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AusAID

Impact Study 6

Second Six Monthly Report

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T a b l e o f C o n t e n t s

1.	Project Overview _____	1
	1.1 Introduction _____	1
2.	Preliminary Findings _____	2
	2.1 Longitudinal quantitative survey _____	2
	<i>Characteristics of the schools</i>	3
	<i>Characteristics of the teachers</i>	3
	<i>Teachers' perceptions of the quality and effectiveness of the syllabus documents</i>	4
	2.2 Site studies _____	19
	<i>Schools and teachers participating in the site studies</i>	19
	<i>Curriculum materials distribution</i>	22
	<i>Action research</i>	23
	2.3 The perceptions of teachers, head teachers, elementary trainers and elementary inspectors of the quality of the syllabuses and their effectiveness in supporting community-based learning _____	23
	<i>Support</i>	24
	<i>Integration with community activities</i>	26
	2.4 The perceptions of teachers and head teachers about the quality and effectiveness of the teachers' guide, the implementation support booklet and other teacher support materials supported by CDD _____	28
	2.5 The processes used by teachers to implement the new syllabuses and their effectiveness _____	30
	<i>Teacher development workshops</i>	31
	<i>Cluster organisation</i>	32
	2.6 The impact of the syllabuses on teacher practice, student participation in schooling, students' attitudes to school and community support for elementary education _____	33
	<i>Planning and programming</i>	33
	<i>Classroom organisation</i>	34
	<i>Student participation</i>	35

T a b l e o f C o n t e n t s

	<i>Community support.....</i>	<i>35</i>
2.7	The relevance, quality and effectiveness of the teacher in-service materials and the processes used to implement the in-service training _____	38
2.8	Curriculum development process _____	38
	<i>The effectiveness of the processes implemented by CDD and CRIP to develop elementary syllabuses and locally developed support materials including consultation and trialling process.....</i>	<i>38</i>
3.	Preliminary conclusions _____	39
3.1	Survey data _____	39
3.2	Site data _____	39
4.	Overview of next six months' work plan _____	42

A b b r e v i a t i o n s

BOM	Board of Management
CDD	Curriculum Development Division
CET	Certificate in Elementary Training
CRIP	Curriculum Reform Implementation Project
DOE	Department of Education
E1	Elementary One
E2	Elementary Two
ETESP	Elementary Teacher Education Support Project
IS6	Impact Study Six
NCD	National Capital District
NGO	Non Government Organisation
NRI	National Research Institute
P&C	Parents and Citizens
PNGEI	Papua New Guinea Education Institute
POM	Port Moresby
SDA	Seventh Day Adventist
SIU	Self Instructional Unit
TDT	Trainer Directed Teaching
TOR	Term of Reference
TPPS	Tok Ples Pre Skul

1. Project Overview

1.1 Introduction

This report to the Steering Committee is the second for Impact Study 6 which commenced in September 2004. The Impact Study is being conducted by the Consultancy and Development Unit of the Faculty of Education from Deakin University, Burwood, Victoria in collaboration with the National Research Institute (NRI) of Papua New Guinea. It reports on the second six months' work on the project that culminated in October 2005.

The main aims of the research, as detailed in the Scope of Services, are to study:

- The effectiveness of the processes implemented by CDD and CRIP to develop elementary syllabuses and locally developed support materials including consultation and trialling processes;
- The perceptions of teachers, head teachers, elementary trainers and elementary inspectors of the quality of the syllabuses and their effectiveness in supporting community-based learning;
- The perceptions of teachers and head teachers about the quality and effectiveness of the teachers' guide, the implementation support booklet and other teacher support materials supported by CDD;
- The processes used by teachers to implement the new syllabuses and their effectiveness;
- The impact of the syllabuses on teacher practice, student participation in schooling, students attitudes to school and community support for elementary education; and
- The relevance, quality and effectiveness of the teacher in-service materials and the processes used to implement the in-service training.

The research design for this impact study consists of three elements:

- A two-stage longitudinal quantitative survey of all elementary teachers in eight provinces and the National Capital District (NCD);
- A three-stage action research study of selected sites within those eight provinces and NCD; and,
- Case-study work with CRIP-related key informants and stakeholders.

Each of these elements is well underway. The first stage of the quantitative survey of elementary teachers in eight provinces has been completed and its outcomes are reported here. The development and trial of the instrument in National Capital District (NCD) were reported in the first six months' report. The three-stage action research is also well underway. However, there have been some delays here due to the need to change one of the provinces—as discussed in the first six months' report and approved at the April Steering Committee meeting—and some

interruptions to communications with schools in some provinces. Generally progress has been fairly good with the action research and it is proving to be particularly effective in some circumstances. The case-study interviews are underway and expected to be completed on schedule.

The provision of a workshop on the survey and associated statistical procedures is scheduled to occur prior to the November Steering Committee meeting.

2. Preliminary Findings

2.1 Longitudinal quantitative survey

This section reports preliminary findings of the first stage of the survey. The survey assessed teachers' perceptions of the quality and effectiveness of the 2003 Elementary Syllabus documents. The survey was distributed during January / February to teachers in elementary schools in eight provinces. Table 1 shows the number of returns from each of the provinces (as at the end of August 2005). A total of 1369 teachers from 656 schools returned their surveys, representing roughly a 30% response rate. It is difficult to determine a precise response rate. A total of 4000 surveys were distributed. This figure was determined on the basis of estimates provided by provincial authorities. Assuming that provincial authorities would have over-estimated the number of surveys needed for distribution, the response rate represents a minimum response rate. (Following a cut-off date for the receipt of surveys for inclusion in this report, an additional 140 surveys have been received; resulting in a slight improvement in the response rate.)

More crucial to the discussions that follow is the question of the representativeness of the sample. Table 1 shows that, on the one hand, the representativeness of the sample can be questioned with respect to Central Province. Central Province was a late inclusion in the project, and as a consequence, not all the surveys from Central could be collated in time for this report. (An additional 24 surveys have been received from Central, and so the difficulty of establishing representativeness with respect to provinces remains.) On the other hand, there is no indication of substantial bias in the sample with respect to the school and teacher characteristics reported below.

