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LEARNING ENVIRONMENT AND ITS EFFECTS ON ACADEMIC PERFORMANCE OF ADULT LITERACY IN MAIDUGURI METROPOLIS, BORNO STATE, NIGERIA

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ABSTRACT

This study assessed the effects of learning environment on academic performance of adult literacy learners in Maiduguri Metropolis. The purpose of the study was to examine how learning environment such as building structure, infrastructural material, location of centres and physical facilities affect adult learners' performance. Four hundred and ninety-fIve (495) adult learners in seven adult literacy centres namely : Agencyfor Mass Literacy Headquarters, Rural Development Centre, opposite General Hospital, Borno State Library Board, State low cost housing, Rural Development Centre, Bolori, Vocational Rehabilitation Centre, Butumkutu and University ofMaiduguri Teaching Hospital, Maiduguri were involved in the study. A sample size of two hundred and forty-seven (247) adult learners were selected through random sample techniques using fsh bawl method. Twenty-sh (26) item questionnaire and a designed checklist were used for data collection. The instruluent was validated and reliability was tested using test-retest method and analyzed using Cronbach Alpha technique. Data analysis was done using frequency counts and percentages . The Fndings of the study revealed that the quality of instructional materials was poor and the equipment was inadequate in adult literacy centres. The poor learning environment across the centres led to tow academic performance of adult learners in Maiduguri Metropolis. Based on the fIndings, the researchers recomntendated that the state government should assist in providing high quality instructional materials and equipment, corporations carrying out businesses in Maiduguri should be asked to assist

in areas where the literacy centres are failing, and lastly, instructors should encourage the adult literacy learners to sustain their academic per/ornrance by motivating and commending their efforts during learning.

INTRODUCTION

Adult learning environment refers to the diverse physical locations, contexts and cultures in which adults learn (www.edglossary.org/learningenvironment). It can also be referred to as the physical characteristics of the surroundings of learners during any learning process. Its presiding ethics and characteristics include how learners interact with each other as well as the ways in which instructors organize an educational setting to facilitate learning.

It has been argued by educators that learning environment especially for adult learners have both a direct and indirect influence on learners' performance including their engagement in what is taught, their motivation, sense of well being, belonging and personal safety (www.edglossary.org/learning environment). In other words, qualities and characteristics of a learning environment are determined by a wide range variety of factors such as instructional materials and physical facilities (classroom, libraries e.t.c). An adult learning environment filled with sun light, well ventilated and less noisy would likely be considered more conducive to learn. This view is supported by Walters and Cram (2000) that Filipino adult learners prefer a quite environment than having music or other sounds when studying.

According to Knezewich (1975), a well planned and adequate instructional material nd physical facilities can support educational effort. Earthman (2004) opined that (ie building in which learners spend a good deal of their time learning does in fact ::,nuence how well they will learn. For instance adults cannot stay long in a ::3ssroom with chairs and table meant for children.

Is adults age, they tend to lose high frequency hearing thus learning centers should : 3t be located in a noisy place like business areas, market, motor parks, etc. Learning ::vironment reflects the way knowledge and skills will be used in real life, this ::cludes a physical or virtual environment that resembles the real world with real x arId complexity and limitations and provide options and possibilities that are ::esent in real life (Hierrington & Oliver, 2000). Many authors have emphasized the ::gative effect of poor environment on learning for example, Hellani (1999) argues Ihit neglect of the learning centre will inevitably affect the attitude of instructors. It is :::inst this background that this paper seeks to assess the effect of learning ::_'.-lronment on academic performance of adult literacy learners in Maidugud '.:::ropolis. Borno State Nigeria.

STATEMENT OF THE PROBLEM

In any adult education learning situation, programme or activity, learning environment should be considered as a factor necessary for effective teaching, learning and academic performance. The learning environment ought to be pleasant, conducive and comfortable reflective of the characteristics of adult learners. Such environment should be less noisy due to hearing problems of some adults due to age. Libraries should be available with textbooks and other reading materials available for adults to consult anytime.

