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Using participatory research methods to explore the learning environment of rural primary school pupils

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• Introduction

A theme issue of *PLA Notes* (Number 28) examined methodological complementarity, how PRA methodologies can be effectively combined with more formal approaches to provide policy makers and others with sufficient information to make sound decisions. Our research, which used a combination of participatory activities, semi-structured interviews, observations and formal questionnaires, intended to provide decision makers at national and international level with valuable information for future planning and implementation of primary education programmes. We used PRA to learn about the formal environments of primary schools, through facilitating the analysis of the school situation by teachers, pupils and parents.

The use of participatory and more formal methods developed from our need to interview young learners. We felt that formal structured questionnaires, which are often long and whose objectives may be misinterpreted by the pupils, were not appropriate for the research. Through using a mapping activity, we built up confidence and trust between ourselves and the pupils prior to asking more inquiring questions. Discussions were based on the pupils' drawings and this led into the formal questionnaire. Matrix ranking was carried out at the end of the interview session, mainly because it brought some fun back into the process. With groups of teachers, we started the process with a general open discussion based around the question 'what are the main problems you face as teachers'. This put the teachers at ease and enabled us to move into the structured questionnaire.

We undertook the research during 1996 to investigate the use of agriculture as a medium for the development of young rural learners' basic skills of literacy, numeracy, and other life skills. We attempted to find out, through selected case studies, what happens in the classrooms of rural primary schools and how pupils' learning in school relates to learning in the home and community environment. The nature of the research required that we gathered information about schools that have used agricultural experience as a means of contextualising[1] teaching and learning. This involved looking at the implications for teaching and learning practices, resources, school management and teacher training, and to evaluate the impact of this practice on school attendance, school performance, development of school-community links, and on teacher, pupil and parental attitudes.

The combination of research methods has produced an informative piece of interdisciplinary research that should be beneficial both to decision makers and the communities in which we worked.

• The process

In each case study country, Tanzania, Ethiopia, Sri Lanka and India, we carried out detailed research in two selected schools in one geographical area in each country. The sample was insufficient to draw general conclusions about contextualising teaching and learning, but the outcomes raised a number of issues

[1] For the purpose of our research, a definition of contextualisation is: '*contextualisation of learning occurs when the content of the curriculum, and the methods and materials associated with it, are related directly to the experience and environment of the learner'.*

Source: PLA Notes (1998), Issue 33, pp.11–16, IIED London

which have yielded policy suggestions for future interventions.

Our major concern with the research was how we would interview pupils (who were on average between nine and eleven years of age), one group of key informants in the research. Apart from gaining pupils trust, we needed to build relationships with them in a very short space of time, in a way that would reduce their inhibitions and allow them to speak freely about school and home life. Structured interview schedules had been designed to enable us to ask specific questions, but we wanted to avoid long interview sessions. Participatory techniques, especially those that had some element of drawing or appeared to be a game, were developed to complement more formal, structured group interviews. Two participatory activities were adapted for the research, namely pairwise matrix ranking and mapping diagrams. Structured questionnaires, which included a number of closed questions, were used to complement the participatory methods. These questions were necessary to provide background information and direct responses to specific questions. This type of information enabled us to make some comparisons across the country studies, as the PRA research methods (especially the children's mapping) give a localised picture of the learning environments in each country.

Pupils mapping - 'what I do at home and what I do at school'

We needed to explore whether pupils were able to relate what they did at home to what they learned at school, a concept that is not easy to approach using a direct question. We found that by using a drawing activity as an initial 'ice breaker', pupils were more at ease with the researchers. Pupils volunteered to take part in the research: the selection criteria were gender (six boys and six girls) and year group[2].

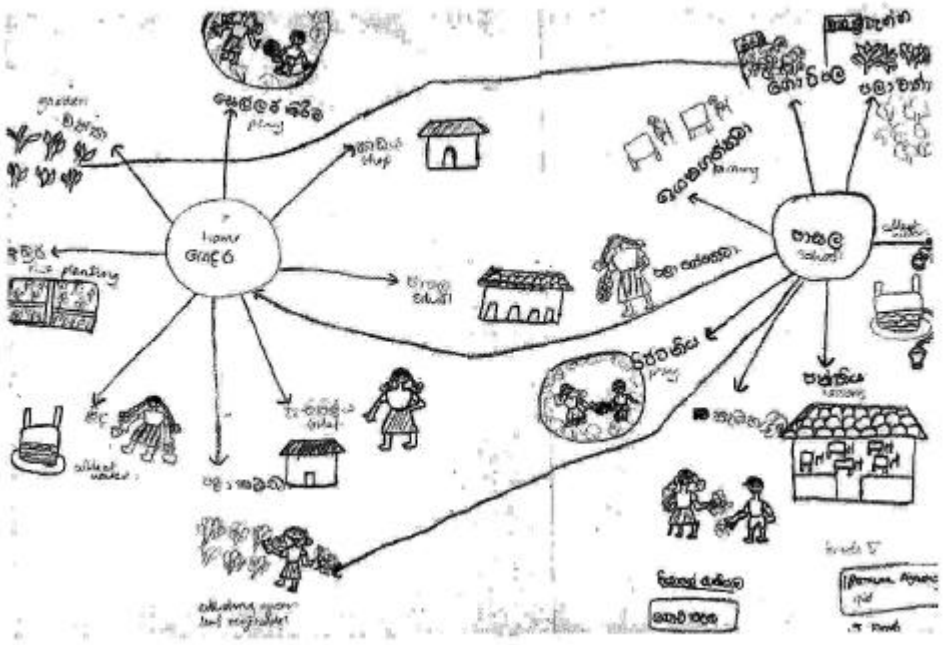
Pupils were asked to illustrate in a mapping diagram, activities they did at home and at school in an average day. We then asked them to link any activities that influenced what they did at home with what they did at school, and vice versa (see Figure 1). Pupils were asked to write their name, age, parents' occupation and school year on the back of their diagram, which prevented the need to ask background questions during the group interviews. The mapping diagrams were then used as a lead into the structured group interview, by asking each pupil to describe their drawing to others in the group. They showed great enthusiasm when describing their drawings and were eager to answer questions about them, possibly because large class sizes rarely allow teachers to give pupils individual attention. We obtained some interesting information during these discussions, as we tried to link inquiring questions into the pupils' open responses.

