

Enhancing the Capacities of Teachers and State Implementation Mechanisms for Learning Recovery: The Experience of the National Teachers' Institute (NTI), Kaduna, Nigeria.

Introduction

The advent of COVID-19 pandemic forced many governments around the world to temporarily close down their schools to curtail the spread of the disease. The measure eventually led to learning loss in schools. Severe learning loss usually occurs when there is unexpected disruption in the school calendar due to natural or man-made disasters. In Nigeria, these include insecurities due to banditry, flooding, disease outbreaks (e.g., Cholera, Meningitis), epidemic (e.g., Ebola) and COVID-19 which in the case being reported here was the straw that broke the camel's back. To quote Obiakor and Adeniran (2021),

'Before the COVID-19 pandemic stalled learning for students in Nigeria, the nation's education system was facing an epidemic of its own: a deeply inadequate and inequitable education system that taught far too little to only few students'.

At the peak of the pandemic, almost 40 million students were affected by the nationwide school closure that lasted for about nine months. During this period virtually no in-school learning took place for majority of students in Nigeria as in many developing countries due to very low technology penetration in the schools coupled with a lack of digital capacity among majority of teachers. It is conceivable that COVID-19 is unlikely to be the last large-scale school disruption that may occur. This reflection on the sporadic occurrence of such disasters underscores the pressing need to develop a more robust education ecosystem in which learning can continue even when in-person instruction in conventional classroom settings might not be possible. Huang and Jatturas (2020) point out that forecasting the next emergency is a complicated task but preparing for it is not. It is against this background, that the National Teachers' Institute (NTI) in collaboration with Commonwealth of Learning (COL) conceived a Learning Recovery Programme (LRP) aimed at enhancing the capacities of basic education teachers and state implementation mechanisms to effectively address any such eventualities that might occur in the future.

Review of Literature

The Learning Recovery Concept

Learning Loss

Learning loss according to (Bright & Ebradouye 2021) refers to "any specific or general loss of knowledge and skills or to reversals in academic progress, most commonly due to extended gaps or discontinuities in a student's education".

Learning Recovery

Learning recovery seeks to ensure that pupils'/students' learning progresses even amidst disasters such as natural calamities, pandemics, insecurity, storms, or fires. It is a continuing plan designed to maintain the continuity of academic delivery even at the onset of severe disruption, interrupts or diminish access to essential school resources or premises (Olawunmi & Osakwe2021).

Learning recovery is a means of creating an amiable atmosphere for life-long learning and high students' achievement in schools. Technology has come to stay and so everybody must come to grip with the reality and make themselves relevant for the 21st century mode of operation in schools.

Nigerian teachers need to have the requisite technological skills to support online learning and where appropriate technological infrastructure (i.e., electronic devices such as computers, laptops, tablets, or mobile phone, internet connectivity, availability of electricity, or other sources of power, radio and television), that are available to support such online learning. Unfortunately, in most basic and secondary schools across the country teachers lack the requisite technological skills and schools lack the appropriate technological infrastructure for successful online learning. Wide inequalities exist in access to internet and digital devices among schools across the country. Even where digital devices

exist which can readily be used for teaching and learning such as mobile phones, radio and television, teachers generally lack the capacity to deploy these devices to their instructional practice.

The Accelerated Learning Concept

The interrupted learning in schools coursed educators to find alternative ways to address the wide gap of academic abilities created. The go-to approach has often been remediation, or teaching content and skills that students didn't master in previous grades. But a recent report from TNTP (formerly The New Teacher Project), using data from the nonprofit curriculum publisher Zearn, shows promise for accelerated learning, an approach that has gained traction over the past year. Researchers found that when teachers took an accelerated-learning approach in math, students completed 27 percent more grade-level lessons, and struggled less with content, than students in classrooms where teachers used remediation.

Accelerated learning may sound like a method for speeding through lessons to cover everything students didn't learn in previous grades. It's not. Accelerated learning does not look back. It moves students forward to tackle grade-level content, providing them with help when they need it. It's not "just-in-case" remediation. It's "just-in-time" scaffolding.

The aims of the study were to:

1. determine from the onset of the project teachers' digital skills and capacity for blended learning to serve as benchmarks for subsequently assessing the effectiveness of the project;
2. relate these skills to other extraneous variables such as available teacher support mechanisms; and
3. enquire into the influence of the project on teachers' use of podcasts and other multimedia resources in teaching and learning.