However, it has been observed that most of the literacy centers in Borno State are located around business areas, motor parks or markets; it is against this that the paper seeks to know how this affects adult literacy performance.

Learning Environment and Academic Performance ofAdult Literacy Learners

Different writers have defined instructional materials and equipment interchangeably. For example, Abdullahi (1982), defined instructional materials as materials or tools locally made or imported that could make tremendous enhancement of lesson impact if intelligently used. Similarly, Isola (2010) referred to them as objects or devices, which help the teacher to make a lesson much clearer to the learner. Instructional materials which can also be referred to as instructional equipment can be described as concrete or physical objects which provide sound, visual or both to the sense organs during the teaching and learning process to bring about better comprehension. Adeogun (2001) indicated that effective teaching and learning cannot take place within the classroom if basic instructional materials are unavailable. In other words, learning is strengthened when there are enough reference materials such as textbooks, stationary and teaching aids (Olufunmilayo, 2014). Since instructional materials/equipment are important instruments for teaching and learning processes, proper selection, design, evaluation and revision of instructional materials in timely and resourceful manner should be at the centre of higher education institutions (Oladejo et.al, 201 1).

Megbo and Saka (2015) classified instructional materials into three forms: audio, visual and audiovisual aids. There are a wide range of discussions on how to classify instructional materials for different reasons. Irrespective of those reasons, instnrctional materials can be categorized into print media, no-print media, and manipulative materials. The examples of print media are textbooks, work manuals, pamphlets, journals, newspapers, magazines, brochures, catalogues, photography and pictures, etc. According to Kochhar (1991), some of the instructional materials necessary for effective teaching and learning include the chalkboard. models,

graphs, charts, maps, pictures, diagrams, cartoons, slides, filmstrips, radio and television.

Literature on poor academic achievements in relation to high drop-out of adult learners revealed that instructional materials and difficulty in getting required instrbctional materials lead to drop-out (Knowles, 1996; Nzeneri, 2005; Mba, 2004). This explains why the federal government of Nigeria in her *National Policy* on *Education* (2004) stated categorically that adult educators will be required to participate more actively in the production and assessment of educational and instructional materials respectively as well as evaluation of technical innovation and new techniques. This position implies that the production of instructional materials that can be improvised at little or no cost could be undertaken by facilitators in various andragogical settings.

However, Olufunmilayo (2014) argued that these instrbctional materials are unavailable and therefore do not create a favourable condition for facilitators in adult literacy classes for exchange of knowledge, skills, and attitude with the learners. This is evident in a study she conducted on availability and utilization of instructional materials in selected andragogical settings in C)gun State. The study aimed at assessing the availability and utilization of instructional materials on adult learners. Out of the 1,452 adult learners and 48 instructors from the 100 literacy centres, 726 learners and 24 instructors (522 (73%) male and 194 (23%) female) were selected as participants for the study using random sampling technique. The result revealed that 78% of the respondents agreed to the unavailability of adequate instructional materials. Similarly, the study revealed that the general impact of the use of instructional materials among adult learners was evident in their collective attachment to and dependency on the real experience gained when such materials were deployed into the andragogical setting. Specifically, the respondents noted that it increased their understanding of the subject taught (72%), made them to easily remember the content of the lesson taught (76%), and increased their pace of learning achievement (69%). The use of instructional materials also facilitated their retention rate (66%) as against those participants (34%) whose centres lacked the use of such materials in the andragogical setting.

Furthermore, Olufunmilayo (2014) discovered that most of the centres visited during the investigation, had very primitive modes of storage. According to her, these instructional materials will, with time, become fragile and finally unavailable to the younger generation. In conclusion, the success of any literacy programme depends on a resourceful facilitator who plans the instructional materials to be used for adult learning, and also, having experience in the field of teaching or educating

adults.

