



ASSESSMENT OF MODERN DIGITAL LEARNING TOOLS IN PROMOTING ADULT LEARNING IN LITERACY CLASSES IN PORT HARCOURT METROPOLIS, NIGERIA

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Abstract:

This study examined modern digital learning tools for promoting adult learning literacy classes in Port Harcourt Metropolis. The study was guided by three research questions with a population of 2033 adult learners and facilitators in adult literacy centres in the Port Harcourt metropolis. The sample size of the study was 400 respondents comprising 370 adult learners and 30 facilitators in the study area. Taro Yamane formula was adopted in determining the sample size of 370 adult learners. However, the simple random sampling technique was adopted in selecting 15 adult learners in each of the adult literacy centres in the Port Harcourt metropolis to arrive at the sample size of 370 adult learners. The 30 facilitators were taken as a census without sampling. The instrument for data collection in this study was a researcher-designed questionnaire titled Assessment of Modern Digital Learning Tools for Promoting Adult Learning in Literacy Classes Questionnaire. (AMDLTPALLCQ). The instrument was validated by three experts. A test of internal consistency using Cronbach Alpha was carried out to determine the reliability of the instrument. Reliability coefficients of 0.81, 0.86 and 0.91 were obtained for the various clusters of the instrument. The research questions were answered using mean and standard deviation. The findings of the study revealed that the use of modern digital learning tools such as Projeqts, Animato and TED Ed promoted adult learning in literacy centres in Port Harcourt metropolis. Based on the findings of the study, it was recommended among others that the Rivers State Agency for Adult and Non- formal

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education should embark on the training of facilitators on digital literacy to enable them to access and use the modern learning digital tools such as animators, projects and others for enhancing learning in their classes.

Keywords: modern digital tools, literacy, adult learning, Port Harcourt

1. Introduction

Numerous modern digital learning tools have been created with the aim of giving autonomy to learners, encouraging collaboration and facilitating communication between facilitators and learners. This is in line with the sustainable development goal 4 (SDG4) whose target is to ensure all children and adults have access to a safe, inclusive and effective learning environment by 2030. As opined by Albert (2015), the use of modern digital learning tools in learning develops critical thinking skills in adult learners and it does provide avenues for learners to make connections between course information and real-world cases. Using modern digital learning tools in literacy classes enhanced learning efficiency and improve learner's performance, this is in line with Amanda (2019) who stated that the use of modern digital tools in learning motivates the adult learner to learn, show commitment and continuity in the process of learning in literacy classes.

As seen in Dokubo and Wagbara (2021), the use of digital learning tools provides students with the ability to get information to connect with educational systems that make education convenient. Ashutosh (2018) acknowledged that modern digital learning tools such as Edmodo, Animoto, Story bird, Educlipper, Project and Socrative are instructional tools that practically aid in effective instructional delivery in adult learning classes. Digital learning is any instructional practice that ultimately helps adult learners, it makes use of a broad range of technology and enhanced educational strategies. Most adult learners and facilitators lack the skills, competencies and even literacies on the use of modern digital tools for teaching and learning, having known the efficiencies the use of these tools bring in the learning process, it is imperative for both adult learners and Facilitators to embark on digital training so as to be familiar with the digital tools for effective instructional delivery and to ensure equitable quality education. Davis (2020) ascertained that modern digital learning tools enhance learning experiences, save the time of both facilitators and learners, enable facilitators to better tailor learning to learner's needs, aid in tracking adult learner's progress and provision transparency into the learning process for all stakeholders. Literacy means learning the skills the adult learners need to learn, live and work in a society where communication and access to information are increasing through the use of digital learning tools like Edmodo, Animoto, Socrative, and so on (Western Sydney University (WSU), 2018). WSU (2018) enumerated some of the digital literacy skills to be; digital creation, digital communication, digital calculation, video creation, problem-solving, digital reading and

writing and editing of software. Literacy skills also involve how to use web browsers, email, text blogs, Photoshop and PowerPoint.