The general hypothesis was that teachers' digital skills are not significantly related to their use of podcasts and other multimedia resources in teaching; and that teachers' use of the blended approach is more related to a direct policy on technology integration that is supported by the education authority.

Methodology

The survey design was used with a target population of 242,000 teachers, teacher educators and students. consisting of all teachers and students in Kebbi and Sokoto states from the northwest geopolitical zones of the nation. The main principles that guided the implementation of the project included, concentration on the development of podcasts and other multimedia resources, enhancing the capacities of teachers and state mechanisms on the use of the developed multimedia resources, developing teacher networks and support structures for mobile learning and institutionalizing the use of the blended learning approach by teachers in 50 selected schools.

Teachers were trained on podcasts development and accelerated learning approaches. This crop of MTs were used to cascade the training to 2000 teachers in the two states. Each of the 10 State MTs was allocated and virtually joined with 100 teachers in a WhatsApp Group for effective mentoring and each of the 20 State MTs was assigned to and virtually joined with two teacher educator mentors from the NTI who monitored and coordinated the implementation of the Project at the state level.

Sampling Technique

A systematic random sampling technique was used for this study, a total of 2000 teachers, 42 teacher educators and an estimated 242,000 students were targeted by the project in two northwestern states of Nigeria (Kebbi & Sokoto).

Instruments for Data Collection

For the purpose of this study, the following instruments were used for data collection: Podcast Learning Questionnaire [PLQ]) and Learner-Centred Lesson Questionnaire [LCLQ]). The two instruments were subjected to content and face validation by experts and a reliability coefficient of 0.6825 was obtained for instruments.

Methods of Data Collection

A set of validated pre and post training questionnaires (Podcast Learning Questionnaire [PLQ]) and Learner-Centred Lesson Questionnaire [LCLQ]) was used to elicit information from a sample of 250 respondents. The pre training questionnaires was administered before the commencement of the training while the post training questionnaires was administered after the trainings. The results shows that there was a great improvement in teachers’ capacity before and after exposure to the trainings.

Method for Data Analysis

Description statistics in form of mean and standard deviation and graphically illustrations using bar charts were used to answer research questions and analysis of Covariance (ANCOVA) was used to test hypotheses.