It is worthy to note that the content of instructional materials differs from one person to another and they relate to different fields of life and human endeavors. In other words, an instructional material suitable for the teaching and learning of a particular subject may not necessarily be suitable in the teaching and learning process of another subject. To understand this better, Omeje and Chineke (2015) conducted a study on the availability and the use of instructional materials in the teaching and learning of Igbo language. The study aimed at identifying the availability and extent of the use of instructional materials in the teaching and learning of Igbo language in Obollo-Afor Adult Educational Zone. 213 Igbo language teachers in Obollo-Afor Adult Education Zone were purposively sampled for the study. The study was guided by a questionnaire with 40 items. The result revealed that of the 20 instructional materials needed for the teaching and learning process, only four (4) were available. These four (4) materials are textbooks, chalkboard, pictures and flash cards. The study concluded that unavailability and inadequate use of instructional materials could be one of the factors militating against effective teaching and learning of the language.

Physical facilities have been defined by different authors in relation to the context of their work. However, for the purpose ofthis study, educational physical facilities will be discussed. John (1997) described physical facilities (also known as physical plant) for education as land, buildings, and furniture including physical facilities for teaching spaces and for ancillary rooms.

Nuhu (2015)referred to physical facilities as facilities that are available to facilitate students' learning outcomes. In other words, any infrastructure used to boost the outcome of educational goals achieved either by students or teachers is called a physical facility. Physical facilities ihclude classroom/desk and chairs, staffroom/tables and chairs, laboratory/equipment, workshop/equipment, instructional materials, toilet, kitchen, dining halls, assembly halls, power plant, school farm/garden, pitch, sports equipment, sources of water and others (Nuhu, 2015)

Studies have shown that the effects of poor physical facilities are worst felt in underdeveloped and developing copntries (Heyneman, 1980). Particularly, class size in relation to classroom size, number of desks in relation to the number of students, nature of the type of desk considering age of the learners, are amongst the major physical facility problems. An investigation conducted in Nigeria (Urwick & Janaidu, 1983) formed the conclusion that facilities like buildings, separate

classrooms, student$' desks, e.t.c. determine the very organization of teaching/learning activities and these factors influence learners' achievement Similarly, Varghese's (1995) research conducted in India indicated that the existence of school desks, and to a lesser degree school buildings, is important if a school **k** going to be a success. Republic of Kenya (1988) also identified that Kenya's learning centres are characterized by varieties in the size and quality of buildings. Some learning centres shared classrooms and science laboratories, which are too small for classes of forty and above learners. On the other hand new learning centres had teaching rooms which were too small because they were built without specifications. Moreover, most learning centre buildings and other facilities are poorly maintained. Such facilities hamper the teaching and learning process and eventually affect student's performance in examinations.

To understand this better, Nock (1998) conducted a study on assessment of physical facilities and readers' satisfaction in Kashim Ibrahim library, Ahmedo Bello University (ABU), Nigeria. The study identified the library as a vital facility with optimum effect on students' performance. The study was guided by questionnaires answered by 100 respondents.

For the question on the adequacy of the library chairs and tables, minority of the respondents 18(8.8%) agreed that they were adequate whereas 82 (41.2%) representing the majority of the respondents disagreed. For the question on whether the lighting s9stem of ABU library is bright enough for reading, majority of the respondents 68(34.2%) disagreed while only 32(15.8%) agreed. Similarly, for the question on whether the lighting system of ABU library produces heat 37(18.4%) respondents agreed, while 63(3 1 .7%) disagreed. The study concluded by indicating that most of the physical facilities found in the library did not encourage a better turn up of students and it reflected the laxity of facilities found within the school environment and classrooms.

However, Bandura (1991) opined that physical facilities play a vital role in the actualization of educational goals and objectives by satisfying the physical, emotional, cultural, social, educational and psychological needs of students as well as the needs of the society. Do physical facilities still improve the motivation for students to learn and facilitate the work ofteachers?

