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Effectiveness of non-formal education programs in Nigeria: how competent are the learners in life skills?

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In order to achieve the Millennium Development Goals (MDGs), Nigeria adopts both formal and non-formal approaches to provide basic education for its citizenry. Thus, to determine the effectiveness of the non-formal approach in providing basic education in Nigeria, this study examines the competency level of Nigerian non-formal education learners on a life-skills achievement test. The test was administered to a sample of 876 learners. The competency level in life-skills of the majority of the learners was below the national benchmark (50%). Rural dwellers were more competent than urban dwellers and young learners were more competent than old learners.

Introduction

The Nigerian government adopts both the formal and non-formal approaches to eradicate illiteracy by the year 2015. The formal education approach addresses children of school age (who are actually in schools) and the non-formal approach which could also be described as second chance education targetting children, youths and adults who have either dropped out of school before achieving permanent literacy or have never been to school due to a number of factors. Such factors include poverty and early marriage for girls in the northern part of Nigeria and drop out of schools by boys in some parts of the Eastern States in order to engage in economic activities (Adewale 2006). Therefore, the non-formal approach of education provides opportunity for these disadvantaged children, youth and adults to catch up on basic education and mainstream into the formal system if desired at any given point. As good as this non-formal education (NFE) approach looks, its delivery in the country is confronted with various problems such as ineffective mobilisation and coordination of efforts, lack of a reliable and current database on learner achievement, poor funding, shortage of teaching/learning materials and inadequate logistic support for monitoring of the non-formal program (Adewale 2006).

Research evidence shows that learners will achieve more if favourable support (for example, funds) are provided by the government or other bodies such as development partners because these grants received by schools or adult literacy centres could then be used to purchase those materials which are likely to promote learning experiences. Examples of such items are teaching aids and textual materials which are also recognised as predictors of student achievement (Farombi 1998, Onwuakpa 1998). Unfortunately, the trend has been to reduce governments' overall spending both nationally and internationally and, in many cases, those reductions have resulted in declines in

funding for education (Haycock 2005). Hence, it is not possible for schools to have all that is needed to increase students' learning outcomes.

In addition to the problem of inadequate funding of NFE, no systematised standard achievement test has been put in place to assess the effectiveness of programs across the board. Adewale (2006) carried out an item analysis of a life-skills achievement test for Nigerian non-formal education learners, using data collected during the Monitoring Learning Achievement (MLA) of Non-Formal Education in each of the 36 States and the Abuja Capital Territory (FCT) of Nigeria. He did not consider the competency level of the adult learners in his study but limited his research effort to describe the characteristics of the test items used and selected the best items which were used in this study.

Though there are inconsistencies in the way competence is measured, generally competence is the ability to perform the requisite range of skills in practical terms (Atherton 2008). In all areas of practice, there are some skills in which experts are merely knowledgeable, for example, many nurses are more competent than doctors in taking blood samples. Therefore, it becomes evident to this investigator that one can be competent in one aspect and not necessary be competent in another. It can also be argued that male and female learners, old and young learners, and urban and rural dwellers may not be competent in the same way. Some of the different methods of measuring competency have been presented by authors like Dreyfus and Dreyfus (1986) who measured competency along five points: novice, advanced beginner, competent, proficient and expert. They see a novice as a rigid adherent to taught rules or plans with little situational perception and no discretionary judgment. They observe that an advanced beginner needs guidelines for action based on attributes or aspects; situational perception remains limited and

all attributes and aspects are treated separately and given equal importance. The competent individual copes with 'crowdedness' and sees actions, at least partly, in terms of longer-term goals, conscious deliberate planning and standardised and routinised procedures. They postulate that a proficient individual sees situations holistically rather than in terms of aspects, sees what is most important in a situation, perceives deviations from the normal pattern, decision-making is less laboured and uses maxims for guidance, whose meaning varies according to the situation. They conclude that the expert does not rely on rules and guidelines, but grasps situations intuitively based on deep tacit understanding, and uses analytic approaches only in novel situations or when problems occur.

Another presentation on the measurement of competence is from the Department of Education (1998). This competency framework identifies and defines the competencies needed for professional and business classes. They are further hierarchically defined in three levels: basic, intermediate and accomplished. A basic level of competency requires that those in this category know general terms, concepts, processes and objectives of the competency and be able to apply the competency to common tasks. An intermediate level of competency requires that those in this category are able to apply the competency consistently to perform common tasks. The accomplished level of competency requires those in the category to be able to use the competency consistently to perform complex tasks requiring creativity and judgment.