Table 1: Number of returned surveys by province

Province	Schools			Teachers	
	Number	%		Number	%
Central	5	0.8		28	2.0
Eastern Highlands	82	12.5		144	10.5
East New Britain	83	12.7		233	17.0
Milne Bay	78	11.9		128	9.3
Morobe	104	15.9		221	16.1
New Ireland	119	18.1		182	13.3
Sandaun	101	15.4		201	14.7
Simbu	84	12.8		232	16.9
Total	656	100		1369	100

Characteristics of the schools

The schools represented in the sample are mostly small: 78% of schools have fewer than 100 students enrolled, and 91% of schools are staffed by one, two or three teachers. Most schools are located in rural areas (75%), and are located in villages or settlements (81%). The majority of the schools (83%) have received the 2003 elementary syllabus documents. Of the 110 schools claiming not to have received the syllabus documents, 89% are located in rural areas. A little more than half the schools (59%) have a curriculum committee, and the majority of schools (92%) have their own Board of Management.

School size is associated with the school location. Smaller schools tend to be located in rural areas and in villages or settlements, whereas larger schools tend to be located in towns or cities and in primary schools.

The establishment of a curriculum committee is also associated with school location. Schools located in rural areas and schools located in villages and settlements are more likely to have a curriculum committee, whereas schools located in semi-rural areas or in towns and cities, and schools located in primary schools are less likely to have a curriculum committee.

Characteristics of the teachers

A little more than half the teachers are male (54%), and are thirty years of age or less (60%). The majority of teachers have completed Grade 10 or higher at school (87%), and nearly two-thirds of the teachers have graduated from the elementary training program (61%) with another 25% in the third year of the program.

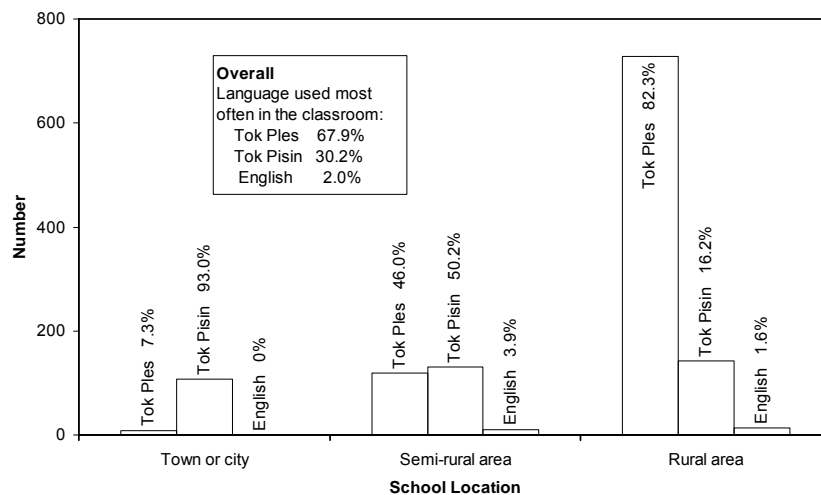
More than half the teachers have been teaching in elementary schools for five or more years (61%). In addition, a little more than a third of the teachers (38%) have

had teaching experience other than in elementary, and 36% have worked in Tok Ples Pre-Skuls.

Almost two-thirds of the teachers (63%) have been using the 2003 syllabus documents for four terms or more. The majority (83%) have had some in-service training on the documents, although teachers in rural areas are slightly less likely to have received in-service training.

There is a strong association between school location and the language used most often in the classroom. Figure 1 shows the effect. Overall, 68% of teachers use Tok Ples, 30% use Tok Pisin, and a small number (2%) use English in their classrooms. Tok Ples is the preferred language across the whole sample, but it is noticeably more so in rural areas and noticeably less so in semi-rural areas and in towns or cities where Tok Pisin is the preferred language. The majority of the teachers (95%) claim that the language used most often in the classroom is also the language that the children mostly use outside the classroom, and, furthermore, this match between language used inside the classroom and the language used by the children outside the classroom does not depend upon school location.

Figure 1: Language used in the classroom BY school location



The majority of teachers (74%) have received the In-service Unit 1: Education Reform in PNG, and of these teachers, 74% have used it. Of those teachers who have used In-service Unit 1, 68% found it useful.

Teachers' perceptions of the quality and effectiveness of the syllabus documents

The survey contained three sets of statements designed to assess teachers' perceptions, attitudes and beliefs concerning the quality and effectiveness of the 2003 Elementary Syllabus documents.

- The first set consisted of 18 statements, drawn from the wider literature, concerning the quality and effectiveness of syllabuses in general. Teachers were asked to indicate, on a 5-point Likert scale, the extent to which each statement is emphasised in the 2003 Elementary Syllabus documents.
- The second set consisted of 18 statements, drawn from the syllabus documents themselves, concerning what teachers and students should do or should be able to do. Teachers were asked to indicate, on a 5-point Likert scale, the extent to which they believe that the syllabus documents help them to achieve these outcomes and objectives.
- The third set consisted of seven statements concerning the layout and formatting of the syllabus documents.

In the sections that follow, preliminary findings are presented for each set of statements.

The first set of statements: Are aspects of effectiveness and quality emphasised in the 2003 Elementary Syllabus documents?

The Likert scale for each statement ran from:

1 = Not at all

through to

5 = A lot

Thus, a high score (close to 5) indicates that, according to the teacher, the statement is emphasised a lot in the syllabus documents, whereas a low score (close to 1) indicates that the statement is not emphasised in the syllabus documents.

The means for all statements (shown in Table 2) are well above the midpoint of the scale (the midpoint of each scale is 3), indicating that, on the whole, teachers believe that these statements are emphasised in the syllabus documents.

