



## Determination of environmental and kinesthetic learning styles of adult learners for academic performance in adult literacy centres in Anambra state, Nigeria

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### Abstract

This study determined the environmental and kinesthetic learning styles of adult learners for academic performance in adult literacy centres in Anambra State, Nigeria. Two research questions were formulated to guide the study. The study adopted a descriptive survey research design. The population of study consisted of 11,524 registered adult learners. Proportionate stratified random sampling technique was used to obtain 1,550 adult learners as sample for the study. Two sets of 12 items questionnaire were used as instrument for data collection. One set was titled "Determination of Environmental Learning Style of Adult Learners Questionnaire (DELSALQ) while the other was titled "Determination of Kinesthetic Learning Style of Adult Learners Questionnaire (DKLSALQ)". The questionnaire was validated by three experts, two in Adult Education and one in Measurement and Evaluation of Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. The reliability of the study was conducted using the product moment correlation co-efficient ( $r$ ). The reliability coefficient yielded 0.87 for environmental learning style and 0.90 for kinesthetic learning style. The data for the study were collected and analyzed with mean scores. The findings of the study revealed that majority of adult learners in Anambra State prefer environmental learning style to kinesthetic learning style. Based on the findings, it was recommended among others, that the government of Anambra State should provide permanent site for adult literacy centres, build and equip them with modern educational facilities to aid adult learning.

**Keywords:** determination, environmental, kinesthetic, styles, adult learners and adult literacy

### Introduction

The desire of every government is to improve the educational standard of her citizens, especially the adult populace. This is because it is the adult populace that controls the seat of government of any nation. Where the majority of adults are illiterates as it is the case in Nigeria, governance is always difficult. One way of promoting adult literacy is by enrolment into adult literacy centres.

These literacy centers help adult acquire the basic skills of reading, writing and arithmetic. It was observed that adult learners in these literacy centers are not performing very well. Poor enrollment, poor academic performance and withdrawal of adult learners among others characterized the life of literacy centres in Anambra State (Chieke, 2014) [3]. Studies have shown that one way of improving academic performance of adult learners in adult literacy centers is by teaching them according to their preferred learning styles. Learning styles are different ways learners learn which help them to maximize learning. Some adult learners learn better when alone while some others may prefer to learn in a group. Some adult learners maximize learning when learning in a beautified environment while some others prefer seeing and manipulation of objects and going on excursion (Dunn, 2009) [4].

There are many types of learning styles: Dunn and Dunn (2003) [5] grouped learning styles of adult learners as environmental, emotional, sociological, psychological, and physical. However, Rochester Institute of technology (2011) [11] classified learning styles of adult learners as, visual,

auditory, kinesthetic and environmental learning styles but this work focuses on determining the environmental and kinesthetic learning styles of adult learners in adult literacy centres in Anambra State. This, the researchers think, will help the government of Anambra State to plan well towards uplifting the educational standard of adult learners in the state. Hitherto, most adult literacy centres in Anambra State are dilapidated school buildings, church halls, private houses and at times, most adults learn under mango trees, some learn in the night with local lanterns. Environmental learning style is a learning style in which learning takes place when information is presented in a surrounding that matches the learners' preference, for example, room temperature, seating arrangements, beautiful surroundings while kinesthetic learning style is a learning style in which learning takes place by the learner carrying out a physical activity rather than listening to a lecture. Kinesthetic learners tend to learn best through moving, doing and touching objects, for example, field trips, carrying out experiments and writing assignments (Leite, Svinickiy & Shi 2009) [4].

According to Dunn and Dunn (2003) [5], environmental learning style represents elements related to how individuals learn in their surroundings. The environmental stimuli include the following factors: Light, sound, temperature and design. Dunn and Dunn went on to say that these elements affect learner's achievements in any learning situation. That is to say that some adult learners prefer studying under a bright light while others may prefer a dim light. Likewise, some learners maximize learning where there is background music while to

some, music is a distraction. Temperature in an environmental stimulus refers to cool or warm environment, when learning, some learners prefer cool environment while others may prefer warm or hot environment. Designs in environmental stimuli refer to room and furniture arrangements in any learning environment. Some adults learn best when the environment is comfortable and relaxing while others can learn in an unstructured place. These characteristics may not affect all adult learners but it may hamper the effectiveness of some others, for example, temperature can affect the efficiency of some older learners in a learning environment. Equally, Dunn (2009) <sup>[4]</sup> strongly believed that some learners are affected by the conditions of the classroom environment.