As affirmed by WSU (2020), acquiring literacy skills is a key factor in education and in our daily life today because the skills acquired help the adult learners to develop technological skills, learn authorship rules, such as copyright and plagiarism, understand how to access online information and learn social responsibility while interacting on social networks. Digital learning is more interactive and memorable than voluminous textbooks or modules, they provide better context, a greater sense of perspective and more engaging activities than the traditional education approach popularly used today. As noted in Pandword (2017), digital learning tools fill the gaps where traditional classroom teaching falls behind and some of the efficiencies such tools bring are simply unmatched by traditional learning methods. Digital learning tools provide an effective way of saving time with quick access to information and ease of research, cutting costs and maximizing resources. Adult learners often have the option to pace their learning in literacy classes and even study ahead with modern digital learning tools if they wish to do so (Pandword, 2017). By helping the adult learners shift outside the traditional system of learning in literacy classes, digital learning tools inspires creativity and makes the adult learners feel a sense of accomplishment that encourages further learning.

The use of modern digital learning tools in literacy classes prepare adult learners for modern careers including problem-solving, familiarity with emerging technologies and self-motivation (Sammy, 2018). Modern digital learning tools enable facilitators to rapidly share information and instructional materials with other facilitators in real-time. The explosion of free and open content and tools have created an environment of sharing economy. Sammy (2018) identified some of the modern digital learning tools in literacy classes, which are listed below:

A. Socrative

Socrative is an effective classroom engagement that is used in literacy class. It is a cloud-based learner's response system that allows the facilitators to immediately test learners' understanding by way of mini-quizzes assigned to them on class laptops or tablets. Quizzes can be multiple choice, graded short answers, true or false responses. Donna (2019) also acknowledged that Socrative is designed by a group of engineers passionate about education that allows facilitators to create exercises or educational issues which learners can solve using mobile devices, whether smartphones, laptops or tablets. Facilitators can see the results of the activities and depending on these, modify the subsequent lessons in order to make them more personalized.

B. Edmodo

Edmodo is a modern educational tool that connects facilitators and adult learners in the learning process and is assimilated into a social network. Fame (2021) affirmed that, through the use of the Edmodo educational tool in learning in literacy classes, facilitators can create online collaborative groups, administer and provide educational materials,

measure adult learners' performance and communicate effectively with them. Edmodo has more than 34 million users who connect to create a learning process that is more enriching, personalized and aligned with the opportunities brought by technology and the digital environment (Fame 2021). Edmodo is solely reserved for educational purposes and has a timeline where adult learners can post about their educational works.

C. Projeqt

Projeqt is a modern digital tool that permits the facilitators to create multimedia presentations with dynamic slides in which the facilitators can embed interactive maps, links, Twitter timelines and videos, and so on. James (2019) confirmed that, during a class session, facilitators can share with learners' academic presentations which are visually adapted to different devices. Projeqt is a multi-dimensional digital educational tool that has lots of exciting potential for adult learners in literacy classrooms (James, 2019). Facilitators and adult learners can use this site as a web application teaching and learning tool for creating visually compelling presentations.

D. Animato

Animato is a modern digital tool that allows adult learners and facilitators to create high-quality videos in a short time and from any mobile device, inspiring adult learners and helping in the improvement of academic lessons. Agbor, Ashabila and Udosen (2020) asserted that the Animoto digital interface is friendly and practical, allowing facilitators to create audiovisual content that adapts to educational needs. Animoto is a web application teaching and learning tool that helps users to upload images, music and short video clips that can be emailed and embedded on wikis, blogs and other websites (Edwards, 2021). In literacy class, facilitators can use the Animoto teaching tool to create a video as an introduction to an upcoming instructional lesson. Effective communication skills and critical thinking skills come into play when adult learners use the animato teaching and learning web application tool to design and create a video in literacy class, this means that since the video is created online, sharing is as simple as copying a link, and a video can be made on many devices, unlike traditional video editing tools that require a lot of processing power on the part of the device being used.