A factor analysis indicates that there are three underlying dimensions to these statements. That is, groups of statements tend to 'go together' and it can be argued that a group of statements is assessing something in common. The statements in Table 2 are grouped according to the indications of the factor analysis. The wording of the statements within a given group suggests the common aspect that is being assessed by that group. The labels for the common aspects are also shown in Table 2 (in bold). Thus, the original eighteen statements appear to be assessing the extent to which teachers believe that the syllabus documents emphasise:

- A focus on students;
- A focus on content; and
- A focus on the social and cultural context.
- (Three statements, shown at the bottom of Table 2, do not fit the structure.)

A score is calculated for each teacher for each of the three new scales. These scores also range from 1 (little emphasis) through to 5 (a lot of emphasis). The means for

the three scales (shown in Table 2 in bold) are well above the midpoints of the scales, indicating that, on the whole, teachers believe that the syllabus documents emphasise a focus on students, a focus on content, and a focus on the social and cultural context. This is not surprising given that the means for the individual statements contributing to each scale are also large.

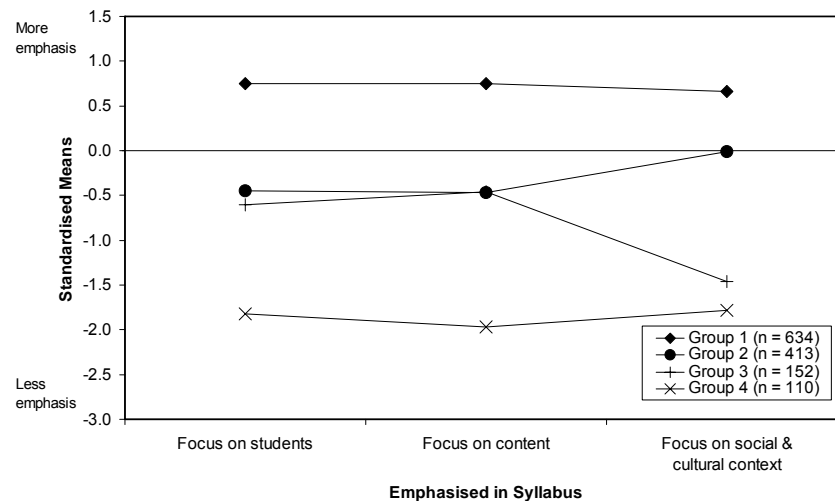
Table 2: Means and standard deviations for set of statements asking teachers to indicate the extent to which the 2003 Elementary Syllabus documents emphasise aspects of quality and effectiveness

Statements and Scales	Mean	Standard deviation
Scale 1: Focus on students	4.13	.70
A syllabus encourages children to have personal values.	3.99	.93
The content of a syllabus allows equal access for all students.	3.97	.96
A syllabus is relevant to all learners.	4.16	.97
A syllabus encourages children to work well with other people.	4.14	.96
The content of a syllabus helps students to find new ways of doing things and to be creative.	4.39	.87
Scale 2: Focus on content	4.26	.65
The content of a syllabus is flexible.	4.14	.98
The content of a syllabus clearly states what students need to learn.	4.36	.92
A syllabus encourages cooperation, not competition.	4.24	.96
The content of a syllabus is motivating for learners.	4.22	.91
The content of a syllabus focuses on the learners.	4.19	.96
The content of a syllabus provides assessment for learning.	4.41	.85
Scale 3: Focus on social and cultural context	4.34	.71
A syllabus encourages children to be concerned for the cultural richness of the community.	4.38	.91
A syllabus encourages teachers to interact with the community.	4.34	.92
A syllabus encourages children to contribute to society.	4.27	.95
A syllabus includes everyday experiences of the community.	4.36	.96
Single items		
A syllabus encourages children to be independent.	3.70	1.19
The content of a syllabus encourages high standards.	3.84	1.10
A syllabus includes realistic activities that are close to real life activities.	4.43	.84

Even though the means for the derived scales and individual statements are large, the standard deviations indicate that there is nevertheless considerable variation in teachers' scores. Indeed, there are teachers who believe that these aspects of quality and effectiveness receive little emphasis in the syllabus documents. The next

analysis, a cluster analysis, attempts to group the teachers so that teachers within a group have reasonably similar profiles across the three scales. Figure 2 shows the results of the cluster analysis. The cluster analysis indicates that the sample is characterised by four groups of teachers: a large group that claims that the three aspects of quality and effectiveness are emphasised a lot in the syllabus documents; a small group that claims that the syllabus documents do not emphasise these aspects of quality and effectiveness; and two intermediate groups, separated according to the extent to which they perceive an emphasis on a social and cultural context.

Figure 2: Profiles for four groups of teachers formed according to the extent to which they perceive an emphasis on students, content, and a social and cultural context in a syllabus documents



The four groups of teachers are labelled as follows:

- Group 1: Emphasis on students, content, and social & cultural context;
- Group 2: Intermediate emphasis on students, content, and social & cultural context;
- Group 3: Intermediate emphasis on students and content, but less emphasis on social & cultural context;
- Group 4: Little emphasis on students, content, and social & cultural context;

The next set of analyses attempt to characterise group membership in terms of school and teachers' background characteristics.

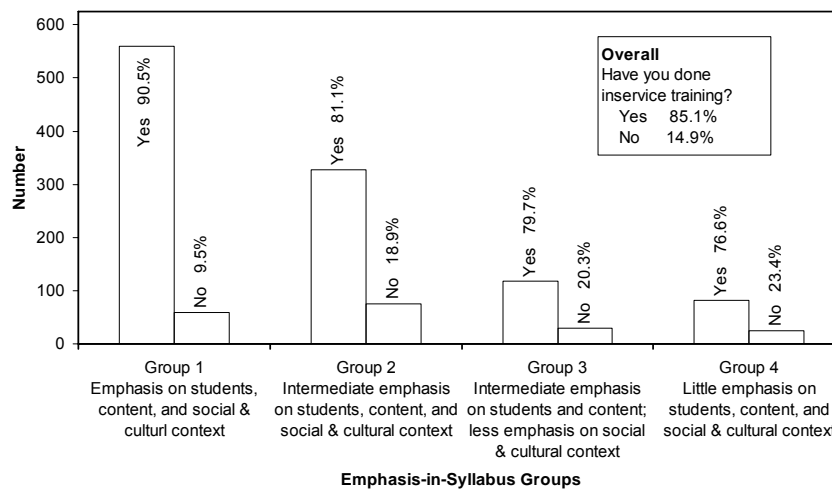
First, group membership is not associated with:

- Gender;
- The school's location (in a town, semi-rural or rural area; and in a village or a primary school);

- Previous teaching experience (whether or not the teacher has had TPPS experience; and whether or not the teacher has had teaching experience other than in elementary);

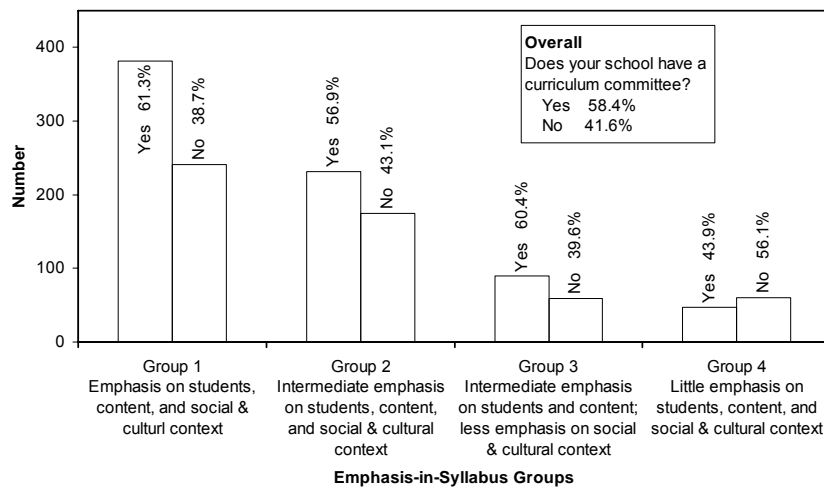
Group membership is, however, associated with whether or not the teacher has received in-service on the syllabus documents. Figure 3 shows that overall only a small percentage of teachers (14.9%) have not received any form of in-service on the syllabus documents. However, for Group 4 (the group that perceives little emphasis on all aspects of quality and effectiveness), this percentage increases to 23.4%. For Groups 2 and 3 (the two intermediate groups), there is also an increased tendency to find teachers who have not completed any in-service training. However, for Group 1 (the group that perceived a great deal of emphasis on all aspects of quality and effectiveness), there is the opposite tendency: the percentage of teachers who have not completed any in-service decreases to 9.5%.

Figure 3: Emphasis-in-syllabus groups BY in-service training



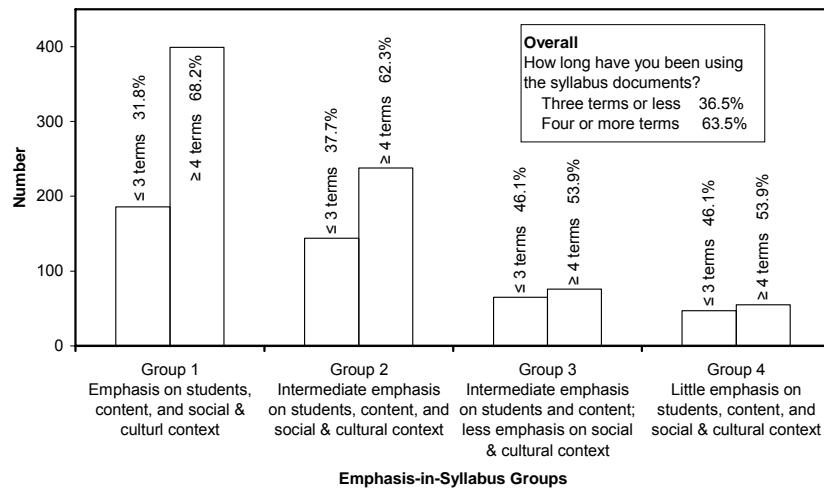
Group membership is also associated with whether or not the school has a curriculum committee. The association is shown in Figure 4. Figure 4 shows that there is a contrast between Groups 1 and 4. Overall, more than half the teachers (58.4%) belong to schools that have a curriculum committee. However, for Group 1, there is an even greater tendency for teachers' schools to have a curriculum committee; whereas for Group 4, there is less tendency for teachers' schools to have a curriculum committee.

Figure 4: Emphasis-in-syllabus groups BY curriculum committee



Finally, there is an association between group membership and the length of time teachers have been using the syllabus documents. Figure 5 shows the association. Figure 5 shows a contrast between Group 1 and Groups 3 and 4. Overall, 64.5% of teachers have been using the syllabus documents for four or more terms. However, for Groups 3 and 4, that percentage falls to 53.9%, whereas for Group 1, that percentage increases to 68.2%.

Figure 5: Emphasis-in-syllabus groups BY length of time using the syllabus documents



The second set of statements: Extent to which the 2003 Elementary Syllabus documents help teachers to achieve the syllabus's stated outcomes and objectives.

The Likert scale for each statement ran from:

1 = Not at all

through to

5 = A lot

Thus, a high score (close to 5) indicates that, according to the teacher, the syllabus documents help the teacher to achieve the stated objective or outcomes, whereas a low score (close to 1) indicates that syllabus documents do not help the teacher to achieve the stated objective or outcomes.

The means for all statements (shown in Table 3) are well above the midpoint of the scale (the midpoint of each scale is 3), indicating that, on the whole, teachers believe that the syllabus documents help them to achieve the stated objectives and outcomes.

A factor analysis indicates that there are three underlying dimension to these statements. Table 2 shows the statements grouped according to the indications of the factor analysis, and an appropriate label for each group (shown in bold). Thus, the original 18 statements appear to be assessing the extent to which teachers believe that the syllabus documents help with:

- A focus on assessment and planning;
- A focus on students as individuals; and,
- A focus on curriculum as a continual process.

(Two statements, shown at the bottom of Table 3, do not fit the structure.)