Generally, competence of a learner is determined in terms of knowledge, skills and values in a specialised context (Department of Education 1998). This can be achieved using assessment strategies. Assessment then becomes a learning experience in which learners are prepared to apply their knowledge, skills and values in an integrated manner. Assessment of knowledge and skills could be carried out using tests (especially an achievement test).

An achievement test in a particular subject, according to Obemeata (2000) and Ayodele, Adegbile and Adewale (2001), is a series of questions given (using a criterion-referenced test) to assess learners in order to determine their mastery level in the subject. Van Der Horst and McDonald (1997) suggest that criterion-referenced tests of the required outcomes are critical components of competency-based education, especially in life-skills.

Life-skills are abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life (WHO 1993). Examples of these skills are communication/interpersonal skills, decision-making and critical thinking skills, coping and self-management skills. However, life-skills based education has been defined as one that develops knowledge and skills related to social and health issues, using sequenced interactive teaching and learning methods which provide opportunities to practise and reinforce psycho-social and interpersonal skills in a culturally and developmentally appropriate way; and contributes to the promotion of personal and social development, the prevention of health and social problems, and the protection of human rights (WHO 1993). It is expected that learners at this stage should have acquired skills in some day-to-day activities. These activities are either learnt in literacy centres or are passed down from parents. They were also observed in the environment. These are categorised into four groups – social studies, health and hygiene, general knowledge, and science and technology). The life-skills test was designed to assess learners' basic competencies in these four components.

The competency level for non-formal education is the same as that for primary schools in the formal education setting. A benchmark of 50% score in a subject is regarded as a minimum competency level for that subject. Therefore, if adult learners score a minimum score of 50% in life-skills, they are considered as being competent in the subject – otherwise, they are not competent. It is thus necessary to determine the competency level of non-formal education learners through their performance in life-skills using an achievement test for which the item analysis was carried out by Adewale (2006). This study, therefore, provided empirical evidence on the competence level of non-formal education learners in Oyo State in terms of their performance in life-skills. Competency levels of learners in literacy centres in terms of their characteristics – sex of the learners, centre location and learner's age – were also examined.

Research questions

1. What is the competency level of non-formal education learners on the life-skills test?
2. Is there any significant difference in the competency level of male and female non-formal education learners on the life-skills test?
3. Is there any significant difference in the competency level of non-formal education learners from urban and rural centres on the life-skills test?
4. Is there any significant difference in the competency level of young and old non-formal education learners on the life-skills test?

Methodology

The target population for this study comprised all non-formal education learners in Oyo State. A multi-stage sampling design was used for the study. Sampling was done at senatorial level, local government level and adult literacy centre level. In each of the three senatorial zones, two local governments were randomly selected and in each local government area, five literacy centres were randomly selected to reflect two centres from urban and three centres from rural areas since there were more of the literacy centres in rural than urban settings. All the learners in the 30 literacy centres indicated

their willingness to participate in the study when they were informed about the study. Therefore, a total of 876 learners in all the 30 centres participated in the study. These were made up of 377 (43%) learners from urban literacy centres and 499 (57%) from rural literacy centres. The sample also consisted of 398 (45.4%) males and 478 (54.6%) females. The learners selected were between 10 and 61 years and majority of these learners were between 19 and 29 years.

The achievement test on life-skills was the only instrument used in this study. It had two sections. Section A dealt with demographics like age, sex, centre location, type of centre and so on, while Section B contained 40 test items on life-skills. Items on life-skills were developed using the NFE life-skills curriculum. Item analysis was carried out on the 40 items by Adewale (2006) in order to determine difficult items, easy items and not too difficult or too easy items. The result showed that there was an average item difficulty level of 0.56. This implies that the test difficulty level was moderate. The relatively difficult items were three in which less than 30% of learners got them right, and these items were reviewed. The psychometric property (Kuder-Richardson 20) of the test was established to be 0.87. This value was considered high enough, and the instrument was assumed to have a degree of internal consistency and construct validity.

Descriptive statistics (frequency, percentage, mean score, standard deviation, mode and graph) were employed to describe the data collected. In addition, inferential statistics such as the *t*-test were used to establish significant differences (at 0.05 level of confidence) among groups of learners.

