Use of Acquired Literacy Skills: The Relevance of Income Generating Projects as a Reinforcement of Acquired Literacy Skills

LUKE K JONGAH [+]

ABSTRACT

This paper presents the results of a study on the relevance of income generating projects as a reinforcement of acquired literacy skills in Zimbabwe. Very little research has been carried out to assess the extent to which participation in income generating projects actually reinforces the students acquired literacy skills, whereas many studies have evaluated the impact of literacy on socio-economic activities. This study sets out to examine what effects socio-economic activities have on students' literacy test achievements.

The results presented here tend to show that high participation in income generating projects is positively correlated with higher total mean scores for total literacy and arithmetic scores. However, the study revealed that variables of *high* and *low* participation are not the only ones and cannot be considered in isolation: other variables such as age, sex, etc had to be considered also as results show that these, together with *high* and *low* participation in projects, affects students' achievements in literacy test scores.. It is believed that the results have useful implications for agencies involved in adult literacy work.

Introduction

Zimbabwe, like many Third World countries after Independence, launched a literacy campaign in June 1983. The major aim was to erdicate illiteracy in five years in order to achieve some form of universal literacy. A UNESCO (1975) paper concluded that the rate of illiteracy has, in percentage terms, seemingly fallen but in actual numbers it is on the increase as numbers stood at 800 million by 1975.

In terms of these numbers a crucial issue needs to be attended to - the definition of literacy. The definition of literacy, or a literate person, is open to conceptual and operational confusions, as literacy has evolved over time and

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[+] Project Co-ordinator, Norwegian People's Aid, Harare.

thus is influenced by each social context. UNESCO (1951) defined a literate person as one "who can, with understanding, both read and write a short simple statement on his everyday life". Bhola (1979) defines literacy as "the quality or state of being able to read and write day to day messages in the mother tongue". He goes on to say that literacy is a "skill for decoding written symbols that represent oral speech and encoding oral speech into written symbols". The two definitions have one thing in common as they both emphasise the acquisition of knowledge which has to be practised so that it becomes meaningful to the learner. Again both use the index of reading and writing ability.

Harman (1976) goes further than this when he defines a literate person as one who has acquired the essential knowledge and skill to engage in all the activities in which literacy is required for effective functioning in his group and community. Attainment in reading, writing and arithmetic allows people to continue their own individual and community development. In this definition acquisition of knowledge and skills is critical to the individuals effective functioning in his/her own environment. For the purposes of this study this definition is central as it distinguishes the illiterate from the literate by explicitly stating the variables of reading, writing and arithmetic as parameters.

The Adult Literacy Organisation of Zimbabwe (ALOZ) defines a literate person as one who "can read and write in his/her home language, dc arithmetic and tell the time, his/her vocabulary is wide enough to enable him/her to read any popular material" (Whitsun Foundation 1978).

Approaches to literacy training

There are various approaches to literacy training. One of the most common approaches in use in Zimbabwe is the functional approach to literacy. Couvert (1979) in a UNESCO publication notes that the approach was based on the hypothesis that "in favourable and well ordered socio-economic conditions a training process focused on development objectives and problems provides the individuals concerned with the intellectual and technical means for becoming more effective agents in the process of socio-economic development. This therefore implies that literacy training is integrated with "specialised training organised around precise and materially defined objectives focused on concrete problems." (Bataille 1977).

The training objectives would be to induce individuals to learn to grow by learning to adjust themselves to change and be themselves agents of change (UNESCO 1973). This means that agents do not only learn but also act and therefore planning is critical to enhance positive effects in the domain of the

subjects' knowledge. To achieve competency the objectives of the learning activity must also be subjacent to the problems and programme elements.