Comfort and Veronica (2016) conducted a study on the impact of physical facilities on students' level of motivation and academic performance in senior secondary schools in South West Nigeria. The study examined the relevance of physical facilities in enhancing the level of motivation and the academic performance of

senior secondary school students in South West Nigeria. A questionnaire titled 'Motivation and Academic Performance of Senior Secondary School Students' was used to collect data from 1 150 randomly selected respondents from three (3) states in the South West Geo-political zone: Osun, Ondo and Ekiti. Only 324(28.2%) respondents admitted that physical facilities have low motivation power in contrast to 826(71.8%) respondents who agreed that physical facilities motivate them. Furthermore, the study revealed that r- cal (0.655) was greater than r-tab (0.381) indicating that the school physical facilities and environment had positive impact on the academic performance of senior secondary school students.

According to FAWE (2011), learning centres that lack adequate classrooms for instance, hold their lessons outside or under trees. During bad weather, such lessons are postponed or are never held altogether. This interferes with syllabus coverage and students from such learning centres do not perform well in examinations. To understand this better, Nuhu (2015) conducted a study on the impact of learning environment on the performance of students in social studies in junior secondary schools in Taraba State. The study prioritized the effect of class room buildings and adequate class room furniture on the performance of JSS students. 25,300 JSS students from two hundred (200) public secondary schools in Taraba State were purposively sampled for the study. The result from the study revealed that students that were taught social studies in a classroom building performed significantly better than those in a dilapidated classroom with mean scores of 42.6923 and 23.33846 respectively. Decaying classroom buildings easily identified by peeling paints, crumbling plaster, non-functional toilet, poor lighting, inadequate ventilation, and inoperative heating and cooling system threaten the safety and learning opportunities of students. The study further revealed that the presence of furniture class size or class population also had effect on students' performance. In conclusion, the study revealed that there is a positive and significant relationship between the physical facilities of the school such as classroom buildings, furniture, instructional facilities and students' academic performance in junior secondary schools in Taraba State

Additionally, this report supports that extended learning centres seem likely to interact with their initiatives, and this could ’bring about a series of changes and ultimately generate ambitious outcomes'. Some projects aim to improve attitude and perhaps ultimately achievement, by using the building to convey ideas about valuing the learners. For example, the head instructor at a recently opened flagship learning centre asserts: 'This is more than using another learning centre in Lackney: it is a symbolic learning centre, an emblem, saying these places should be where people from all backgrounds in inner city areas should come and be successful' (The

Guardian, 2004). In her review of the effects of physical environment on edu a: : :_ Weinstein (1979) was quite cautious about effects on learner achievement S!: concluded that the 'weight of the evidence suggests that design features can **have a** significant influence on learners' general behavior and on their attitudes', **it is** difficult to find reliable evidence of a definite effect on achievement. However, she points out that the 'more positive attitudes and behavior may eventually result in improved achievement. More recent reviews have tended to be more optimistic about positive evidence for direct as well as indirect effects of the environment (Moore & Lackney, 1993). Yet, many of these effects seem to be observed as deficits in performance in learning centres with poor environments.

Physical elements in the learning centre environment can be shown to have discernible effects on instructors and learners. In particular, inadequate temperature control, lighting, air quality and acoustics have detrimental effects on concentration, mood, well-being, attendance and ultimately, attainment. According to Heshong's (2003) study, instructors were reported to desire more space, a good location and quiet environment, and have lots of storage and water in the classroom, and instructors preferred classrooms with windows, daylight and views, but these were not top prrorrtres.

Although most of the literature reviewed were not in relation to adult learners or adult centres, they depict the same challenges faced by adult learning environment as they are cared for by the same government. In other words, the effect of physical facilities on the performance of adult learners from the 19th century till date has not been addressed. It has continued to cause poor performances in examinations and loss of interest for education.

METHODOLOGY

The target population for this study were adult learners that registered in seven (7) adult literacy centres in Maiduguri namely Agency for Mass literacy Headquarter centre, State Low Cost Centre, University of Maiduguri Teaching Hospital Centre Bulunkutu, Development centre Bolori and Borno State Library Board Centre. The purposive sampling technique was used to select the respondents of the study. A total of four hundred and ninety-five (495) adult learners registered out of which two hundred and forty-seven (247) was used as the sample for the research work. According to Anderson (198 1), thirty percent is an appropriate sample size of survey research. This process will allow every beneficiary to have equal chance of being selected as a sample of the study. The researchers however utilized 49-9% of the population as the sample for the study.