Results and discussion

Research question 1: What is the competency level of non-formal education learners on the life-skills test?

Table 1 shows the general performance of learners on the life-skills test.

Table 1: Performance on the life-skills test

Sample size	Mean score (%)	Standard deviation	Highest score (%)	Lowest score (%)	Modal score range (%)
876	36.94	13.76533	94.55	7.27	30-39

The overall mean score for the 876 post literacy learners who took part in this test was 36.9%, with a standard deviation of 13.8 showing that there was a considerable degree of variability in performances, probably because the samples used were heterogeneous, that is, they were drawn from different age groups from 10 to 61 years. Urban and rural settings, being heterogeneous, could also be a contributory factor to the high measure of variability on the life-skills test. The lowest score was 7.3% and the highest score was 94.6% – this again explains why the standard deviation was large. The modal score range was between 30% and 39%. Generally, the NFE learners could not be said to be novices, yet they also could not be said to be competent. If being competent is marked at 50%, then we may conclude that, on average, they are advanced beginners with a mean score of 36.9%. However, specifically, some of these learners can be categorised as novice, advanced beginners, competent, proficient and experts using the definitions of Dreyfus and Dreyfus (1986). It should be

noted that the categorisation in term of the scores obtained by the learners are not based on any theory or literature. The categorisation was done based on assuming that the midpoint of 100% is 50% and the midpoint of the Dreyfus and Dreyfus range of competency is competent. So, in this study, 50% is equated with competent and the other 4 categorisations were done to reflect ordinal grouping as shown in Table 2.

Table 2: Level and type of competency level of the NFE learners

Level of competency	Type of competency	Number and percentage of NFE learners	
		N	%
Less than 25%	Novice	210	23.97
25%°–49%	Advanced Beginner	342	39.04
50%	Competent	166	18.95
51%–75%	Proficient	114	13.01
76%–100%	Expert	44	5.03
Total		876	100

Many of the learners were novice and the majority of them graduated from being novices to advanced beginners (more than half of these learners were either novices or advanced beginners). Very few of them were proficient or expert. This conclusion is illustrated in the following figure.

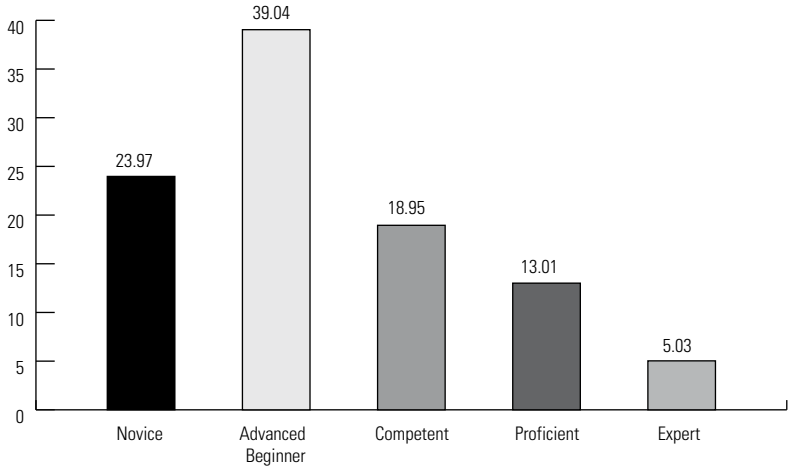

Figure 1: Pattern of competency of NFE learners

This figure looks like a positively-skewed graph where many learners failed and few learners passed. Many factors may be responsible for this low level of competence by the learners. One of these factors is inadequate instructional materials (Paiko *et al.* 2004). Instructional materials are found to have significant contributions to students' achievement (Farombi 1988, Onwuakpa 1988).

Research question 2: Is there any significant difference in the competency level of male and female non-formal education learners on the life-skills test?

Table 3: Performance on the life-skills test by sex

Sex	Sample size	Mean score (%)	Standard deviation	Highest score (%)	Lowest score (%)	Modal score range (%)	t-test
Male	398	37.05	14.26	87.27	7.27	30–39	.392ns
Female	478	36.83	15.33	94.55	9.09	30–39	

The breakdown by sex (Table 3) shows that the percent mean score of male learners is slightly higher (the difference is less than one) than the percent mean score of female learners (37.1 and 36.8 respectively), with standard deviations of 14.3 and 15.3 respectively as illustrated in Figure 2.