Functional literacy always forms a part of a development programme and its field of application is the social, occupational and cultural milieu in the process of transformation. For example, the acquisition of literacy skills enables the peasant to acquire knowledge and work habits that will make him capable of change. The same is true for industrial workers. Therefore a certain level of literacy enhances productivity which is one of the necessary conditions of national development and social transformation. For example, in the Tanzanian literacy programmes it was assumed that illiteracy constituted a serious bottleneck in the diffusion of agricultural innovation and social change. Evaluation studies noted that, although the literacy performance of the participants was poor, they tended to do better on vocational skills even with very *low* performance of literacy. This finding was difficult to explain. However, Kassam (1980) criticises the usual approach to literacy evaluation because the impact of literacy has been evaluated by investigating and measuring mostly behavioural changes related to socio-economic development. He says that the invisible, the more personal and qualitative effects of literacy on the people have been ignored. Development should not then be determined on purely economic and technological terms. There is need really to carry out qualitative assessments of literacy projects (cf Izadi,1977).

Aims and Methodology of the study

Very limited data, if any, is available in Zimbabwe on what effect involvement in literacy projects has on the students achievement in literacy tests. Whereas many researchers have evaluated the impact of literacy on socio-economic productivity, the study looked at what effects these same socio-economic activities have on students' literacy test achievement. The study assessed the effectiveness of accompanying practical concurrent activites,ie income generating projects, in assisting test results in literacy courses, ie literacy tests. These income generating projects include poultry, savings clubs, market gardening, sewing, and baking.

Hypothesis

It was hypothesised that involvement in literacy projects would affect students achievement in test results. This was further broken down to two other hypotheses:
a)   Where literacy training is accompanied by income generating projects, the students are more likely to obtain higher overall mean scores than where there are no such projects.
b)   Literacy participants who report the use of acquired literacy skills in both course and home projects are likely to score higher than those who do not use the acquired literacy skills.
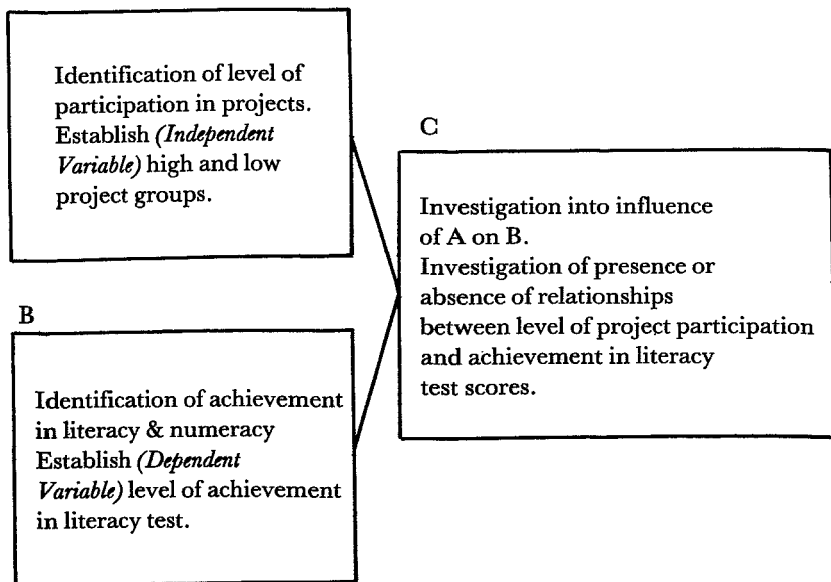
Population

The population included all literacy groups run by ALOZ and, by using the independent variable of high and low project groups, two groups, Kambuzuma and Amms, were selected respectively. Final selection was done in a non-random way, bearing in mind factors like the stage which classes had reached in order to obtain relatively homogeneous groups.

A table of random figures was used to select 30 students from the two centres for the study. All had been controlled for their level of literacy. An interview schedule was used with research questions which illicited responses related to the postulated hypothesis and were in line with the assessment model below (figure 1).

FIGURE 1: ASSESSMENT MODEL

A Baseline Information

Identification of level of participation in projects. Establish *(Independent Variable)* high and low project groups.

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Investigation into influence of A on B. Investigation of presence or absence of relationships between level of project participation and achievement in literacy test scores.