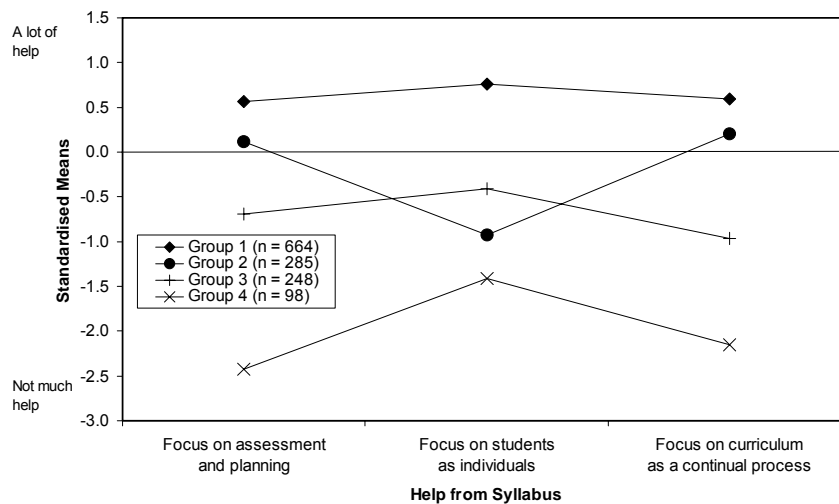
Table 3: Means and standard deviations for set of statements asking teachers to indicate the extent to which the 2003 Elementary Syllabus documents help them to achieve stated outcomes and objectives

Statements and Scales	Mean	Standard deviation
Scale 1: Assessment and planning	4.55	.53
Outcomes and indicators allow students' achievements to be described in consistent ways.	4.24	.92
Teachers develop lesson plans that describe the order of how teaching and learning will take place.	4.61	.70
Outcomes and indicators help teachers to assess and report students' achievements.	4.64	.69
Outcomes and indicators help teachers to plan their teaching programs.	4.70	.68
Teachers use assessment information to evaluate the effectiveness of their teaching.	4.52	.79
Outcomes and indicators help teachers to monitor students' learning.	4.59	.74
Scale 2: Focus on students as individuals	4.08	.80
Teachers provide opportunities for students to assess their own work.	4.04	1.09
Opportunities are provided for students with special needs so that they can participate in a variety of learning experiences.	3.86	1.16
Teachers use records of students' achievement to plan and program future learning.	4.33	.93
Scale 3: Curriculum as a continual process	4.60	.49
Students have the right to participate in any curriculum activity regardless of their gender, ability, or language group.	4.52	.77
Teaching should help students to develop pride in their culture and language.	4.65	.67
The learning that students experience in Elementary sets the foundations for learning in Lower and Upper Primary.	4.58	.75
Elementary teaching is based on learning that is relevant to students' lives and values in the community in which they live.	4.75	.55
Activities in one subject are integrated with activities in other subjects.	4.46	.83
Students learn best when learning is built on what is already known.	4.75	.61
To ensure a student-centred approach to teaching and learning, students are the focus of learning activities.	4.48	.79
Single items		
A successful classroom provides opportunities for students to work in small groups, pairs, individually, and as a whole class.	4.62	.73
Teachers develop weekly plans to sequence the lesson activities from the unit of work.	4.50	.83

A score is calculated for each teacher for each of the three new scales. These scores range from 1 (no help) through to 5 (a lot of help). The means for the three scales (shown in Table 3 in bold) are well above the midpoints of the scales, indicating that, on the whole, teachers believe that the syllabus documents help teachers to achieve a focus on assessment and planning, a focus on students as individuals, and a focus on curriculum as a continual process.

As with the first set of statements, the means for the derived scales and individual statements are large. However, the standard deviations indicate that there is nevertheless considerable variation in teachers' scores. A cluster analysis suggests that the sample can be characterised by four groups of teachers. Figure 6 shows the results of the cluster analysis. There is a large group that claims that the syllabus documents help with the three focuses; a small group that claims that the syllabus documents offer little help with the three focuses. In addition, there are two intermediate groups. The profile for one of these intermediate groups is part way between the extremes set by the first two groups. The second intermediate group claims that the syllabus documents offer help with a focus on assessment and planning and with a focus on curriculum as a continual process, but they claim that the syllabus documents offer little help with a focus on students as individuals.

Figure 6: Profiles for four groups of teachers formed according to the extent to which they believe that the syllabus documents help them to focus on assessment and planning, on students as individuals, and on curriculum as a continual process



The four groups of teachers are labelled as follows:

- Group 1: Helps with focusing on assessment and planning, students as individuals, and curriculum as a continual process;
- Group 2: Some help with focusing on assessment and planning, and curriculum as continual process, but less help with focusing on students as individuals;

- Group 3: Some help with focusing on students as individuals, but less help with focusing on assessment and planning, and students as individuals;
- Group 4: Does not provide help with focusing on assessment and planning, students as individuals, and curriculum as a continual process.

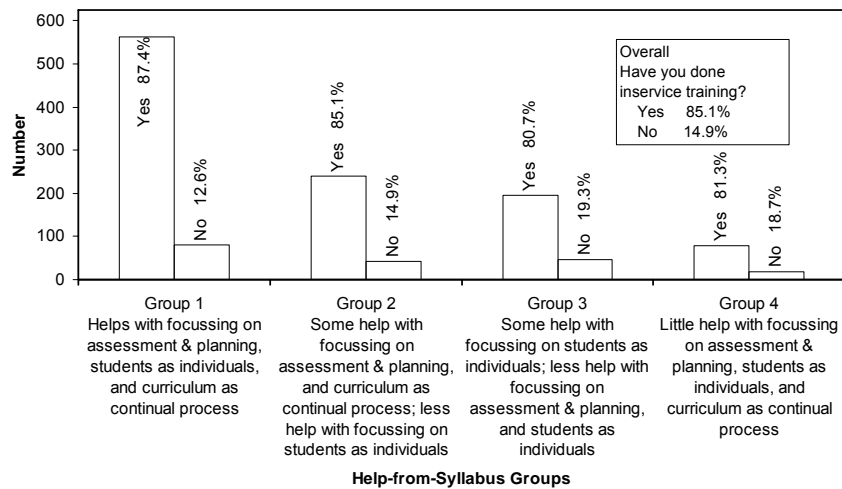
The next set of analyses attempt to characterise group membership in terms of school and teachers' background characteristics.