Results and Discussion

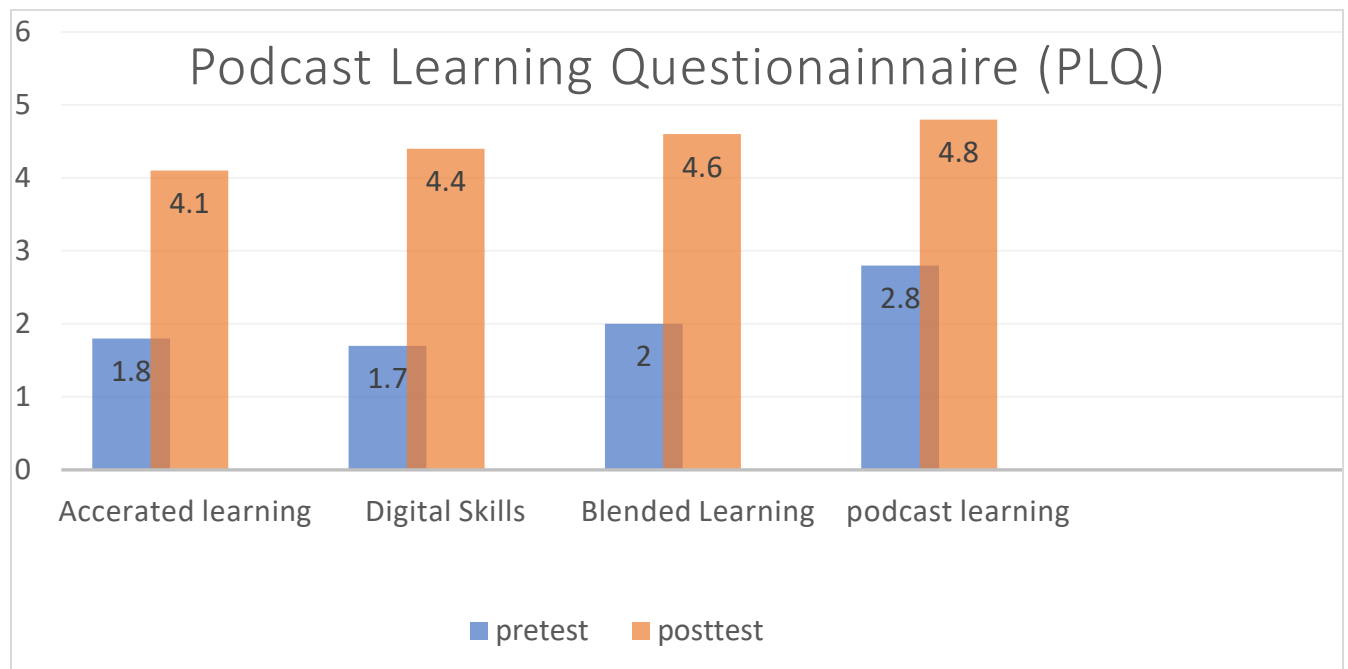


Figure 1: Podcast Learning

Four major variables were assessed during the experiment. These were accelerated learning, digital skills, podcast learning and analyzing and editing a podcast. The mean scores are graphically illustrated in bar charts as shown above.

Table 1: Mean score for Strategies employed for Accelerated Learning Digital Learning, Blended Learning and Podcast.

Level	N	Mean	Std. Deviation	Std. Error	Mean difference
Pre-test	250	13.45	3.081	0.215	-0.33
Post-test	250	33.00	5.133	0.347	19.13

The mean scores of pre and posttest rose from 13.45 ± 3.081 to 33.00 ± 5.133 with a mean difference of 19.13 33.00 ± 5.133 . This indicates that the strategies employed in building teachers' capacity for accelerated, digital skills, blended learning podcast development was improved.

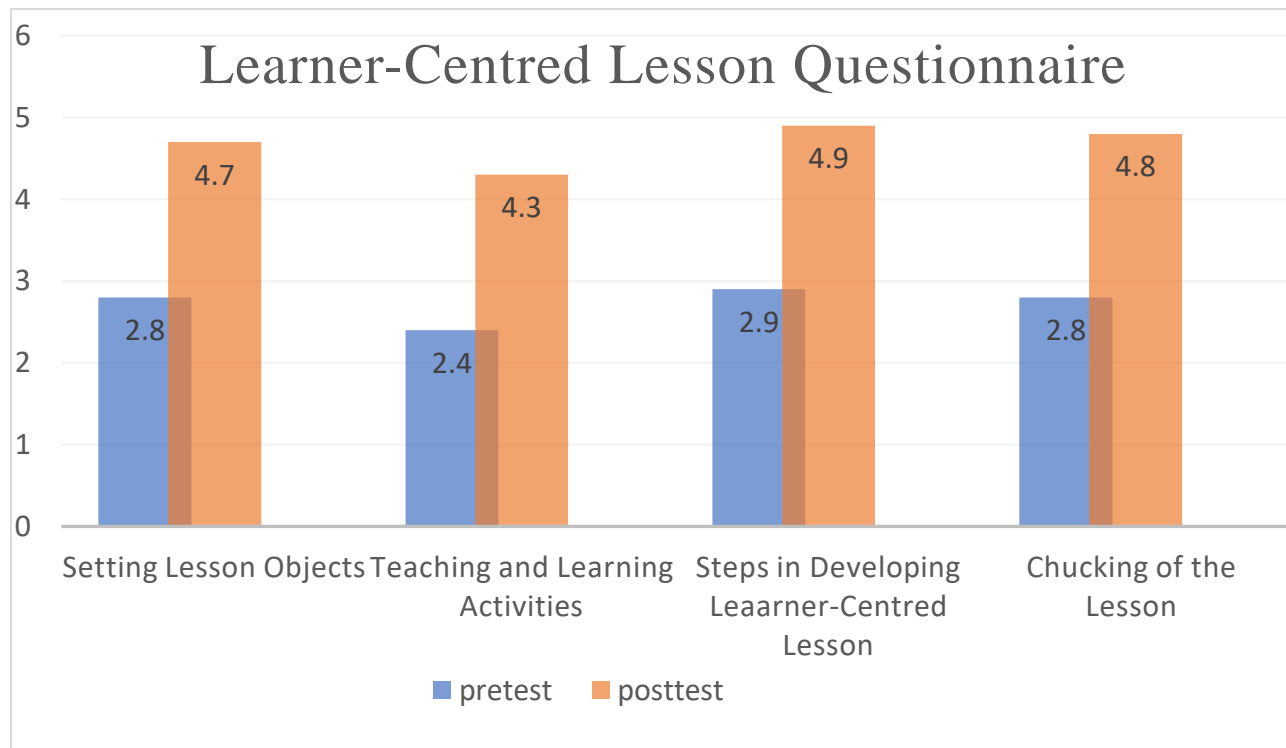


Figure 2: Learner centred lesson

Four major variables were assessed during the experiment. These are setting lesson objectives, teaching and learning activities, steps in developing a learner-centred lesson and chunking of the lesson planned. The mean scores are graphically illustrated in bar charts as shown above with great improvement on the scores of the posttest.