B

Identification of achievement in literacy & numeracy Establish *(Dependent Variable)* level of achievement in literacy test.

This model is a simplified guideline indicating the experimental design used in the study.

The questions specifically established information on:
    a) Participants biographical data;

b) Location of course and type of project;

c) Leadership.

d) Use of literacy skills in i) course projects

                             ii) home projects

e) Length of time per week spent in project work.

The interview schedule was the first instrument administered to each respondent individually. The second instrument used was the minimum required end of cycle test in arithmetic, referred to henceforth as numeracy (N), and reading and writing which will be referred to as literacy (L). The test was chosen because it permits continuous measurement of a given phenomenon and for its validity and reliability, as it has been used by ALOZ over a period of time. Finally the test was carried out under examination-type conditions by the same supervisor at both Kambuzuma and Amms.

The data gathering methods presented serious problems, eg not all the original respondents who had attended the first interview turned up for the testing (second contact). This affected the size of the final sample, which was small, and so it was not truly representative of the population. As the study continued it was not possible to control, in advance, all the independent variables that might have had a bearing on the dependent variable other than *high* or *low* project participation. Another problem was that the participants panicked at the idea of writing a 'test' during the year instead of at the end of the year. The test results could also have been affected by the fact that some of the work tested might not have been covered.

Presentation of results

The data analysis showed that 100 per cent of the students at Amms participated in projects compared to 70 per cent at Kambuzuma. Of those students at Amms 67 per cent belonged to two or more projects, while those at Kambuzuma belonged to one project. The type of projects they participated in were, at Amms, knitting (6), sewing (7), poultry (7), baking (2), gardening (7). At Kambuzuma projects were limited to a savings club (11). Clearly students at Amms have a wide range of projects in which they participated while those of Kambuzuma had only one - a savings club. In terms of the time allocated for project work per week, Amms' participants met weekly and those at Kambuzuma met twice per month. The type of project also determined the amount of time spent on it. For example, watering vegetables or feeding chickens demanded more time than that which was reflected on the time table.

The use of literacy skills in project work was also measured, and the results showed that students at Amms used more reading and arithmetic during projects than did those at Kambuzuma. Some 80 per cent of those at Amms used the same skills in their home projects whereas 60 per cent of those at Kambuzuma used the same skills.

One observation drawn from the data is that Amms is a High Project Group (HPG) and Kambuzuma a Low Project Group (LPG).

Literacy test results

Table I
Total average literacy test scores for high and low project groups.

Group	Average Test Scores		
	Total	Arithmetic	Reading and Writing
High Project	25,0	13,4	11,6
Low Project	21,6	9,8	11,9

From Table I the HPG scored higher than the LPG in both the total score and in arithmetic. However, interestingly, the LPG scored higher in reading/writing than the HPG. The frequency distributions of total literacy, arithmetic and reading/writing were scrutinised for both high and low projects, and it was found that two students in the HPG scored the highest total score.

The hypothesis under study was verified by the direction of the mean total literacy test scores for students in high and low project groups. It was clear that (a) Literacy students in HPG scored higher in mean total literacy score than students in LPG. (b) Literacy students in HPG scored higher in mean total scores for arithmetic than those in LPG. Explanations of the above are speculative but one possible conclusion is that participation in income generating projects reinforced skills learnt in the literacy class. (c) Literacy students in LPG scored higher in total reading/writing than those in HPG. The main hypothesis of the study was thus not verified with regard to reading and writing scores, and the differences between means were not statistically significant.

Age and sex variations

It further remained to consider whether the recorded differences might lie in variables other than high or low project participation, and age and/or sex variables were analysed (see Table II).

Arranged in descending order of average literacy scores, the above data can be written as follows:

HPG - Older women   (N = 4) :   Ave. total literacy score = 27,7.
HPG - Younger women (N = 5) :   Ave total literacy scores = 25,2.
HPG - Older men   (N = 6) :   Ave total literacy scores = 23,0.
LPG - Younger women (N = 11) :   Ave total literacy scores = 21,9.
LPG - Older women   (N = 4) :   Ave total literacy scores = 20,0.
        (Total   N = 30).