On the other hand, Kinesthetic learning style is a learning style in which the learner learns through doing, moving and touching objects. Rochester Institutes of technology (2011) <sup>[11]</sup> said that kinesthetic learners learn best when what is being learnt is touched or manipulated, for example, examination of objects and field trips, among others. According to Benzion (1999) <sup>[1]</sup>, kinesthetic learners' style is defined as the process that results in new knowledge or understanding with the involvement of the learners' body movement. This movement is performed to establish new or extend existing knowledge. Vak (2001) <sup>[14]</sup> stated that Kinesthetic learners find it hard to sit still for a long period and learn and may become distracted by their need for activity and exploration, Vak added that Kinesthetic learners like to listen to music while studying and in the absence of any background music, kinesthetic learner can hum or tap his or her feet on the ground to generate music for herself. According to Dunn (2009) <sup>[4]</sup>, students who have predominantly kinesthetic styles are thought to be discovery learners. They have realization and understanding through doing rather than through reading or listening. He asserted that kinesthetic learners do better in chemistry, experiment, sporting activities and in acting.

There is, therefore, a correlation between learning styles and academic performance of adult learners. According to Graham, Garton and Gowdy (2001) <sup>[7]</sup>, determination of preferred learning styles of adult learners is an important variable in learner's academic achievement, learners-teacher interaction and learner's understanding of his or her course. Learning styles are important because they help to sustain the interest and attention of adult learners in the class but one is not sure the extent adult learners in Anambra State are encouraged to learn according to their preferred learning styles. Holtbrugge and Mohr (2009) <sup>[8]</sup> stated that differences existed in the learning styles of urban and rural adult learners. He maintained that urban learners are more kinesthetic than rural learners. On the other hand, Sadker Sadker (2003) <sup>[12]</sup> emphasized that older adult learners prefer structured environment to unstructured environment. He went further to say that younger adults can learn in any place even if it is on a floor. But Penger, Tekavcic and Dimorski (2008) <sup>[10]</sup> hinted that learners learn effectively in harmonious and conducive environment. He advised adult educators to prepare conducive environment for learners for learning to take place effectively.

In Anambra State, a number of these literacy centers are not functional. They existed on paper. There is also problem of poor attendance and low enrolment of adult learners in adult

literacy centres in the state. This has led to the closure and in some cases merging of some of these literacy centres in the states due to low patronage. For example, on market days, adult instructors and learners hardly attend classes. The researchers have also observed that there are signs of apathy, discouragement, poor academic performance, disinterest and withdrawal of adult learners from their literacy classes, hence, these affect their learning. Supporting this view, Felder (2000) <sup>[6]</sup> opined that a researcher should check whether the adult learners are learning according to their preferred learning styles.

Therefore, since most of the adult learning activities in Anambra State take place in dilapidated school buildings, church halls, private houses and under mango trees, environmental learner cannot achieve much. Also, where what is to be touched or manipulated is not in place, the kinesthetic learner will drop thereby creating a gap that needs to be bridged, hence the need for this study.

### Research Questions

The following research questions guided the study

1. Do adult learners in Anambra State prefer environmental learning style to other learning styles?
2. Do adult learners in Anambra State prefer kinesthetic learning style to other learning styles?

### Method

The research design for the study was a descriptive survey. The population of the study consisted of all the adult learners in government owned adult literacy centres in Anambra State, Nigeria. The total number of adult learners was 11,524 (source: Agency for Adult and Non-formal Education Commission Awka, 2017). 1,550 adult learners were sampled using proportionate stratified random sampling technique. Questionnaire was the instrument used for data collection. The researchers developed two sets of questionnaire; one was titled, "Determination of Environmental Learning Style of Adult Learners' Questionnaire" (DELSALQ) and the other titled, "Determination of Kinesthetic Learning Style of Adult Learners' Questionnaire" (DKLSALQ). Both DELSALQ and DKLSALQ have 12 items structured on a 5 point rating scale of Strongly Agree (SA) 5-points, Agree (A)- 4 points, Undecided (UN)- 3 points, Disagree (D)- 2 points, and Strongly Disagree (SD)- 1 point. The instruments were validated by three experts, two in Adult Education and one in Measurement and Evaluation of Nnamdi Azikiwe University, Awka, Anambra State, Nigeria. The product moment correlation co-efficient ( $r$ ) was used to determine the reliability coefficient of the two sets of instrument (DELSALQ) and (DKLSALQ) which stood at 0.87 and 0.90 respectively. Data collected were analyzed with mean. A mean score of 3.00 and above were regarded as agree i.e preference of environmental learning style while a mean score below 3.00 were regarded as disagree i.e not preference of kinesthetic learning style.

### Research Question 1

Do adult learners in Anambra State prefer environmental learning style to other learning styles?

