly not occasioned by somewhat deficiency in the technology of the virtual schooling, nor incompetence of the end-users, but very likely to be on some other factors that were beyond the control of the end-users, such as non-availability of the required facilities, lack of access to stable telecommunication services and erratic supply of electric power. Therefore, while remedial physical classes need to be provided for the instructional deficiencies of the on-line classes held during the lockdown, the 29.8% connotes that the two instructional methods can be regarded as complementary.

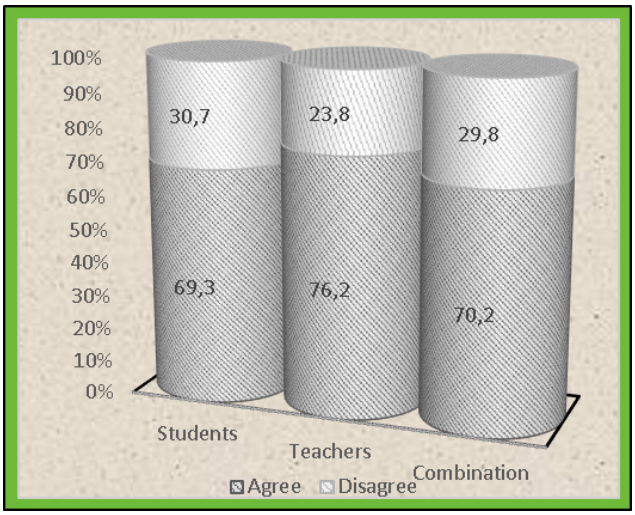

Figure 1. Analysis of the responses given to Item 1

3.2 Full adoption of the virtual teaching method, without returning to the traditional method in the classroom

Responses of the participant to the Item 2 of the questionnaire is presented in Figure 2. The figure shows that only 23.4% of the respondents was of the opinion that on-line instructional method must continue after the expiration of the lockdown without reverting to the traditional in-class method at all. This low support for continuation of on-line schooling may not be unconnected with the suddenness and unpreparedness in the transition from in-class to the on-line schooling as it was experienced at the dawn of the lockdown. There were other bottlenecks that also cropped up in the course of deploying the virtual schooling, which would have, as well, responsible for this response. Nevertheless, in this outcome is found an indication that the respondents do not give-in to replacement of face-to-face schooling with on-line schooling. At post-pandemic dispensation, therefore, virtual instructional method should not be fully adopted in

place of the traditional method. Nevertheless, though the support level is low, it yet indicates some interest of the respondents in virtual schooling. Thus, complementing physical schooling with virtual schooling would yield a great result.

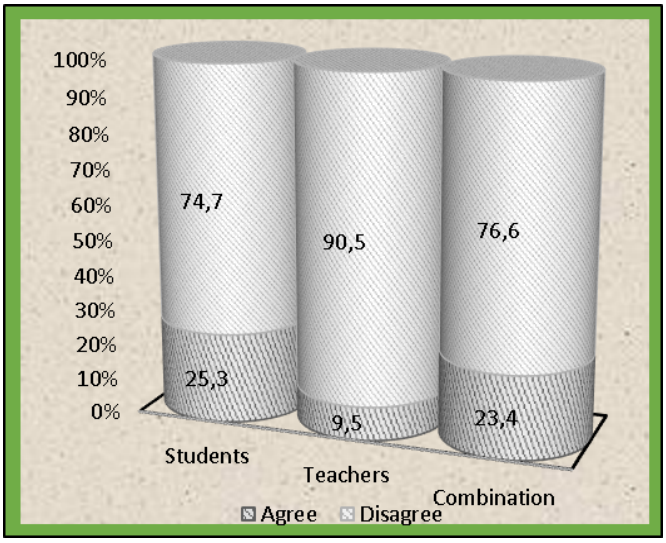

Figure 2. Analysis of the responses given to item (ii)

3.3 Return to the conventional class-based training method after the pandemic

With 64.9% of the respondents in support of reverting fully to the traditional in-class instructional method after the lockdown, as shown in Figure 3 that presents the responses of the participant to the Item 3 of the questionnaire, the preference of the respondents for physical schooling over virtual schooling is further established. Therefore, there is the need to revert to the conventional classroom-based instructional method after the pandemic. Nevertheless, the analysis also shows that 35.1% would still prefer to continue with the virtual learning approach. Showing that a blend of virtual schooling with the traditional physical schooling would thus definitely make a profitable compromise.