The mapping diagrams provided a great deal of information, including the distribution of agricultural activities between girls and boys; activities they enjoy most at home and school; time available for homework; and distance they must walk to school. They also documented prominent practices in the school, such as pupils from a school in Sri Lanka who illustrated 'going to the toilet' and 'collecting green leaves' as daily activities. The school was participating in a pilot project which was teaching children the importance of sanitary health, especially using a toilet, and the importance of a balanced diet, emphasising the need to eat green vegetables.

2 Year Group was used rather than age as a selection criterion because, in some countries, a range of ages will be found in one year group. This presented difficulties for the research when examining how pupils' link the learning environment (using mapping diagrams): a pupil who is 15 compared to one who is 9 will have different life experiences even though they may be in the same class. To overcome this problem, pupils selected were the average age for their year group (usually between 9 and 11 years of age).

Source: PLA Notes (1998), Issue 33, pp.11–16, IIED London

Figure 1. An example of pupils' mapping diagrams in Sri Lanka



Pairwise matrix ranking - an indication of school teaching practices

To add a different perspective to interviews, a pairwise matrix ranking activity was conducted with teachers and pupils to obtain information on the teaching and learning practices in the school. The process involved ranking ten methods of teaching and learning against each other by preference (Tables 1 and 2). A matrix was pre-drawn and before starting the activity, our in-country researcher asked if the teaching and learning methods were appropriate to the school. Alterations to the headings were made, but generally the same matrix was used in all schools and countries. Our in-country research partners explained, in the local language, the method for completing the matrix and again, it was important to stress that the activity was not a test or assessment. It was also important that we did not in any way influence the decisions of the pupils or teachers.

To complete the matrix, separate groups of teachers and pupils were asked to rank the methods of teaching and learning (labelled A to J in Tables 1 and 2) against each other. They did this by asking themselves for each pair of methods of teaching and learning: 'which is a better methods of learning/teaching?' The number of times each method (A-J) was selected was counted and placed in the total column (for example, in Table 1, 'A' occurs twice in the matrix, 'G' occurs five times, etc.). The methods are then ranked according to the total numbers of times they were selected (e.g. in Table 1, J -'pupils learn by doing' is ranked by the teachers as the best method of teaching and learning in their school).

The method was first tested in Tanzania, where rank headings were constructed based on teachers' and pupils' responses from the interviews. As the fieldwork progressed, the methodology for this activity changed slightly (mainly in the rank headings used) and became more refined. It provided information to support what was said in interviews, and was ultimately seen as a valuable tool in the methodology (see Figure 2).

Matrix ranking - some observations from teachers and pupils

This type of activity had not been carried out before in any of the schools we visited, neither had the teachers come across such an activity, even in teacher training. It was therefore met with much apprehension and confusion. It was interesting to compare the time taken by various groups of teachers and pupils to understand the activity, and their enthusiasm and interest in carrying out the activity.

Source: PLA Notes (1998), Issue 33, pp.11–16, IIED London

Observing how they worked in groups and the discussions that took place to rank the methods enabled us to explain further classroom observations and comments made during interview sessions. For example, in some schools, pupils were often left to work in groups due to the frequent absenteeism of teachers. The ability to work in groups was evident from observing how the matrix ranking was conducted by the pupils. Classroom observations, discussions and results from the matrix ranking, enabled us to start understanding what really happens in the classroom. Results from rankings seemed to suggest that teachers tended to rank the methods of teaching and learning according to what they were taught in their teacher training. For example, in countries where teacher training emphasises a pupil-centred approach, we saw these methods of learning given high ranks. Pupils generally ranked the methods of teaching and learning according to how they are taught in class, to methods that are used most frequently in the classroom and those that they enjoy most.