Table 2: Mean score of the influence use of podcasts and other multimedia resources in teaching and learning.

Level	N	Mean	Std. Deviation	Std. Error	Mean difference
Pre-test	250	11.55	3.098	0.215	-0.43
Post-test	250	39.00	5.011	0.347	18.09

The mean scores of pre and posttest rose from 11.55 ± 3.098 to 39.00 ± 5.011 with a mean difference of 18.09 ± 5.133 . This indicates that enhancing the capacity of teachers in setting lesson objectives, sourcing for teaching and learning resources, planning and chunking lesson improved a great deal.

Teachers' Networks and Support Structures for Mobile Learning

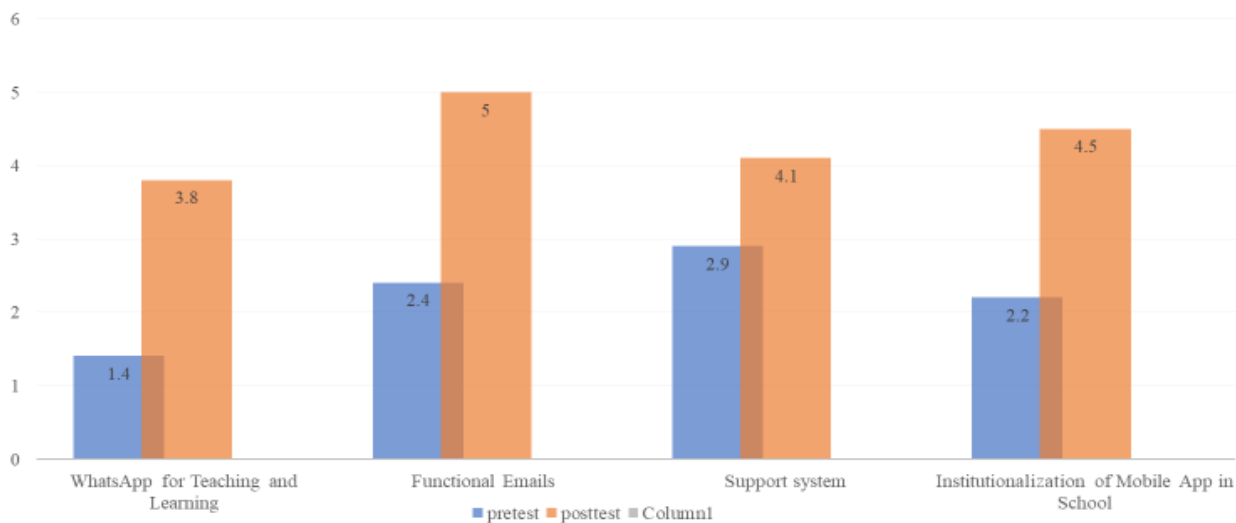


Figure 3: Teachers' network and support structures for mobile learning.

Table 2: Mean score of the influence use of podcasts and other multimedia resources in teaching and learning.

Level	N	Mean	Std. Deviation	Std. Error	Mean difference
Pre-test	250	10.55	2.098	0.115	-0.43
Post-test	250	38.00	4.011	0.247	16.09

The mean scores of pre and posttest rose from 10.55 ± 3.098 to 38.00 ± 4.011 with a mean difference of 19.09 ± 4.011 . This indicates the great influence in the use of podcasts and other multimedia resources in teaching and learning.

DISCUSSION OF FINDINGS

Pretest

The results from the study shows that at the onset of the project the pretest administered indicated teachers' digital skills and capacity for blended learning to serve as benchmarks for subsequently assessment of the effectiveness of the project was generally low with accelerated leaning value of 1.8 where most teachers indicated that they don't have adequate knowledge on accelerated learning concept. For teacher's digital skills, the pretest score was 1.7, this low score is a reflection of the teacher's inability to open an email account and for those have an email, it was not functional. The also have difficulties registering on the MooKIT platform due to their low digital skills. Most of the teacher have android phone but they never taught it can be use to help them in their teacher and learning processes. Most of them never had of podcast or its structure and how it can be used to accelerate learning.

