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INTEGRATING TECHNOLOGY FOR THE ACTUALIZATION OF LEARNERS' LEARNING NEEDS IN ADULT LITERACY CENTRES IN AGUATA LOCAL GOVERNMENT AREA, OF ANAMBRA STATE, NIGERIA

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Abstract - The study investigated integrating technology for the actualization of learners' learning needs in adult literacy centres in Aguata local government area of Anambra State, Nigeria. The population of this study consists of 354 Adult learners' and 18 Adult instructors totaling 372 respondents in the Adult literacy learning centres in the area of this research work. There was no sampling as the entire population was used for the study. Design used for the study was a descriptive survey research design. Instrument was face validated by three experts; two from the Department of Continuing Education and Development Studies and one from Measurement and Evaluation Unit Department of Science Education, all in Faculty of Education University of Nigeria, Nsukka. The study was guided by two research questions and two null hypotheses. A seventeen (17) item researchers' structured questionnaire titled Integrating Technology for the Actualization of Learners' Learning Needs in Adult Literacy Centres Questionnaire (ITALLNALCQ) was used to collect data. T-test statistics at 0.05 level of significance was used to test the null hypotheses; reliability of the instrument was ascertained using test-retest method outside area of the study. The result of the findings shows that integrating technology for the actualization of learners' learning needs in Adult Literacy Centres in Aguata Local Government Area of Anambra State is necessary as it promotes education acquisition for self reliance. Also, the use of ICT facilities related tools like digital literacy tools, collaborative tools, assessments and feedback tools are all essential hence it makes learning faster, and accommodate a large number of prospective learners irrespective of where they are staying. Based on the findings of this study, it was recommended among other things that integrating technology into the curriculum for teaching adult learners in the literacy centres should be considered and adopted by all.

Keywords: Technology, adult, learners, needs and literacy centres

Introduction

The large number of adults that needs help with literacy learning is extremely challenging for the tertiary education sector and workplace-situated learning organizations. In many countries of the world, integrating technologies in teaching undoubtedly is an effective and efficient addition to the present menu of options that countries may consider to embrace in today's multi-literate society (Fletcher, Karen, & Niki, 2010). With the increasing availability and accessibility of technology in the society, there is a growing need for adult educators to adapt and incorporate technological tools into their teaching methods to enhance learning experience for the adults.((Maijo, 2021). This implies that using computer related e-line technologies can help many of these adults find courage and motivate them to become second chance learners. On this note, Sharpe, Benfield, Roberts and Francis (2019) asserted that students in adult literacy education including basic and secondary education are increasingly using digital resources like computers to write, find information, publish their works, communicate by e-mail, and learn basic skills and other purposes in different countries of the world. It is interesting to note that what are needed

most are instructors who have the clear vision and understanding of the benefits using technology in a classroom environment to assist learners actualize their learning needs.

Technology has the potentials to enhance learners learning needs as it bequeaths them opportunities to acquire improved educational knowledge and skills through which they can better their living condition throughout their life. This implies that integrating technology in the teaching and learning business has been on increase due to its importance in the society. According to Okeke, (2024) integrating technology for teaching adult learners has been observed to be a prevalent issue for years back consequent upon the emergence of technology and its usage. It therefore became necessary to include technology in the curriculum for teaching adult learners. In the context of this study, learning involves using computer related technologies and information like internet access, E-learning and transmittal devices such as mobile phones among others for learners to actualize their learning needs in the literacy centres. Kumar and Vigil (2018) added that these technology-assisted instruction can be of great benefit to adult learners, through increased engagement, interactivity, simulation, games and personalized learning experiences. The authors further stated that technologies that can be used for supporting learning and teaching are of two broad categories: instructive and constructive technologies.