First, group membership is not associated with:

- Gender;
- The school's location (in a town, semi-rural or rural area; and in a village or a primary school);
- Previous teaching experience (whether or not the teacher has had TPPS experience; and whether or not the teacher has had teaching experience other than in elementary);

Group membership is, however, associated with whether or not teachers have received in-service on the syllabus documents. The association is shown in Figure 7. Figure 7 shows that there is a contrast between Groups 1 and 3, and, to a lesser extent, between Groups 1 and 4. Overall, 14.9% of teachers have not received in-service training. However, for Group 1 this percentage falls to 12.6%; whereas for Groups 3 and 4, this percentage increases to 19.3% and 18.7% respectively.

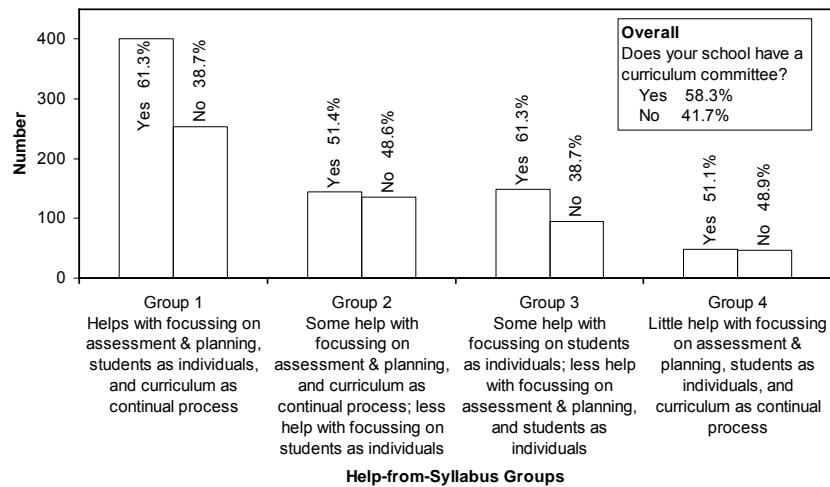
Figure 7: Help-from-syllabus groups BY in-service training



Group membership is also associated with whether or not the school has a curriculum committee. The association is shown in Figure 8. Figure 8 shows that, overall, 58.3% of teachers belong to schools that have a curriculum committee. However, for Group 1, this percentage is 61.3%; whereas for Group 2, this percentage falls to 51.4%. It will be recalled that Groups 1 and 2 have reasonably similar scores for a focus on assessment and planning, and a focus on curriculum as a continual process, but they are separated according to their scores for a focus on

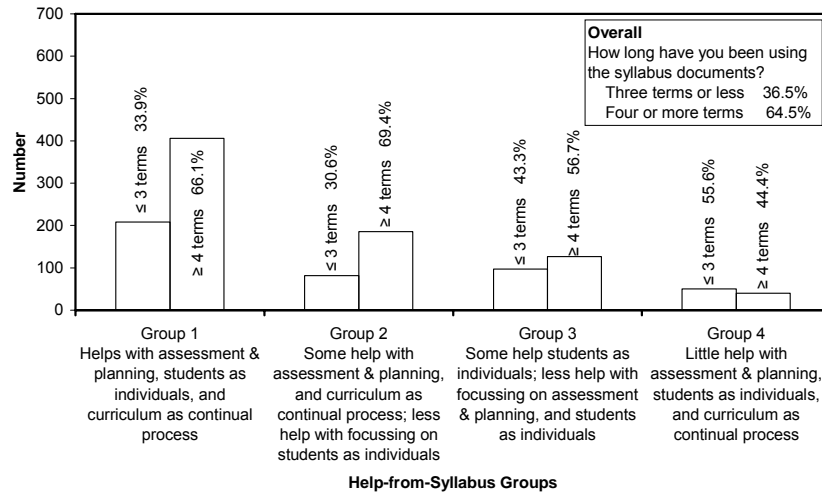
students as individuals (see Figure 6). Thus, with respect to these two groups, the presence of a curriculum committee in a school is associated with the teacher's perception of the help that the syllabus documents offer with focusing on students as individuals.

Figure 8: Help-from-syllabus groups BY curriculum committee



Finally, there is an association between group membership and the length of time teachers have been using the syllabus documents. Figure 9 shows the association. Figure 9 shows that, overall, 64.5 % of teachers have been using the syllabus documents for four or more terms. However, for the two groups that claim greater amounts of help from the syllabus documents (Groups 1 and 2), this percentage rises to 66.1% and 69.4 % respectively; whereas for the two groups that claim that the syllabus documents offer less help, this percentage falls to 56.7% and 44.4% respectively.

Figure 9: Help-from-syllabus groups BY length of time using the syllabus documents



The third set of statements: The extent to which teachers agree or disagree with statements concerning the layout and formatting of 2003 Elementary Syllabus documents, and the ability to distinguish key terms and phrases used in the 2003 Elementary Syllabus documents.

The Likert scale for each statement ran from:

1 = Strongly disagree

through to

5 = Strongly agree

The statements were worded positively. Thus, a high score (close to 5), indicating strong agreement with a statement, can be interpreted as meaning that the teacher has little difficulty with the statement's layout and formatting, whereas a low score (close to 1) can be interpreted as meaning that the teacher does have difficulty with the layout and formatting.

The means for all statements (shown in Table 4) are well above the midpoint of the scale, indicating that, on the whole, teachers have little difficulty with the layout and formatting of the syllabus documents.

A factor analysis indicates that there are two underlying dimensions to these statements. Table 4 shows the statements grouped according to the indications of the factor analysis, and an appropriate label for each group (shown in bold). Thus, the original seven statements appear to be assessing the extent to which teachers have difficulty with:

- layout and formatting; and,
- being able to distinguish key terms and phrases.