The pretest on learners centred lesson also shows that teachers still have difficulties in setting the lesson object using the SMART format with a value of 2.8, sourcing for the teaching and learning resources was time consuming with a value of 2.4. The steps to following when developing a learner- centred lesson was so confusing with a value of 2.9 and lesson chunking of the planned lesson was 2.8. Some of the teachers have attended a training programme on activity-based lesson. The teachers indicates that it will be difficult for them to use podcast and other multimedia resources in the teacher and learning process.

The pretest on the issue of teacher support structures and mechanisms for mobile learning was also low with 1.4 value for use of WhatsApp, and 2.9 for support structures mechanism and for institutionalization of mobile learning in schools the pretest value was 2.2. The results of the pretest show that teacher's knowledge and skill is generally low in the areas examined.

The intervention given was on building capacity of teachers for learning recovery, teachers were trained on various strategies use to recover learning loss during the covid-19 pandemic and other school disruptions.

Posttest

The posttest results showed a great improvement in scores as compared to the pretest, for accelerated learning the posttest value was 4.1 against the 1.8 value indicated during the pretest.

As for the digital skills for the teachers, the posttest result was 4.4 as against the 1.7 value of the pretest. Blended learning rises 4.6 as against the 2.0 in the pretest and for podcast learning its 4.8 against the initial 2.8.

For the learner centred lessons, its 4.7 for setting lesson objectives against the 2.8 during pretest, 4.3 for sourcing teaching and learning resources against the initial 2.4. Steps for developing lesson was 4.9 and 4.8 for chunking of lesson plan against the initial 2.9 and 2.8.

The posttest on the issue of teacher support structures and mechanisms for mobile learning was increases to 3.8 for use of WhatsApp, and 4.5 for support structures mechanism and for institutionalization of mobile learning in schools. Opening and use of functional email value was 5.0, this high value was as a result that after the trainings all the participants were able to open and use a functional email. Institutionalization of mobile app in schools value was 4.5 against the initial 2.2. The results of the posttest indicated that teacher's knowledge and skill greatly improved after the training as against the initial pretest value.

This shows teachers need to have the requisite technological skills to support online learning and where appropriate technological infrastructure (i.e., electronic devices such as computers, laptops, tablets, or mobile phone, internet connectivity, availability of electricity, or other sources of power, radio and television), that are available to support such online learning as indicated in the literature.

The mean scores of pre and posttest rose from 13.45 ± 3.081 to 33.00 ± 5.133 with a mean difference of 19.13 33.00 ± 5.133 . This indicates that the strategies employed in building teachers' capacity for accelerated, digital skills, blended learning podcast development was improved.

The mean scores of pre and posttest rose from 11.55 ± 3.098 to 39.00 ± 5.011 with a mean difference of 18.09 39.00 ± 5.133 . This indicates that enhancing the capacity of teachers in setting lesson objectives, sourcing for teaching and learning resources, planning and chunking lesson improved a great deal.

The mean scores of pre and posttest rose from 10.55 ± 3.098 to 38.00 ± 4.011 with a mean difference of 19.09 38.00 ± 4.011 . This indicates the great influence in the use of podcasts and other multimedia resources in teaching and learning.

CONCLUSION

Based on the findings, the researchers wish to conclude that teacher's exposure to strategies of learning recovery has a significant effect in their digital skills which made their capacity for blended learning and use of podcasts and other

multimedia resources in teaching and learning to be greatly improved thereby strengthening the support structures/mechanism for institutionalization of mobile learning in schools.

CONTRIBUTION TO KNOWLEDGE

The study was able to establish the fact that exposing teachers to learning recovery programme with an effective professional development package can be used to accelerates learning loss due to unforeseen school disruptions. Teachers' usage of podcasts and other multimedia resources can accelerate teaching and learning thereby improving learners' achievement.

RECOMMENDATION

Based on the findings of this study, enhancing the capacities of teachers and state implementation mechanisms for learning recovery needs to be strengthened across the federation to accelerates the learning loss due to covid-19, security challenges, banditry, floods etc.

Not all teachers have digital capacity it is recommended that teacher capacity on digital skills need to be built for the required technology need to function effectively in our ever-changing technological world.

Project need to be scaled up to include more schools and teachers using the capacity already developed in the two states.

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