Table 1 : **Age Distribution of Respondents**

Age	Gender		Total
	Male	Female	
18-24 years	17 (6.9(Yo)	23 (9.3(%)	40 (16.2%)
25-3 1 years	15 (7.O$^{c\%}$)	48 (19.4(%)	63 (25.5(%)
32-38 years	47 (9. 19/o)	31 (13.69/o)	78 (31.696)
39-45 years	28 (7.9(Yo)	20 (8.1(%)	48 (19.4(%)
46 years an(hbove	10 (10.9(%)	11 (4,5$^{c\%}$)	18 (7.3(%)
Total	117 (32.9(%)	130 (67. I$^{c\%}$)	247 (100.0(Yo)

Table 1 shows the age distribution of respondents. From age 18-24 years there were 17 (6.9%) male adults and 23 (9.3%) female adults. Age 25-31 years had 15(7.0%) male adults and 48(19.4%) female adults. Also age group 32-38 years had 47(9. 1 %) respondents as male while 3 1 (12.6%) were female adults. On the same table, age 39- 45 years 28(7.9%) were male adults while 20(8.1%) were female adults. Also 46 years and above 10(10.9) ofthe respondents were male while 11 (4.5%) were female.

RESULTS

Research Question 1 : What is the quantity of instructional materials and equipment in adult literacy programme centres in the Maiduguri Metropolitan Council, Borno State?

Table 2 : **Instructional Materials and Equipment**

Facility available	N	Inadequate	Adequate	Not available
Textbooks		109 **(44**.59'/a)	70 (28.3%)	68 (27.5%)
Stationary		94 (38.09/6)	98 (39.7%)	55 (22.3%)
Teaching aids	247	120 (48.6%)	80 (32.4$^{c\%}$)	47 (19.0%)
Computers		94 (38.1 %)	103 (4 1 .7%)	50 (20.2%)
Furniture		190 (76.994)	37 (14.9%o)	20 (8.2%)

Table 2 indicates basic instructional resources such as textbooks (44.5%, inadequate), stationary (39.7')/a adequate), teaching aids (48.6%, inadequate),

computers (41.7%, adequate) and furniture (76.9%, inadequate). Furthermore, u'hen the researchers analyzed the centres inventories, it was observed that in some of the centres, the basic instructional resources like textbooks and computers were also nadequate.

Research Question 2: What is the availability of physical facilities in adult literacy centres in Maiduguri Metropolitan Council, Borno State?

Table 3: Physical Facilities

Facility available	N	Inadequate	Adequate	Not
Classrooms		100(40.5%)	70(28.3%)	77(3 1 .2%)
Laboratories		115(46.6%)	60(24.3%)	72(29.1 c)/o)
Libraries	247	151(61.1%)	48(19.4%)	48(19.49/o)
Staffrooms		141(57.1%)	5 1 (20.6%)	55(57.1%)
Offices		42(17.0%)	8 1 (32.8%)	124(50.2%)
Location ofcentre		11 9(48.2%)	82(33.2%)	46(1 8.6%)

Table 3 shows centres that had inadequate facilities like classroom (40.5%), laboratories (46.6%), offices (17.0%), libraries (61.1 %) and playground (48.2%). It also emerged that most of the literacy centres were located in what could be considered non conducive learning environments such as next to littered backstreets, overcrowded market centres and dilapidated buildings. Others were lying on less than half of an acre piece of land leaving no room for playgrounds. From interviews with instructors, the centres lacked adequate finances to improve the facilities available.