Instructive technology could be referred as using technology to support and enhance teaching and learning process using instruction. It encompasses a wide range of tools, resources and methodologies that can facilitate design, development, management and evaluation of technology in education (Victor, 2010). Victor added that instructive technology include specific technological tools and strategies that work with creating information and materials for flexible learning, as applicable in this study. This approach is widely found in adult literacy education technology laboratories and classrooms, where learners use computer-assisted instruction to acquire knowledge and skills. Platforms like Learning Management System (LMS) such as the Blackboard permit learners to access course materials participate in discussions and complete assessments online. In addition, constructive technology could be referred as the application of technology in construction to improve efficiency, safety and project outcomes. It also encompasses various tools, software and machinery used throughout the different phase of teaching and learning (Josse, Mario & Milagros, 2022). One of the most interesting points in the applications of technology in adult literacy is the use of websites and computer tools for constructive teaching. A growing area of constructive internet used in adult literacy education is variously called students or learners' inquiry, information search or simply research. Therefore, constructive is all about growth where learning is viewed as an active process from a person's construct of new ideas or concepts transforming his or her existing knowledge (Kisanjara, 2020).

Although education programmes may take one or both paths to computer-assisted instruction using large comprehensive and often costly computer-based curricula referred as integrated learning systems, and integrating specific single pieces of software like Web pages, or on-line documents. Technologies are of different types, they include communication technology, constructive technology, assistive technology, medical technology, information technology, business technology and educational technology among others, which can be used to accomplish various tasks in our daily lives, extend our abilities, making people the most crucial part of any technological system (Yusuf, Umezurike and Adamu, 2023). The author argued that there are great differences between technology and science. Science explains the natural world referring to systematic

methodology used in gathering accurate information about shared reality, whereas technology develops and explains human made world involving development, processing and management.

Technology has many definitions. It is defined as a body of knowledge devoted to creating tools, processing action and extraction of materials, including application of science for solving problems (Parades, de-Marcos and Garcia-Lopez, 2021). In his understanding, Reardon, (2010), defined technology as a learning facilitated by using computer-related technologies such as internet access to enhance adult learning. E-learning encompasses hand-held data storage and transmittal devices including mobile phones among others used for teaching adult learners. Similarly, Mbah (2010) stated that e-learning computer related technologies could be understood as methods, systems, and devices resulting from scientific knowledge used for practical purposes as well as a science involving systematic study. Technology is an application of science used in solving problems but vital to note that the two (technology and science) are different but work hand-in-hand to accomplish specific task (Uduak and Kasumu 2022). Based on this, one can define technology as an application of practical knowledge and skills expected of a society to provide her citizen with other things desired to bring development.

Technologies provide opportunities for the adults to undertake study associated with the use of technology which enable them to overcome the shame of repeated underachievement in literacy (Davis, Fletcher, & Absalom, 2010). Apparently, it allows literacy learning to occur with varieties of new literacy available in different workplaces and in everyday life needs used in addressing the interfaces occurring between literacy learning and technology. Technologies enable adult learners to learn in ways not previously possible in adult literacy education. This includes information management, e-mail and electronic list, curriculum development, assessment, evaluation, and research, among others (Kumar and Vigil, 2018). The authors added that interactive and hands-on teaching approaches tend to be more effective by promoting knowledge retention among adult learners due to their practical nature and ability to engage learners actively. However, many websites offer adult lessons on-line in a simplified edited text for low level readers, an outreach of story and other varieties of on-line interactive lessons with immediate on-line answer check. Paredes, de-Marcos and García-López, (2021) stated that technology supports personalized learning by creating opportunities for learners to engage with content in their preferred format and at their own pace, coupled with enhancing knowledge retention and promoting active learning environment. Technology search, store, transmit, gather, disseminate and receive knowledge easier, cheaper and faster, it is expected to completely change the way curriculum is developed and delivered enhancing the quality of adults learning through adult education programmes. Because technology changes rapidly and a wonderful tool for assisting adult instructors, Randolph (2000) asserted that instructors are expected to integrate technology into the curriculum of adult literacy to expand and enhance their learning needs.