E. TED-Ed

TED-Ed is a modern educational digital tool that allows the creation of educational lessons with the collaboration of facilitators, learners and animators (Edwards, 2021). TED-ED web application tool allows democratizing access to information for both facilitators and adult learners, adult learners can have active participation in the learning process of others. Edwards (2021) ascertained that TED-Ed is a lesson creator tool that allows the facilitator to facilitate the lesson, structure and assignment around a video and assess learners' engagement with the material. The adult learners will independently watch a video, answer written questions and participate in an online discussion, this takes the place of showing a video in class and having learners discuss or be quizzed in

class. As adult learners discuss and answer questions about the video, the facilitator can respond privately and individually, also there is a written record of the discussion and exchange which can be referenced as an assessment tool (Edward, 2021). Adult learners use TED-Ed to create their own lessons and share the link with other adult learners in a literacy class in order to broaden the discussion.

Irrespective of the fact that modern digital learning tools enhance the effective teaching and learning process in literacy classes, there are disadvantages of using them which Mandela (2021) enumerated and discussed briefly:

- 1) **Online Student Feedback is Limited:** Using the digital teaching and learning tools, on the other hand, learners tend to struggle with feedback, facilitators cannot give the learners immediate face-to-face feedback, knowing the fact that, personalized feedback has a positive impact on learners, as it makes learning processes easier, richer and more significant. Mandela (2021) ascertained that adult learners completing regular assessments become dissatisfied when they experience a lack of personalized feedback.
- 2) **Digital Learning Can Cause Social Isolation:** Baker (2016) affirmed that the use of digital teaching and learning web application tools tend to make participating adult learners undergo contemplation, disconnected and a lack of interaction, and as a result, many of the adult learners and facilitators who incapably spend much of their time online can start experiencing signs of social isolation due to the lack of human communication in their lives. Mandela (2021) affirmed that, social isolation coupled with lack of communication often leads to several mental health issues such as: heightened stress, anxiety and negative thought.
- 3) **Digital Learning Needs Strong Self-motivation:** Lack of self-motivation among adult learners continues to be one of the major reasons why students loose interest to complete online programmes. Baker (2016) opined that, face to face communication with facilitators, learner- to- learner activities and strict scheduled all work in unison to keep the student learners from losing interest and falling off track during their studies, but in the setting of digital learning environment, in many cases, the adult learners are left to fend for themselves during their learning activities without anyone constantly urging them on towards their learning goals. As a result, a lack of strong self-motivation impacts negatively on the adult learner's academic performance or achievement.
- 4) **Lack of Communication Skill Development on Digital Adult Learners:** Uroкова (2020) said that the use of digital teaching and learning web application tools have proven to be highly effective at improving the academic knowledge of adult learners, however, developing the communication skills of the learners is an area often neglected in using digital tools during lessons. Due to the lack of face-to-face communication between the adult learners and facilitators in an online setting, the adult learners might find that they are unable to work effectively in a team setting. Mandela (2021) affirmed that neglecting the communicational skills of the adult

learners will inevitably lead to many participants excelling in theoretical knowledge and at the same time cannot transmit the knowledge onto others.

In spite of the fact that there are factors inhibiting both facilitators and adult learners' effective use of the modern digital web application teaching and learning tools in the instructional delivery processes, there are advantages Arkorful (2014) pointed out some of the benefits of the use of modern digital teaching and learning tools in instructional delivery as follows:

- 1) **Accessibility and Suitability:** Adult learners undergo his or her programme at their own place, pace and at their own time without any constraint. The use of digital tools in teaching and learning allows self-pacing. Uroкова (2020) said that the asynchronous way of digital learning permits each adult learner to study at his or her own pace and convenient time. It, therefore, increases satisfaction and decreases stress.
- 2) **Comfort and Flexibility:** Nikki (2020) acknowledged that the use of digital learning tools create an avenue for comfort and immense flexibility in a way that adult learners can learn comfortably with pre-recorded digital classes. Having lessons from using digital learning tools can be a better option for adult learners who have a physical disability where traditional establishments can be difficult to access.
- 3) **Ease of Content Update:** The changes that the facilitators wish to make to any of his or her content are immediately available to his or her learning audience across the world (Smart and James 2006).
- 4) **Ability to Spark Adult Learners' Creativity:** When Adult learners are willing to actively share their ideas, thoughts and opinions with other learners during digital classes, innovation takes place, in the sense that, it leads to an exchange of ideas and thoughts and encourages them to tap into their creativity and from the experiences of others.
- 5) **Capable of inspiring Adult Learners Imagination:** Donna (2019) opined that, the power of imagination in using digital learning tools is that, it allows the adult learners to involve in imaginary conditions that tie into real-world experiences. Donna's opinion shows that the use of digital learning tools expands adult learners' comprehension without making them be bored or frustrated.
- 6) **Privilege of Immediate Feedback:** Uroкова (2020) asserted that most digital learning tools give the privilege of immediate feedback from facilitators to learners and learners to facilitators as not the same with traditional classrooms where teachers take students' works home to assess. This can quicken the adult learners learning, making them progress faster in knowledge and in skills.
- 7) **Cost Effective:** The use of digital learning tools is more cost-effective than the traditional system of learning. This is in line with Uroкова (2020) who said that the use of digital learning tools is less expensive because there will be no need for expensive travel or accommodation, the adult learner sits at the comfort of his or

her zone and receive educational instructions. This means that the use of digital learning tools reduces the adult learners' carbon footprint related to gas and fuel.

The use of digital learning tools has generated tremendous excitement for all adult learners in literacy classes (United National Educational Scientific and Cultural Organization (UNESCO) 2018). Also, adult education classes are accessible and flexible with the use of digital learning tools, currently, more than ever, education requires modernization and above all, adaptation to the needs of today's market, which demands more educational technology as well as flexibility and accessibility.

From the above discussed modern digital learning tools, Projeqt, Animato and TED-Ed were specifically used for this research work due to their availability in the region, affordability and ease of usage by adult learners and literacy centres in Port Harcourt metropolis.

1.1 Statement of the Problem

The importance of modern digital learning tools in promoting adult learning in literacy classes have been widely discussed and acknowledged by some authors in the study, and some of the efficiencies such tools bring include adult learners having the option to pace their learning and even study ahead of their facilitators if they wish to do so. Since the digital learning tools are far more interactive and memorable than voluminous textbooks used in the traditional mode of learning, it is imperative to effectively make use of these tools in literacy classes for learning. But the problem the study indicated was that the effective and efficient use of any of these digital learning tools by both the adult learners and their facilitators in literacy classes in adult education centres in Port Harcourt metropolis has not been accessed. Hence the need for this research to find out the extent to which digital learning tools promote adult learning in literacy classes in Port Harcourt metropolis.

1.2 Purpose of the Study

The purpose of this study was to assess modern digital learning tools in promoting adult learning in literacy classes in Port Harcourt metropolis. Specifically, the study sought to find out:

- 1) The extent to which the use of Projeqt as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis.
- 2) Ascertain the extent to which the use of animato as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis.
- 3) Determine the extent to which the use of TED-Ed as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis.

1.3 Research Questions

The following research questions guided the study:

- 1) To what extent does the use of Projeqt as a modern digital learning tool promote adult learning in literacy classes in Port Harcourt metropolis?

- 2) To what extent does the use of Animato as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis?
- 3) To what extent does the use of TED-Ed as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis?

2. Material and Methods

The study adopted a descriptive survey design with a population of 2033 adult learners and facilitators in adult literacy centres in Port Harcourt metropolis. The sample size of the study was 400 respondents comprising 370 adult learners and 30 facilitators in adult literacy centres in Port Harcourt metropolis. Taro Yamane formula was adopted in determining the sample size of 370 adult learners. However, the simple random sampling technique was adopted in selecting 15 adult learners in each of the adult literacy centres in Port Harcourt metropolis to arrive at the sample size of 370 adult learners. The 30 facilitators were taken as a census without sampling. This is due to the manageable size of the population. The instrument for data collection in this study was a researcher-designed questionnaire titled Assessment of Modern Digital Learning Tools for Promoting Adult Learning in Literacy Classes Questionnaire (AMDLPALLCQ). The instrument was validated by three experts. Two in the field of Adult Education and one in Measurement and Evaluation. A test of internal consistency using Cronbach Alpha was carried out to determine the reliability of the instrument. Reliability coefficients of 0.81, 0.86 and 0.91 were obtained for the various clusters of the instrument. This showed the instrument was reliable. Copies of the questionnaire were administered to the adult learners and facilitators by the researchers. Out of the 400 copies administered, 385 copies were retrieved and used for analysis. The research questions were answered using mean and standard deviation. A mean value of 2.50 (criterion mean) and above indicates a High Extent, while those below indicate Low Extent.