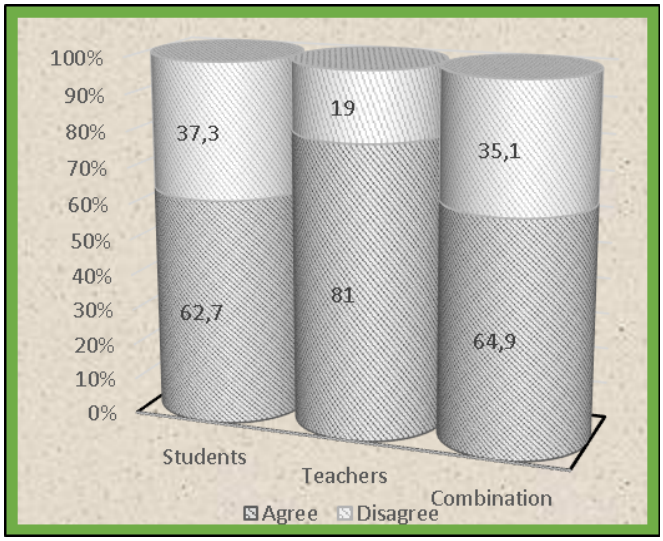

Figure 3. Analysis of the responses given to item (iii)

3.4 Combining classroom and e-classroom instructional methods as an acceptable pedagogical model in post-pandemic dispensation

In Figure 4 it is shown that 55.6% of the respondents did align with adoption of blended virtual/physical class as instructional method for use at post-COVID dispensation. This rate of acceptance of physico-virtual schooling is certainly remarkable. Further increase in the acceptance level is not impossible provided that the deployment of the blend model could be ridded of all the identified bottlenecks and encumbrances that trailed the deployment of on-line schooling during COVID lockdown. Therefore, a blend of in-class and e-class instructional methods would make an acceptable pedagogic model at post-pandemic dispensation.

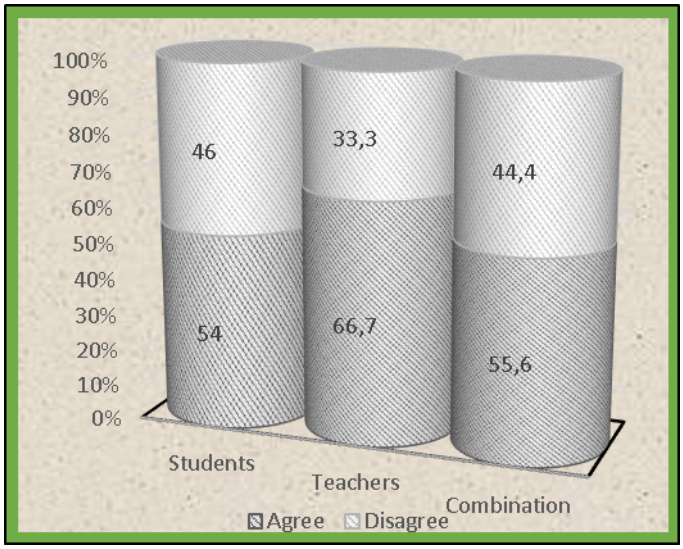

Figure 4. Analysis of the responses given to item (iv)

4. Discussions

Informed decisions are needed for overall improvement of education sector of a nation. In this respect, the answers provided to the questions of this research are very vital for educational policy making in Nigeria. A deliberate effort made at improving on the positive view already created on virtual schooling would be appropriate, and could be achieved by identifying deficiencies of its deployment, as surfaced during the lockdown, with possible remediation provided through physical classes.