A suitable and sustainable technology electronically can be used to reach out a large number of learners to enable them have access to quality learning materials and address the issues of quality education. In agreement to this, Athman and Onesmo (2024) claimed that effective integration of technology into adult literacy education can be achieved when adult learners are able to select technological tools that help them obtain information, analyze and synthesize the information in a timely manner as well as present it professionally. The authors emphasized the need for adequate support and resources for the learners, as well as opportunities for professional development of the instructors. Other

factors that influences learning includes a conducive learning environment, learner's relationships, and institutional climate within the learning centres. All significantly impacts adult learners' engagement in learning. In essence, it should become an integral part of how classroom function and accessible just like other classroom tools. However, Alanezi, (2023) observed that sudden shift to technological learning, challenges instructors and learners understanding in adapting to this new mode of instruction. Also, technological barriers, social isolation, and other contextual elements are not excluded in influencing learners' engagement. .Putri and Zegga (2023) claimed that learners' low level mindsets and flexible thinking can also influence their level of engagement in technological teaching and learning, but individuals who possess growth in mindsets are more inclined to exhibit proactive learning behaviors. They seek out challenges, and persist in their efforts to master new concepts as learners with strong flexible thinking skills and better equipped to adapt to the demands of technological learning environments.

Statement of the Problem

Adult population constituted to a large extent number in human resources for the development of any country. The effectiveness of integrating technology into adult learning process in adult learning centres in Nigeria is a significant issue that requires investigation. Consequently, increase in the number of available and accessible technology demands for growing need for instructors to master, adapt and incorporate technological tools into teaching methods of adults and enhance their learning experiences. The few skilled and highly skilled adults are threatened by obsolence resulting from rapid and fast growing technological changes in the society and other work environments. Undoubtedly, technology skills have not been mastered by many Nigerian adults and instructors who ought to apply them in their day-to-day activities. This ugly scenario therefore calls for transmitting technology into adult education curriculum development in Nigeria through the inclusion of technology in adult education programmes. However, despite the benefits of using technology, there are still several challenges and limitations associated with this mode of education. One of the challenges is ensuring that learning are delivered in a way that meets the needs. Adult learners have different backgrounds, experiences, and learning styles, which can make it difficult to adapt easily to the use of newer methods of teaching that will enhance their learning needs. Additionally, the use of technology in teaching can be isolating and lack social interaction and support that traditional face-to-face teaching offers, leading to low motivation and engagement of adult learner. Also, many instructors are trained with traditional face-to-face teaching methods and may lack the expertise or experience of integrating technology into the curriculum of teaching adults. A condition that could have been averted if technology was integrated in the curriculum for teaching adult learners in literacy centres. Therefore, the study investigated the extent to which integrating technology can actualize learners' learning needs in adult literacy centres in Aguata Local Government Area, Anambra State.

Purpose of the Study

The general purpose of the study was to investigate the extent to which integrating technology can actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State. Specifically the study examined the:

1 extent instructive technology can actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State.

2 extent constructive technology can actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State.

Research Questions

The following research questions guided the study:

1 to what extent can integrating instructive technology actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State
2 to what extent can integrating constructive technology actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State

Research Hypotheses

The following null hypotheses were formulated to guide the study and were ~~te~~sted at 0.05 level of significance.

HO_1: There is no significant difference between the mean scores of instructive technology actualizes learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State

HO_2: There is no significant difference between the mean scores of constructive technology actualizes learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State.

Methodology

The researcher adopted descriptive survey research design. This design was considered appropriate for this study as it sought to collect as well as analyze data from male and female adult learners in Aguata Local Government Area of Anambra State, Nigeria. The Population used for this study comprised 354 registered adult learners and 18 adult instructors in the learning centres in the study area. There was no sample as the entire population was used for the study. The instrument used for Data collection was Researchers Questionnaire titled Integrating Technology for the Actualization of Learners' Learning Needs in Adult Literacy Centres in Aguata Local Government Area of Anambra State Questionnaire (ITALLNQ) while t-test statistics at 0.05 level of significance was used to test the null hypotheses. The instrument was face validated by three experts; two from the Department of Continuing Education and Development Studies and One from Measurement and Evaluation Unit in Science Education Department, both from Faculty of Education, University of Nigeria, Nsukka. Their suggestions were adhered prior to the production of its final draft copy. 20 copies of the questionnaire were administered among adult learners literacy centre in Asaba Delta State, the choice of this area was based on similarity in cultural background. Also, three trained research assistants were used for administering and retrieving 352 copies of questionnaire from the respondents after completion on the spot to ensure accurate return by the respondents Mean score and Standard deviation were used for data collection and analysis, while t-test statistics at 0.05 level of significance was used to test the null hypotheses; reliability of the instrument was ascertained using test-retest method outside area of the study.