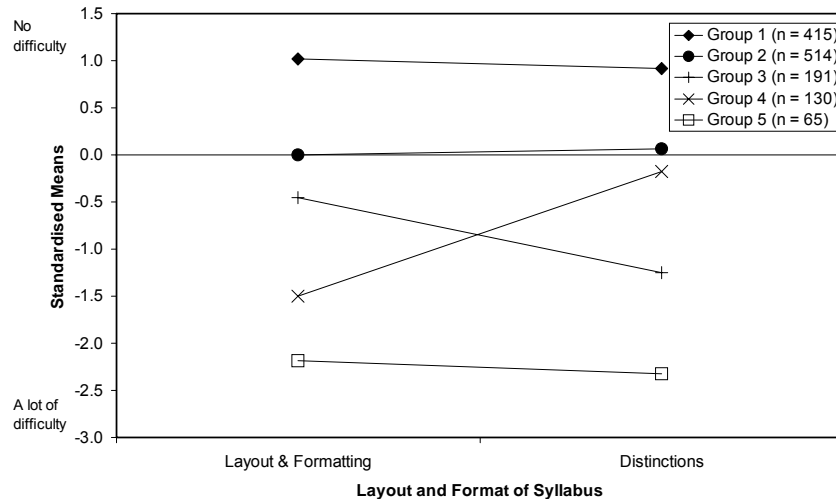
A score is calculated for each teacher for each of the three new scales. These scores range from 1 (strongly disagree) through to 5 (strongly agree). The means for the two scales (shown in Table 4 in bold) are well above the midpoints of the scales, indicating that, on the whole, teachers have little difficulty with layout and formatting of the syllabus documents, and little difficulty distinguishing key terms and phrases used in the syllabus documents.

Table 4: Means and standard deviations for set of items asking about layout and formatting of the 2003 Elementary Syllabus

Scales and questions	Mean	Standard deviation
Scale 1: Layout and formatting	4.13	.67
I can easily find what I need in the syllabus documents.	4.11	.86
The format of the syllabus documents is easy to follow.	3.99	.93
I can easily understand the English used in the syllabus documents.	4.26	.73
The relationship between the Teachers' Guide and each of the syllabus documents is clear.	4.16	.82
Scale 2: Distinctions	4.21	.69
I understand the differences between ' <i>Strands</i> ' and ' <i>Sub-strands</i> '.	4.40	.75
I understand the difference between ' <i>Recommended knowledge</i> ' and ' <i>Recommended skills and suggested activities</i> '.	3.84	.92
I understand the difference between ' <i>Outcomes</i> ' and ' <i>Indicators</i> '.	4.38	.75

As with the earlier set of statements, the means for the derived scales and individual statements are large, but the standard deviations indicate that there is considerable variation in teachers' scores. A cluster analysis suggests that the sample can be characterised by five groups of teachers. Figure 10 shows the results of the cluster analysis. There are two large groups with parallel profiles, one that claims to have no difficulty, and one that claims only a little difficulty with layout, formatting and the ability to make crucial distinctions. These two groups are in contrast with a small group that claims a great deal of difficulty with layout, formatting and the ability to make crucial distinctions. Finally, there are two intermediate groups with contrasting profiles; one that claims more difficulty with layout and formatting, and one that claims more difficulty with the ability to make crucial distinctions.

Figure 10: Profiles for five groups of teachers formed according to the extent to which they perceive a difficulty with the layout and formatting of the syllabus documents and an ability to make crucial distinctions



The five groups of teachers are labelled as follows:

- Group 1: No difficulty with layout, formatting, and making distinctions;
- Group 2: A little difficulty with layout, formatting, and making distinctions;
- Group 3: Difficulty with making distinctions only;
- Group 4: Difficulty with layout and formatting only;
- Group 5: Difficulty with layout, formatting, and making distinctions.

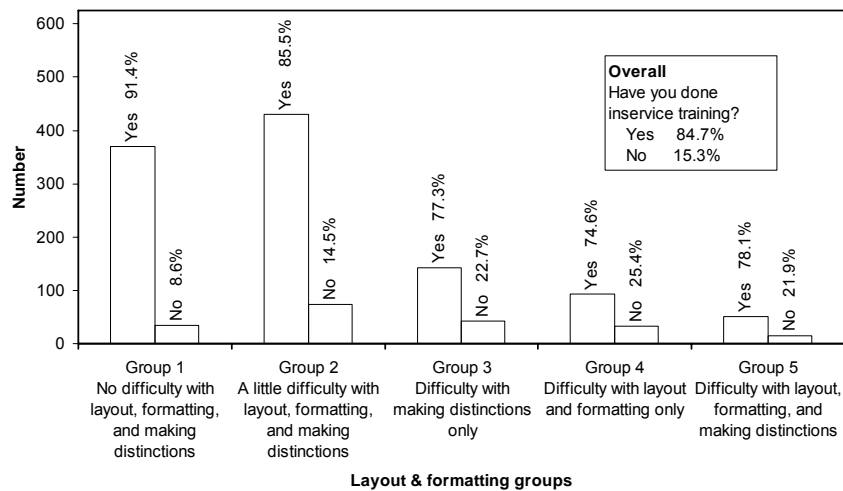
The next set of analyses attempt to characterise group membership in terms of schools' and teachers' background characteristics.