3. Results

Research Question 1: To what extent does the use of Projedt as a modern digital learning tool promote adult learning in literacy classes in Port Harcourt metropolis?

The analyzed data in Table 1 showed the mean and standard deviation scores of items 1-5 which addressed the extent to which the use of Projedt as a digital learning tool promote adult learning in literacy classes in Port Harcourt Metropolis. The data in the table showed that all the items had mean scores that are above the criterion mean of 2.50 which indicate a high extent. Meaning that majority of the respondents agreed with the items in the table. With a grand mean score of 2.92, therefore, the answer to research question one is that the use of Projedt as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis to a high extent.

Table 1: Descriptive Statistics on the Extent to which the use of project promotes Adult Learning in Literacy Classes

S/N	Items	Mean	SD	Remark
1	The use of Project in adult learning centres enables instructors to share videos online with learners which enhances learners' understanding.	3.11	0.88	High Extent
2	The use of Project for learning in adult learning classes enables instructors to present pictures and diagrams to properly illustrate a lesson.	2.88	0.69	High Extent
3	Since most adult learners have poor sight, the use of Project will enable instructors to adjust the information presented to be visible to learners.	2.76	0.56	High Extent
4	The use of Project allows adult learners who are working to access learning content anywhere they are without necessarily going to a classroom.	3.15	0.97	High Extent
5	Since learning can be done in real-time with Project, learners are able to ask questions to their instructors and get feedback	2.71	0.67	High Extent
	Grand Mean	2.92		High Extent

Source: Field Survey, 2022.

Research Question 2: To what extent does the use of Animato as a modern digital learning tool promote adult learning in literacy classes in Port Harcourt metropolis?

Table 2: Descriptive Statistics on the Extent the Use of Animato Promotes Adult Learning

S/N	Items	Mean	SD	Remark
1	The use of animato in adult learning classes enables instructors to share relevant pictures to drive home the lesson being taught	2.90	0.87	High Extent
2	The use of animato enables instructors to create videos demonstrating step by step process of carrying out a task which enhances easy understanding	3.20	0.95	High Extent
3	Since animato allows for adult learners to access videos and audios online, it removes the barriers to learning and increases learners' access to learning anywhere they are.	3.02	0.75	High Extent
4	Instructors can simplify complex information to learners using short animation videos	2.98	0.88	High Extent
5	The user-friendly interface of animato ensures facilitators can use it to suit their instructional needs and promote easy learning	2.89	0.78	High Extent
6	With Animato learners can use their mobile devices to access learning content and this makes learning easier.	3.10	0.83	High Extent
	Grand Mean	3.01		High Extent

Source: Field Survey, 2022.

The analyzed data in research question two revealed that all the items in the table had a mean score that is above the criterion mean of 2.50 indicating a high extent. This implies that the majority of the respondents responded in the affirmative to the items in the table. With grand mean scores of 3.01, therefore, the answer to research question two is that the

use of animato as a digital learning tool promote adult learning in literacy classes in Port Harcourt metropolis to a high extent.

Research Question 3: To what extent does the use of TED-Ed as a modern digital tool promote adult learning in literacy classes in Port Harcourt metropolis?