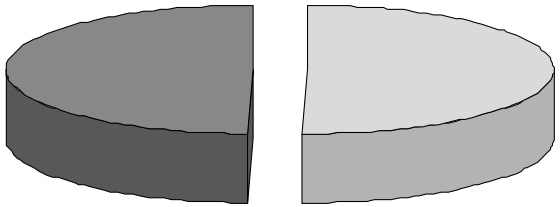

Figure 2: Competency level of male and female NFE learners

The two groups of learners had a modal score range of 30 – 39%. Interestingly, the lowest and highest percent scores of female learners are higher than those of their male counterparts, yet the male learners' percent mean score is higher than the female learners' percent mean score. One can explain this abysmal level of performance by exploring the standard deviations of the two groups. The scores earned by the females are more dispersed (scattered) from the mean than those of the males. Notwithstanding, if one were to find the best learner in life-skills, a female learner is likely to have qualified for such a position. However, the difference observed in the performance of male and female learners in life-skills, as shown by the *t*-test value of 0.392 (df=874; P >.05), was not significant to warrant concluding that male learners are better than female learners.

Research question 3: Is there any significant difference in the competency level of non-formal education learners from urban and rural centres on the life-skills test?

Table 3: Performance on the life-skills test by centre location

Location	Sample size	Mean score (%)	Standard deviation	Highest score (%)	Lowest score (%)	Modal score range (%)	t-test
Urban	377	35.12	14.78390	87.27	7.27	30 – 39	2.502*
Rural	499	38.75	13.72305	94.55	9.09	30 – 39	

* = significant (0.05)

The result by centre location (Table 3) shows that learners in rural literacy centres performed better than learners in urban literacy centres, with the percent mean scores 37.75 and 35.12 and standard deviations 14.78 and 13.72 respectively. The learners' performance is represented in the following figure.

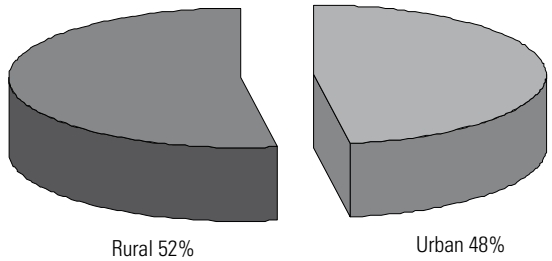

Figure 3: Competency level of NFE learners in urban and rural settings

The two groups of learners had a modal score range of 30–39%. The lowest and highest percent scores of learners in rural settings are

higher than those of their urban counterparts, which resulted in the learners from rural settings scoring more than the learners in urban settings. Despite the fact that learners from rural settings scored more than the learners from the urban settings, the scores obtained by the learners from urban settings are more dispersed (scattered) from the mean than those of the learners from rural settings. The *t*-test value of 2.502 (df=874; P <.05) was observed, which implies that the learners from urban literacy centres performed at significantly lower levels on the life-skills post literacy test than learners from rural literacy centres. This is a puzzling result because one expects learners in the cities (urban setting) should perform better than learners from villages in rural settings (Farombi 1998) because of the concentration of learning facilities in the urban centres rather than in the rural settings. However, the finding in this study corroborates earlier findings of **Uekawa** and **Lange** (1998) where U.S. students from suburban settings had higher scores than urban students. Moreover, the findings of this study contradict earlier findings of some scholars which reveal that there are very slight rural-urban differences in high school and college performance regardless of sex and/or social class in favour of urban students in Korea (Education Forum 2004). Students with urban and suburban backgrounds consistently outperformed students from rural and small-town areas (for example, Education Forum 2004).

One of the reasons that can be adduced for this result is that learners in urban centres are very busy in the hustling and bustling life of the city-that is, many things compete with their time, like spending more time on the road due to traffic hold ups. Another reason could be because of the way city people enjoy social amenities like television, home video, movies and, as such, little or no time is devoted to their learning. If these learners are children, they could be disciplined and forced to do their homework, and to go to the learning centres, but where the majority of the learners are adults, there is a limit to the extent they can be pushed to do what they do not want to do.

Research Question 4: Is there any significant difference in the competency level of young and old non-formal education learners on the life-skills test?