Table II

Average total

Average total literacy scores of high and low project group students in age and sex groupings.

	Average total High Project Group	Literacy Scores Low Project Group
Older Participants	Women (N = 4) Average total lit = 27,7 Men N = 6 = 23	Women (N = 4) Average total lit = ·20
Younger Participants	Women N = 5 Av total lit = 25,2.	Women (N = 11) Av total lit = 21,9

The table indicates that women participants obtained the least scores when in LPG. Due to the small numbers and the lack of matching for sex in both groups, the data did not lend itself to further analysis of variance. There is a suggestion that high and low project participantion might affect women's and perhaps men's total literacy scores in many different ways. Much the same pattern emerged when separate attention was given to arithmetic and to reading and writing scores. It would be interesting to establish these phenomena in other studies. It can be noted that high and low project participation cannot be considered in isolation.

Leadership in projects and literacy scores

The study showed that HPG offered students access to more leadership positions than LPG. Some of these positions were those of chairman, secretary, or treasurer. When the mean scores were computed it was shown that students with leadership positions scored higher average total scores than non leaders. However, it was difficult to offer any explanation of this as three of the leaders had the lowest scores obtained by anyone in total literacy and three others the highest.

Use of literacy skills in projects

The study showed that the frequent users of literacy skills in course projects attained a higher total mean literacy score than infrequent users regardless of whether they were in HPG or LPG. The study also showed that more students in HPG used acquired literacy skills in home projects than those in LPG. Non-use in HPG was due to lack of resources to start their own projects at home. Interestingly one participant in the LPG reported that she started a project long before she was literate. She did not see how participation in projects actually reinforced literacy skills learnt in class. In all cases data showed that users of literacy skills at home on average scored lower on total literacy scores than non-users. On this showing participation in home projects did not affect literacy scores for the better. One explanation could suggest that at home the people used more traditional methods which do not necessarily reflect literacy as discussed.

Summary and conclusions

The hypothesis that total literacy test scores of the HPG would be higher than those of the LPG was verified, albeit in a limited way due to the size of the population. The arithmetic test score was higher for HPG than for the LPG participants. The reading/writing score was higher for the HPG than for the LPG participants. Further informal analysis also showed that the literacy test scores of subgroups of participants by sex and age variability may also have contributed to observed literacy score differences between high and low project participation.

There was evidence from the literacy test results that participants scoring high in arithmetic and low in reading/writing were found only in the HPG. Participants scoring low in arithmetic and high in reading/writing were found only in LPG. From this observation it could be said that one effect of high project participation was the encouragement of the numeracy aspect of literacy.

Qualitative evidence presented in the present sample showed that leadership, use of literacy skills in course projects and length of time spent in project participation were all associated with high average literacy test scores. On the other hand use of acquired literacy skills in projects unconnected with the course was not associated with higher literacy test scores.

On the whole the study raised two quite interesting questions. The first one raised was, ''Does high project participation encourage numeracy rather than read-write literacy?'', and the second is a corollary to the first, ''Does low project participation encourage read-write rather than arithmetic skills?''.

Recommendations

The study has some implications for the training of literacy teachers by both the Adult Literacy Organisation of Zimbabwe and the government. I would recommend that skills in all aspects of project work should be imparted to the teacher trainees.

Following on from this recommendation is the recommendation that organisations dealing with literacy teacher training should develop adequate and appropriate instructional material for popular projects such as poultry, sewing, gardening and savings clubs.

For the literacy teachers already in the field there should be an awareness campaign to show that participation in income generating projects has positive effects in literacy test achievements. There is also need to seriously integrate projects with literacy so that they would be seen as part of the total development strategy.

Following such recommendations, it is argued, would go a long way to assist the masses not only to be literate but also to raise their standard of living.

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