Acceptability of the physico-virtual blend pedagogy, which is greater than 55% as obtained from this study, is a good quotient upon which reliable decision could be made in favour of shifting from the conventional in-class instructional practices to the blend model as a preparatory stage for full digitalization. More so, the acceptability quotient of the model is liable to improve provided its implementation is ridded of the identified bottlenecks and encumbrances that trailed the deployment of on-line schooling during the lockdown. The outcome of this study is a proof that Nigerian education system is indeed in need of upgrading its pedagogic process at secondary school programme level and also, that the system is already mature to seamlessly achieve the upgrade.

5. Conclusion

Nigerian education system is in this study investigated for its acceptability of the pedagogic model that blends physical and virtual instructional approaches. The study obtained the mindsets of the receiving-end stakeholders (teachers and students at secondary school level of education)

on the blend pedagogy. In the views of the respondents, as analyzed in this research, the on-line schooling deployed during the pandemic-propelled lockdown was not so effective, but could be considered as far better than no-schooling. With the pandemic possibly elongating and for the possibility of future unforeseen similar crisis, virtual schooling is a good alternative that must be well developed. These suggest that Nigerian education needs to improve in digital compliancy, more so that educational systems globally are rapidly going digitalized. A good starting point could be physico-virtual blend pedagogic model. By this study, the blend model has higher than 55% acceptability as the post-pandemic instructional tool at secondary schools, with the likelihood of increasing acceptance among teachers and students.

It is hereby put forward that Nigerian education system is at present not only in a dire need of, but also well ripe for a paradigm shift in its pedagogic practices. Upgrading of its instructional approaches at the level of secondary schools, from the convectional to the blend pedagogic method is particularly necessary to catch up the with the digitalization wave that is current pervading educational systems globally. Based on this study, it is proposed that:

(i) Blending on-line and in-class instructional methods, for use as the post-pandemic teaching-learning tool at secondary schools, did garner over 55% acceptability. To this end, Nigerian education system should adopt the blend model at secondary school level.

(ii) To ensure effective deployment of the blend pedagogy, government at all levels (local, state and national) must deliberately and adequately direct efforts at providing required virtual schooling facilities, encouraging human competency development and creating enabling environment for the instructional model.

(iii) Complete digitalization of the Nigerian education system has become imperative and so must be rigorously pursued by all stakeholders in order to earn the system the ground to favourably compete with similar ones at global education community.

References

Agbele, A.T., & Oyelade, E.K. (2020). Impact of COVID-19 on the Nigerian educational system: Strengths and challenges of online/virtual education. *Asian Journal of Education and Social Studies*, *13*(1), 26-35, hppts://doi.org/10.9734/ajess/2020/v13i130322.

Ajewole, T.O. (2021). Assessment of the Effectiveness of E-Learning in Nigerian Secondary Schools during COVID-19 Lockdown: A Case Study of Ife-East Local Government Area of Osun State. Postgraduate Diploma in Education Thesis. National Teachers' Institute, Kaduna, Nigeria.

Ajewole, T.O., Adeyemi, S.B., Amossou, T.E., & Alonge, A.S. (2021a). Disposition of Nigerian secondary school students to e-learning technology during COVID-19 lockdown. *Journal of Innovation in Psychology, Education and Didactics, 25*(2), 131-142, https/doi.org/10.29081/JIPED.2021.25.2.02

Ajewole, T.O., Adeyemi, S.B., Amossou, T.E., & Adebayo, D.O. (2021b). COVID-19 crisis and the adoption of virtual teaching technology in Nigerian secondary schools: perception of the teachers. *Journal of Innovation in Psychology, Education and Didactics, 25*(2), 95-102, https/doi.org/10.29081/JIPED.2021.25.2.07

Alyoussef, I. (2021). E-learning system use during emergency: an empirical study during the COVID-19 pandemic. *Frontiers in Education*, 6:6777753, https://doi.org/10.3389/feduc.2021.677753

Bradbury, B.L., Suarez-Sousa, X.P., Coquyt, M., Bockelmann, T.L., & Pahl, A.L. (2020). Teaching under crisis: Impact and implication of the COVID-19 Pandemic on education in Minnesota. *The Interactive Journal of Global Leadership and Learning, 1*(2), https://red.mnstate.edu/ijgll/vol1/iss2/2