**Table 1:** Mean ratings of respondents on their preference of environmental learning Styles

| S/N | Items   | Mean | Remarks  |
|-----|---|------|----------|
| 1   | I prefer informal arrangements of seats       | 4.20 | Agree    |
| 2   | I prefer studying with cool music             | 3.93 | Agree    |
| 3   | I learn best under dim light                  | 3.54 | Agree    |
| 4   | I prefer cool room                            | 4.22 | Agree    |
| 5   | I learn best seeing teachers body             | 2.48 | Disagree |
| 6   | I prefer writing on the board                 | 2.60 | Disagree |
| 7   | I prefer learning with handout                | 1.49 | Disagree |
| 8   | I learn best with lecture method              | 3.14 | Agree    |
| 9   | I prefer warm room                            | 3.23 | Agree    |
| 10  | I prefer learning in the morning              | 3.90 | Agree    |
| 11  | I learn best in a well structured environment | 4.54 | Agree    |
| 12  | I learn best under bright light               | 3.58 | Agree    |
|     | Mean of means                                 | 3.40 | Agree    |

The result in table 1 shows that adult learners in Anambra State agreed with items 1, 2, 3, 4, 8, 9, 10, 11 and 12 as their preferred learning styles. However, they disagreed with items 5, 6, 7. The mean of means is 3.40. This shows that most adult learners in the state are environmental learners.

### Research Question 2

Do adult learners in Anambra State prefer kinesthetic learning style to other learning styles?

**Table 2:** Mean ratings of respondents on their preference of kinesthetic learning style.

| S/N | Items  | Mean | Decision |
|-----|--|------|----------|
| 1   | I learn best with experimentation                | 2.75 | Disagree |
| 2   | I prefer touching examination of objects         | 2.72 | Disagree |
| 3   | I prefer group learning                          | 2.68 | Disagree |
| 4   | I prefer going on excursion                      | 2.01 | Disagree |
| 5   | I prefer writing assignments and note taking     | 3.35 | Agree    |
| 6   | I learn best under unstructured environment      | 3.65 | Agree    |
| 7   | I learn best in a library                        | 3.24 | Agree    |
| 8   | I learn best under informal arrangement of seats | 3.44 | Agree    |
| 9   | I prefer learning with pictures and diagrams     | 3.00 | Agree    |
| 10  | I learn best with demonstration                  | 3.67 | Agree    |
| 11  | I Study best in the morning                      | 3.60 | Agree    |
| 12  | I study best at night                            | 3.76 | Agree    |
|     | Mean of means                                    | 3.16 | Agree    |

The result in table 2 shows that adult learners in Anambra State do not prefer items 1- 4 which are kinesthetic learning style except item 5. However, they prefer all other items, 6-12 which are not kinesthetic learning styles. The mean of means is 3.16. This shows that adult learners in the state are not kinesthetic learners.

### Discussion

The result of the research question 1 in table 1 showed that environmental learning style is preferred by adult learners in the State as a means of enhancing their academic performance. The result also showed that most of the items were preferred by adult learners except items 5, 6, and 7. This is in line with Penger, Tekavcic and Dimorski (2008) <sup>[10]</sup> who said that learners learn effectively in a harmonious and conducive environment. Dunn and Dunn (2003) <sup>[5]</sup> also

believed that most adult learners process information better when the information is presented in the surroundings that match the learners' preferences. Corroborating Dunn and Dunn, Unachukwu and Nwankwo (2005) <sup>[13]</sup> added that learning which takes place in a surrounding that is beautiful, exciting, comfortable and stimulating helps learners to maximize their potentials. Also, table 1 revealed that older adult learners prefer structured environment to unstructured environment. This is in agreement with the view of Sadker and Sadker (2003) <sup>[12]</sup> who maintained that older adults prefer to learn in a structured environment while younger adults can learn in any place even if it is on a floor.

On the other hand, the result of research question 2 in table 2 showed that kinesthetic learning style is not preferred by adult learners in Anambra state as a means of enhancing their academic performance. This is in agreement with the view of Bricheno and Younger (2004) who stated that very low percentage of males and females prefer kinesthetic learning style. The findings equally, concur with the opinions of Holtbrugge and Mohr (2009) <sup>[8]</sup> who said that differences existed in the learning styles of urban and rural adult learners. They concluded that urban learners are more kinesthetic than rural learners.

### Conclusion

From the foregoing, it is evident that there are many types of learning styles and one way of improving academic performance of adult learners in adult literacy centres is by teaching them according to their preferred learning styles. Some adult learners maximize learning when learning takes place in a beautiful environment while others prefer seeing and manipulation of objects and going on excursion. In Anambra State, adult learners prefer environmental learning style to kinesthetic learning style because learning takes place in a surrounding that is beautiful, exciting, comfortable and stimulating that maximize their potentials. This implies that facilitators should intensify efforts in choosing the appropriate learning style(s) that would enhance learning in adult literacy centres in Anambra State.

### Recommendations

Based on the findings, the following recommendations were made:

1. The government of Anambra State should put up a good structure for adult literacy centre. The idea of using churches and primary schools as adult literacy centres should be frowned at.
2. The adult instructors or educators in the state should be advised to tailor their teaching styles to match each learner's learning style so as to enhance learning.
3. Adult literacy centers should be equipped with digital libraries so as to help adult learners be abreast with current information and communication technologies.

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