Table 3: Descriptive Statistics on the Extent the Use of TED-Ed Promotes Adult Learning

S/N	Items	Mean	SD	Remark
1	Creating videos of lessons for learners through TED-Ed enables learners learn at their own pace.	3.05	0.98	High Extent
2	With TED Ed facilitators are able to assess learners' performance in a lesson online.	3.21	0.87	High Extent
3	The use of pictures and videos through TED-Ed make lesson content interesting and promotes easy understanding of lesson for learners.	2.99	0.78	High Extent
4	The use of TED-Ed encourages collaboration among learners and this promotes healthy competition in learning.	2.77	0.72	High Extent
5	TED-Ed improves learners' proficiency in the use of the internet and this improves their ability to access more information online.	2.93	0.81	High Extent
	Grand Mean	2.99		High Extent

Source: Field Survey, 2022.

The data in Table 3 revealed the mean and standard deviation scores of respondents on the extent to which the use of TED-Ed promote adult learning in literacy classes in Port Harcourt metropolis. The analyzed data revealed that all the mean scores in the table are above the criterion mean of 2.50. which indicated a high extent. This implies that the majority of the respondents agreed to all the items in the table. With grand mean scores of 2.99, the answer to research question three is that the use of TED-Ed promotes adult learning in literacy classes in Port Harcourt metropolis to a high extent.

5. Discussion of the Findings

The findings of the study for research question one revealed that the use of Projeqt as a modern digital learning tool promotes adult learning in literacy classes in Port Harcourt metropolis to a high extent. The use of Projeqts enables instructors to share videos, pictures and diagrams to properly illustrate a lesson. Through Projeqts learners can access learning content anywhere without going to the classroom. It also allows for real-time feedback. This finding was supported by findings by Ken (2016) who revealed that Projeqts is a valuable teacher resource used to enhance learning in the 21st century as it makes learning more interesting with the sharing of videos and other multimedia resources

The findings of the study for research question two revealed that the use of animato as a modern digital learning tool promotes adult learning in literacy classes in

Port Harcourt metropolis to a high extent. It was revealed that the use of animato enables instructors to share relevant pictures, audio and videos online. It removes the barrier of distance to learning as learners can learn anywhere. It also helps to simplify complex information to learners using multimedia platforms such as videos and so on. This finding is in line with the findings of Edward (2021) who revealed that in literacy class, facilitators can use Animoto teaching and learning tool to create a video as an introduction to an upcoming instructional lesson. Effective communication skills and critical thinking skills come into play when adult learners use the animato teaching and learning web application tool to design and create videos in literacy class, this means that since the video is created online, sharing is as simple as copying a link, and a video can be made on many devices, unlike traditional video editing tools that require a lot of processing power on the part of the device being used.

Furthermore, the findings of the study for research question three revealed that the use of TED-Ed as a modern digital tool promotes adult learning in literacy classes in Port Harcourt metropolis to a high extent. The study showed that the use of TED-Ed allows learners to learn at their own pace and facilitators are able to assess learners' performance online. Since this digital tool encourages collaboration among learners, it is used to promote healthy competition among learners when learning. It also improves learners' ability to use the internet. This way, they can access other relevant information on the internet. This finding is supported by the findings of Edward (2021) which revealed that adult learners use TED-Ed to create their own lessons and share the link with other adult learners in a literacy class in order to broaden the discussion.

6. Recommendations

Based on the findings of the study it was recommended:

- 1) Government and Non-governmental organizations should provide support to adult literacy centres to enable them to acquire digital learning tools in their classes as it has the potential of improving learners' assimilation of what they are being taught in literacy classes
- 2) The Rivers State Agency for Adult and Non- formal education should embark on the training of facilitators on digital literacy to enable them to access and use digital tools such as animators, Projeqts and others for enhancing learning in their classes.
- 3) Administrators of adult literacy programmes should expose facilitators to the TED-Ed digital tool as it will ease their teaching process. They can also teach their learners how to adopt these tools to enhance the teaching and learning process.

7. Conclusion

Based on the findings of the study, it was concluded that some digital tools used to promote adult learning in literacy classes include the Projeqt, Animato and TED-Ed.

These modern digital tools enable learners to access learning anywhere they are, they enable instructors to create videos and audios to suit their educational needs and learners are able to learn at their own pace. These tools have the capacity to improve learners' understanding and retention of what they are being taught. It also enables facilitators to simplify complex information.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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