Phillips N. (2021): The coronavirus is here to stay – here's what that means: A Nature survey shows many scientists expect the virus that causes COVID-19 to become endemic, but it could pose less danger over time, Material retrieved from https://www.nature.com/articles/d41586-021-00396-2

Dayagbil, F.T., Palompon, D.R., Garcia L.L., & Olvido, M.M.J. (2021). Teaching and learning continuity amid and beyond the pandemic. *Frontiers in Education*, 6:678692, https://doi.org/10.3389/feduc.2021.678692

Donnelly, R., Patrinos, H.A., & Gresham, J. (2021). The impact of COVID-19 on education – Recommendations and opportunities for Ukraine. The World Trade Bank. Material retrieved from https://www.worldbank.org/en/news/opinion/2021/04/02/the-impact-of-covid-19-oneducation-recommendations-and-opportunities-for-ukraine.

Egielewa, P., Idogho, P.O., Iyalomhe, F.O., & Cirella, G.T. (2021). COVID-19 and digitized education: Analysis of online learning in Nigerian higher education. *E Learning and Digital Media,19(1), 19-35*, https://doi.org/10.1177/20427530211022808

Eze, U.N., Sefotho, M.M., Onyishi, C.N., & Eseadi C. (2021). Impact of COVID-19 pandemic on education in Nigeria: Implications for policy and practice of e-learning. *Library Philosophy and Practice (e-journal)*, 5651. https://digitalcommons.unl.edu/libphilprac/5651

Lavine, J.S., Bjornated, O.N., & Anitia, R. (2021). Immunological characteristics governing the transition of COVID-19 to endemicity. *Science, 371*(6530), 741-745, https://doi.org/10.1126/science.abe6522

Lawal, M.O., Bada, O.M., & Ajewole, T.O. (2021). Electricity consumers' satisfaction during COVID-19 lockdown in some selected states in Nigeria. *Jindal Journal of Business Research, 10*(2),1-13, https/doi.org/ 10.1177/227868 21211045792.

Mahyoob, M. (2020). Challenges of e-learning during the COVID-19 pandemic experienced by EFL learners. *Arab World English Journal, 11*(4), https://dx.doi.org/10.24093/awej/vol11no4.23.

McKenna, M. (2021). The pandemic will end – But COVID-19 may be here to stay, Material retrieved from https://www.wired.com/story/the-pandemic-will-end-but-covid-19-may-be-here-to-stay/

Ojerinde, D., Charles, J., Muntari, T., Odey, P., & Bakam, A. (2021a). FG lines-up ₦36bn for COVID-19 third wave, 4,261 cases recorded in 30 days, Material retrieved from www.punch.com.

Ojerinde, D., Tolu-Kolawole, D., Odeniyi, S., Muntari, T, Olatunji, D., Nejo, A., Ochei, M., Bakam, A., & Ede, R. (2021b.). COVID-19 Third wave: states run out of vaccine, 9,057 travellers disappear, Material retrieved from www.punch.com.

Oyeleke, S. (2021a). Third wave: Lagos COVID-19 isolation centres getting occupied again, says Sanwo-Olu, Material retrieved from www.punch.com.

Oyeleke, S. (2021b). COVID-19 third wave: UNILAG medical centre records increase in patients with 'flu-like' symptoms, Material retrieved from www.punch.com.

Oyeleke, S. (2021c). Third wave: Sanwo-Olu cautions Lagosians as 30 die of COVID-19 in one week, Material retrieved from www.punch.com.

Ratner, S. (2009). The correlation coefficient: Its value range between +1/-1, or do they? *Journal of Targeting, Measurement and Analysis for Marketing, 17*, 139-142

Schober, P., Boer, C., & Schwerte, L. (2018). Correlation coefficient: Appropriate use and interpretation. *Anaesthesia and Analgesia, 126*(5), 1763-1768

Tunmibi, S., Aregbesola, A., Adejobi, P., & Ibrahim, O. (2015). Impact of e-learning and digitalization in primary and secondary schools. *Journal of Education and Practice, 6*(17), 53-59.