The result showed performance obtained in six (6) subjects that is; Mathematics, English language, Integrated science, Social studies, Drawing and civic education.
From the analysis, the result shows that 5 1 .0% failure in Mathematics, 24.7% failure in English language and 24.3% failure in Integrated science, while subjects such as Social Studies, Civic Education and Drawing had only 19.5% failure. The result also showed an average of 53% of the respondents who passed their subjects, had credits in at least two other subjects. The result also reveals that there had been few (4.3%) learners who had excellent. From this result, it can be concluded that there has been massive failure in all the centres especially in Mathematics and English language-

Summary of Major Findings

The major findings for this study showed that:

1. Instructional materials and equipment were inadequate in adult literacy centre in Maiduguri Metropolitan Council.
2. Physical facilities were not available for adult literacy centers in Maiduguri Metropolitan Council.

3 . There were poor academic performances by adult learners across the centers.

DISCUSSION

The study is based on the conceptual framework adapted from Khalid's (2008) conception of conducive learning environment. The conceptual framework stated that a conducive learning environment satisfies the needs of its participants not only to acquire numeracy and literacy skills but to be able to link the economic and occupational needs of the groups including their daily activities.

Based on the analysis, the results of the findings revealed that instructional materials and equipment were inadequate in the seven centres understudied. In any learning environment where there are inadequate instructional materials and equipment, learners will find it difficult to learn and perform better. The teaching in the classroom alone cannot lead to better performance; teaching aids and textbooks are to be available to enable learners learn and perform better. The finding confirms Isola's (2010) statement that instnrctional materials and equipment help teachers to make lessons clearer to learners. This finding also corroborated the findings of Adeogun (2001) that effective teaching and learning cannot take place within the classroom if basic instructional materials are not available. Olufbnmilayo (2014) supported Adeogun's (2001) views that if instructional materials and equipment are not available, the facilitator in adult post literacy classes cannot exchange knowledge, skills and attitude with the learners. Apart from inadequate instructional materials and equipment, the study findings also revealed that the available materials are outdated and most of the literacy centres have a very primitive mode of storage. Olufunmilayo's (2014) study also confirms this finding that with time, some of the instructional materials will become fragile and finally unavailable to the younger generatIon.

The second finding revealed that there are no available physical facilities for adult literacy programmes. This is true as most adult learning centres are located in primary schools, hospitals, town halls or community town halls. Learning is shifted to other days when the rightful owners of these centres are making use of them. Though the facilities are being used by the adult learners, most of these facilities are not meant for adult learners: facilities such as chairs, tables, lights and blackboard,

Bandura (1991) expressed Ms Views on the role a physical facility can play h a learning environment. Comfort and Veronica's (2016) study confirmed that where physical facilities are not available, the learners cannot perform better. Fawe (2011) corroborated this finding that learning centres that lack classrooms postpone lesson or never hold lessons. Earthman and Glen (2002), Olel (2000) all confirmed that where physical facilities are not available in any learning environment, learners' academic performance is very poor.

The third finding revealed poor performance of adult learners. Studies about adult learners' achievements and physical facilities concluded that quality of physical environment significantly affects learners' performance. It is difficult for adult learners to learn in the same environment where internally displaced persons (IDPs) are being camped. The findings confirmed Bunling's (2000) study that learners' performance decrease in shabby learning centres. Weinstein (1979) corroborated this finding that design features such as size of the classroom, inadequate temperature control, lights and air quality have detrimental effects on concentration mood, well being, attendance and inmate attainment of goals (better performance). Earthman (2004) and Strichez (2000) supported this finding with the view that inadequate learning centre building causes health problems, lower learners' morale and promotes poor learner performance.

CONCLUSION

The conclusion is that adult learners in Maiduguri literacy centres lack adequate facilities and conducive learning environments. Socio-physical environmental factors hinder adult literacy learners' academic performance. Instructional materials, equipment and supporting facilities are inadequate, obsolete, dilapidated and unsuitable for use by competent instructors. For the instructors to give up-to-date and specialized knowledge to the adult learners, favourable environmental conditions should be created in all the literacy centres.

RECOMMENDATIONS

Based on the findings of this study, it was recommended that:

i. The state government should assist to provide high quality instructional materials and equipment.
ii. Corporations carrying out businesses in Maiduguri should be asked to assist in areas where the literacy centres are failing.
iii. Instructors should encourage adult literacy learners to sustain their academic performance.

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