Figure 2. A group of teachers in Ethiopia ranking 'methods of teaching and learning' December 1996. [Photo: A. Mulhall]

Table 1. Pairwise matrix ranking: teachers' response ('average' school, India)

	A teacher explains, asks questions and gives examples	B pupils ask questions and give examples	C teacher reads from text books	D pupils read from text books	E pupils write	F teacher punishes pupils	G pupils repeat or recite	H pupils teach each other	I teacher demonstrates	J pupils 'learn by doing'	total	rank
A teacher explains, asks questions and gives examples		A	C	D	E	A	G	H	I	J	2	7
B pupils ask questions and give examples			B	D	E	B	G	H	I	J	2	7
C teacher reads from text books				D	E	C	G	H	I	J	2	7
D pupils read from text books					D	D	D	H	I	J	6	4
E pupils write						E	G	H	I	J	4	6
F teacher punishes pupils							G	H	I	J	0	8
G pupils repeat or recite								H	I	J	5	5
H pupils teach each other									I	J	7	3
I teacher demonstrates										J	8	2
J pupils 'learn by doing'											9	1

Source: PLA Notes (1998), Issue 33, pp.11–16, IIED London

Table 2. Pairwise matrix ranking: pupils' response ('average' school, India)

	A teacher explains, asks questions and gives examples	B pupils ask questions and give examples	C teacher reads from text books	D pupils read from text books	E pupils write	F teacher punishes pupils	G pupils repeat or recite	H pupils teach each other	I teacher demonstrates	J pupils 'learn by doing'	total	rank
A teacher explains, asks questions and gives examples		A	A	A	A	A	G	A	I	J	6	3
B pupils ask questions and give examples			C	D	E	B	G	B	I	J	2	6
C teacher reads from text books				D	E	C	G	C	I	J	3	5
D pupils read from text books					E	D	G	D	I	J	4	4
E pupils write						E	E	E	I	J	6	3
F teacher punishes pupils							G	H	I	J	0	8
G pupils repeat or recite								G	I	G	7	2
H pupils teach each other									I	J	1	7
I teacher demonstrates										I	9	1
J pupils 'learn by doing'											7	2

• Reflections on the methods

We found that it was important for the pupils' mapping activity to take place in an environment that was familiar to them. If they normally worked on the floor, the activity was carried out on the floor. In one school, the pupils were given desks to work at in the Principal's office; an environment completely unfamiliar to them as they did not normally work at desks. This made them nervous as it signified that the task was perceived as being more important than everyday school activities.

Despite emphasising it was not a test or assessment, but purely for their enjoyment, pupils generally treated the activity as a competition, which did in some cases prevent the pupils copying each other. This reflected the strong competition element created in schools by the 'pass-fail' examinations system.

In some schools, pupils were apprehensive about drawing pictures, possibly because it is not part of their normal school work and they do not have the opportunity to draw very often, or express themselves individually. This was evident in the lack of imagination shown in some of the drawings, which were primarily textual rather than illustrative.

Some of the headings in the matrix ranking were interpreted by teachers and pupils in different ways. In other cases there was a loss of meaning if the headings were translated directly. For example in a matrix ranking with pupils in India, one boy commented that the heading 'pupils help each other' meant cheating. It transpired that a direct translation was interpreted as 'pupils copying each other'. The problem was overcome by explaining each method and ensuring that pupils understood exactly what was meant.

• Beneficiaries of the research

Initial reactions from teachers when we arrived at the schools were 'how will we benefit from giving you this information?'. At the end of the research, teachers in the majority of schools visited said they had benefited through having time to reflect on their teaching practices. Out of the research methods used, the two participatory activities were particularly successful in the schools and caused a great deal of discussion and excitement. In some cases, teachers looked upon the matrix ranking as a form of in-service training. On two occasions when return visits were made to the schools, innovative strategies were observed

Source: PLA Notes (1998), Issue 33, pp.11–16, IIED London

being put into practice. For example a class in India was having its first 'free drawing' session, which had come about after teachers had observed pupils' participating in the mapping activity. In Ethiopia, a group of pupils was seen in one school 'creating' a map of the village from soil. Areas were to be differentiated by planting various flowers and plants.

The formal method of structured questionnaires provided us with valuable information which complemented the participatory methods but the interviewees received no noticeable benefits from the structured questions we asked them. The questions may have triggered some thought processes to headteachers and teachers about their teaching methods and school organisation and management, and to policy makers about their priority areas. Due to the short time available when we undertook the research for discussion about wider issues, it was impossible to identify accurately the different ways in which the questions we asked may have benefited the interviewees. Various people interviewed did state their interest in the research, however, and said that they would like the opportunity to be involved again if the opportunity arose.

• Conclusion

A problem with research of this nature is that it is extractive and tends to be intrusive because of the type of information that is required, often in a short space of time. Trying to create a less formal atmosphere that puts the interviewees at ease is difficult, especially in an environment such as a school where both pupils and teachers are continually tested and assessed. For these reasons, a combination of participatory research methods used with a formal questionnaire allowed us to obtain more in-depth information than we would otherwise have obtained through using formal methods alone. The use of participatory approaches made the research fun, both for the researchers and the interviewees and it also 'gave something back' to those interviewed, especially the teachers.

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NOTES

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