Results

Research Question 1: Table 1: Mean responses on the extent integrating instructive technology actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra

Table: 1: Mean responses on the extent integrating instructive technology actualize learners' learning needs in adult literacy centres in Aguata Local Government Area of Anambra State

S/N	Item statement	Mean	S/d	Dec.
1	Designing instruction with the needs and preferences of adult learners in mind	3.01	1.01	A
2	Providing technical support to ensure learners ability to use instructional technology.	2.86	0.84	A
3	Continuously evaluating the effectiveness of instructional technology and making improvements as needed.	3.07	0.98	A
4.	Creating interactive and engaging content to enhance learning and motivation.	2.98	0.87	A
5	Utilizing instructional technology to support professional development and continuing education for adults.	2.78	0.83	A
6	Technologies allow literacy learning to occur with varieties of new literacy available in different work places and daily needs.	2.91	0.86	A
7	Combining traditional face –to-face instruction with online learning creates a blended learning environment.	2.98	0.86	A
8	Offering online courses or degree programmes to adult learners..	2.86	0.84	A
	Grand mean	**2.90**	**0.90**	**A**

Table 1 above reveals opinion of respondents on integrating instructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government of Anambra state with mean score represented in items no's 1-8 as follows 3.01, 2.86, 3.07, 2.98, 2.78, 2.91, 2.98 and 2.86., with grand mean 2.90 and standard deviation of 1.01, 0.84, 0.98, 0.87, 0.83, 0.86, 0.86 and 0.84 with grand total standard deviation of 0.90. Information in the table shows that respondents agree with all the items listed.

Table 2: to what extent can constructive technology actualize learners' learning needs in adult literacy centres in Aguata local government area of Anambra state?

S/N	ITEMS	x	SD	Dec
9	Interactive simulations, games and multimedia tools to promote active learning	2.85	0.68	A
10	Leverage collaborative tools such as discussion forums, wikis and shared documents to facilitate peer-to-peer learning and knowledge instruction	2.91	0.71	A
11	Use technology to create authentic learning experiences tailored to individual learners need.	2.79	0.63	A
12	Offer online writing tools such as grammar and spell checkers to support writing development to promote learning enhancement.	2.88	0.71	A

13	Multimedia resources such as video and podcasts to supplement instruction and promote deeper understanding.	2.93	0.83	A
14	Create virtual learning communities where adult learners can connect with peers, share resources and collaborate on projects..	3.01	0.93	A
15	Utilize interactive reading software that provides personalized reading experience and tracks progress.	2.98	0.86	A
16	Utilize technology to provide immediate feedback and assessment, helping, adult learners identify areas of improvement and track their progress.	3.01	1.01	A
17	Offer flexible learning options such as online or blended learning to accommodate adult learners busy schedules.	2.85	0.68	A
	Grand mean	**2.91**	**0.80**	**A**

Table 2 above reveal the opinion of respondents on the extent constructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government area of Anambra state mean reponses. From the table, items no's 9-17 represents mean scores as follows 2.85, 2.91,2.79,2.88,2.93, 3.01,2.98,3.01, and 2..85, with grand mean 2.91 and standard deviation of 0.68, 0.71,0.63,0.71,0.83,0.93,0.86,1.01 and 0.68 for constructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government area, Anambra state. With respect to the hypotheses, the findings are reported in table 3 and 4 below.

Hypothesis One

There is no significant difference in the mean ratings of integrating instructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government area of Anambra state.

Table 3: Summary of t-test analysis on integrating instructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government area of Anambra state.

Source	**N Dec.**	**X**	**SD**	**df**	**t-cal**	**t-val of sig**	
Integrating instructive technology for learners actualization of learners learning needs	18 Not	2.37	0.80	351	0.68	1.63	0.05

Table 4 indicates that the calculated t-value is 0.88 at 352 degree of freedom and at 0.05 level of significance is less than table value of 1.63. Since the calculated t-value is less than table value, the null hypothesis is accepted. Therefore, there is no significant difference between the mean ratings integrating technology with regards to actualizing learners' learning needs in literacy centres in Aguata local government area, Anambra state.