Table 4: Performance on the life-skills test by age

Age	Sample size	Mean score (%)	Standard deviation	Highest score (%)	Lowest score (%)	Modal score range (%)	t-test
Young	315	39.24	12.45	89.73	8.57	30–39	5.43*
Old	561	34.43	19.23	93.34	5.35	30–39	

* = significant (0.05)

In Nigeria, people who are 18 years and above are considered adults. In this study, therefore, 'old learners' referred to people who are 18 years old and above, whereas those learners below 18 years are considered young. The result by age (Table 4) shows that there are more old learners in the centres than young learners. However, young learners performed better than old learners in life-skills, with mean scores of 39.2% and 34.4% and standard deviations of 12.5 and 19.2 respectively. The learners' performances are represented in Figure 4.

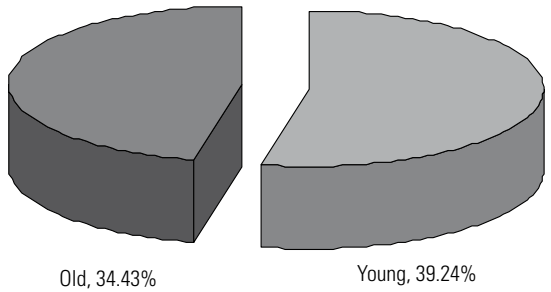

Figure 4: Competency level of old and young NFE learners

The two groups of learners had a modal score range of 30% – 39%. The maximum percent score for young learners was less than that for old learners but the minimum percent score for young learners was higher than that for old learners, which resulted in the large standard deviation for the old learners (individual scores of the old learners dispersed greatly from the mean score and from other scores). The *t*-test value of 5.43 (df=874; P <.05) was observed, implying that the young learners performed significantly higher on life-skills test than the old learners. The findings reveal that younger learners performed better than older learners. The reason could be that the more mature (older) learners are encumbered with many economic activities to take care of their children, dependant relations, social expectations and so on. Apart from economic activities, older learners have many other commitments that have demands on their time. These economic activities and other engagements are likely to slow down the rate of comprehension and assimilation of what the instructors taught them. On the other hand, young learners tend to be internally motivated because, to them, non-formal education is more like a second chance education which could develop them socially and intellectually. The result of this study corroborates the study carried out by the Department of Educational Measurement and Evaluation within the National Council of Educational Research and Training (NCERT) (2002), which found that students' age had negative impact on students' learning achievement, meaning that younger students performed better than older ones. Conversely, the finding in this study is not in agreement with the reports on National Assessment of Educational Performance (NAEP) by the Institute of Education, University of Ibadan and the National Examinations Council (2006) in Nigeria, in which older students performed better than young students. The difference between this study and the report on NAEP is mainly due to the nature of the respondents in the studies. In this study, the old learners' ages range from 18 to 62 years and young learners' ages range from 10 to 17 years, whereas in the NAEP study, old students' ages ranged between 15 and 20 years and the young students' ages were below 15 years.

Conclusion and recommendations

The overall mean score was 36.9%, so with this type of result we can categorise the learners as neither novices nor experts. The most appropriate categorisation is likely to be advanced beginners (low level of competence). The ideal is to raise this low level of competence to the level of experts. Therefore, language of instruction should be structured to accommodate those who have some deficiencies in English language (which is the medium of instruction from primary 4). In addition, instructional materials like textbooks, primers and writing materials should be provided for the learners. The result on sex analysis is not conclusive about which of the sexes is better (no significant difference was found between males and females). However, if we consider group performance, boys were better, and if we consider individual performance, girls were better. Therefore, it is recommended that females should learn to work together in order to produce a higher group result like the males. The centre location analysis indicated that learners in rural literacy centres performed better than learners in urban literacy centres. This result contradicted expectations because of the concentration of instructional materials in urban settings rather than in rural settings. However, because of the involvements of learners in the cities in some commercial activities, less time is able to be devoted to their work. It is therefore recommended that learners in urban centres should re-set their priorities by devoting more time to their academic work. Finally, younger learners out-performed the older learners probably because the younger learners are determined to acquire what they missed in the formal school setting. Meanwhile, the older learners were likely to be complacent and to give in to fate. The performance of these older learners could be improved if they devote more time to, and determine to perform well in, their academic activities.

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