Hypothesis Two

There is no significant difference in the mean ratings of integrating constructive technology for actualization of learners' learning needs in adult literacy centres in Aguata local government area of Anambra state.

Table 4: Summary of t-test analysis on integrating constructive technology for actualization of learners' learning needs in adult literacy centers.

Source	N Dec.	X	SD	df	t-cal	t-vall of sig
Training of instructors.	18 Not.	2.91	0.89	352	0.88	1.63 0.05

Table 4 reveal that the calculated t-value of 0.88 is less than the table value of 1.63 at 352 degree of freedom at 0.05 level of significance. Since the table value is higher than the calculated value, the null hypothesis is accepted, an implication that there is no significant difference between the mean scores of integrating instructive technology for the Actualization of Learners' Learning Needs in Adult Literacy Centres in Aguata Local Government Area of Anambra State.

Discussion

Findings of this study reveal that there is direct relationship between technology and learning, especially teaching and learning of adult learners in the literacy centres. Therefore, integrating technology into learning will actualize learners learning needs in adult literacy centres in Aguata Local Government Area of Anambra State. From the findings, it was clear that integrating technology enhances learners learning experience by making learning more interactive, engaging and flexible. This finding is in consonant with Umezurike and Adamu, 2023) claimed that technologies can be used to accomplish various tasks in our daily lives, extend our abilities, making people the most crucial part of any technological system. The extent instructive technology actualize learners' learning needs in adult literacy centres of Aguata LGA of Anambra State was high as it has to do with designing instruction to suit adult learners need, providing technical support to ensure learners use of instructional technology, evaluation of effectiveness of instructional technology, and utilizing instructional technology to support professional development. The findings support Paredes, de-Marcos and García-López, (2021) who stated that technology supports personalized learning by creating opportunities for learners to engage with content in their preferred format and at their own pace, coupled with enhancing knowledge retention. In the same understanding Alanezi, (2023) sustained that sudden shift to technological learning challenges instructors and learners understanding in adapting to this new mode of instruction and promoting active learning environment

The extent constructive technology actualizes learners' learning needs in adult literacy centres of Aguata LGA of Anambra State is high hence it involves interactive learning, simulation, games and multimedia to promote active learning, Leverage collaborative tools such as discussion forums, wikis and shared documents to facilitate peer-to-peer learning and knowledge instruction, utilize interactive reading, software, using technology to create authentic learning experience and offer online tools. The findings support Kumar and Vigil (2018) who claimed that technology-assisted instruction can be of great benefit to adult learners, through increased engagement, interactivity, simulation, games and personalized learning experiences. Also, the findings support Josse, Mario & Milagros, (2022) which argued that one of the most interesting points in the applications of technology in adult literacy is the use of websites and computer tools

like online, multimedia resources for constructive teaching The finding is supported by Athman and Onesmo (2024) which reported that effective integration of technology into adult literacy education can be achieved when adult learners are able to select technological tools that help them obtain information, analyze and synthesize the information in a timely manner as well as present it professionally.

Conclusion

The study concludes that integrating technologies in education curriculum will be a welcome development as it will help in the actualization of learners learning needs in adult literacy centres in Aguata Local Government Area of Anambra State. Use of ICT facilities in teaching adult learners will make adult learners to learn fast, be abreast with current information, so that they will not be left out. The introduction of ICT made the world a global village that innovations growing will not elude the adults.

Recommendations

The study recommended among other things that:

1. Education stakeholders, institutions of higher learning offering adult education programmes and adult literacy centres are to be well equipped with ICT facilities to enhance learners' actualization of their learning needs.
2. Government should show commitment by supporting the integration of technology in the curriculum for teaching adult learners, which can only be possible through policy making, monitoring and implementation.
3. Government on the other hand with the assistance of voluntary organization should fund the procurement of these facilities including ensuring availability of power to energize those materials meant for use.

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