First, group membership is not associated with:

- Gender;
- The school's location (in a town, semi-rural or rural area; and in a village or a primary school);
- Previous teaching experience (whether or not the teacher has had TPPS experience; and whether or not the teacher has had teaching experience other than in elementary);

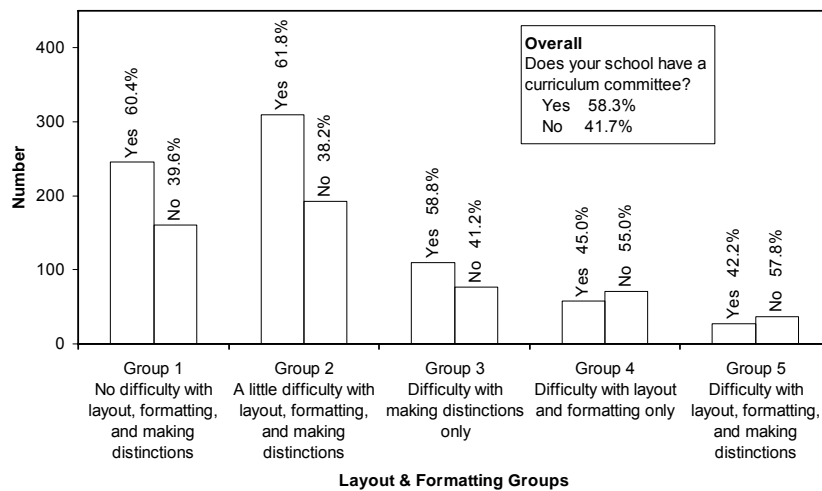
Group membership is, however, associated with whether or not teachers have received in-service on the syllabus documents. Figure 11 shows the association. Overall, the percentage of teachers who have received no in-service training is 15.3%. However, for the group that claims little difficulty with layout and formatting and the ability to make crucial distinctions (Groups 1), this percentage falls to 8.6%; whereas for the three groups that claim some difficulty (Groups 3, 4, and 5), this percentage increases substantially.

Figure 11: Layout and formatting groups BY in-service training



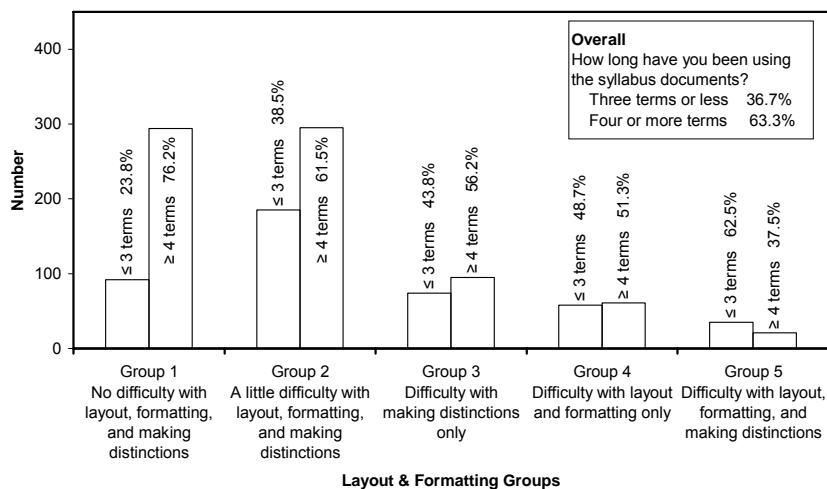
Group membership is also associated with whether or not the school has a curriculum committee. Figure 12 shows the association. Overall, 41.7% of teachers belong to schools that have a curriculum committee. For the two groups that claim little difficulty with formatting layout, formatting and the ability to make crucial distinctions (Groups 1 and 2), this percentage falls to 39.6% and 38.2%; whereas for the two groups that claim difficulty with layout and formatting (Groups 4 and 5), this percentage rises to 55.0% and 57.8% respectively.

Figure 12: Layout and formatting groups BY curriculum committee



There is an association between group membership and the length of time teachers have been using the syllabus documents. Figure 13 shows the association. Overall, 63.3% of teachers have been using the syllabus for four terms or more. For the groups that claim little difficulty with layout, formatting and the ability to make crucial distinctions, this percentage rises to 76.2%: whereas for the three groups that claim some difficulty (Groups 3, 4 and 5) this percentage falls substantially.

Figure 13: Layout and formatting groups BY length of time using syllabus documents



2.2 Site studies

All of the elementary schools in the sample have been visited on at least two occasions consistent with the approved IS6 work plan.

Schools and teachers participating in the site studies

Table 5: Site schools in the study (School names removed to maintain confidentiality)

Province	Elementary School	Location	# Teachers	# Visits
Morobe		Urban	3	2
		Semi rural	3	2
		Rural	6	2
Sandaun		Urban	4	2
		Semi rural	4	2
		Rural	3	2
EHP		Urban	6	2
		Semi rural	3	2
		Rural	3	2
Simbu		Urban	3	2
		Semi rural	3	2
		Rural	3	2
ENBP		Urban	5	2
		Semi rural	3	2

Province	Elementary School	Location	# Teachers	# Visits
		Rural	4	2
		Rural	2	2
New Ireland		Urban	5	2
		Semi rural	3	2
		Rural	5	2
Milne Bay		Urban	4	2
		Semi rural	2	2
		Semi rural	3	2
		Rural	3	2
		Rural	3	2
		Rural	3	2
		Rural	2	2
		Rural	1	2
		Rural	2	2
Central/NCD		Urban	9	6
		Urban	7	6
		Semi rural	10	2
		Rural	6	2
		Rural	6	2
		Rural	3	2
Total	31		135	

Table 6 indicates selected biographical data that have been collected from teachers.

Table 6: Selected teacher bio-data

Province	Gender		Highest Level of Schooling			Number of Years Teaching		
	Male	Female	< Gd 10	Gd 10	> Gd 10	< 2 years	2-5 years	> 5 years
Morobe	7	5	-	11	1	n/a	n/a	n/a
Sandaun	4	7	-	11	-	-	4	7
EHP	5	7	-	12	-	n/a	n/a	n/a
Simbu	3	6	-	9	-	-	4	5
ENBP	2	12	1	13	-	6	6	2
New Ireland	8	5	-	12	1	1	7	5
Milne Bay	15	8	4	18	1	3	12	8
Central/NCD	13	28	2	37	2	3	22	16
Total	57	78	7	123	5			

There are 135 elementary teachers engaged in the study (Table 5) of which 58 percent are women. Ninety one percent of the teachers gained the Grade 10 qualification from high school and a mean of 3.6 years of elementary teaching experience for the data that are currently available. Table 7 presents data in relation to teacher training in which seventy percent of teachers have either completed all of the requirements, or have formally graduated with the Certificate in Elementary Teaching (CET).

Table 7: Selected teacher bio-data

Province	Teacher Training					Language of instruction in schools
	Nil	Year 1	Year 2	Year 3	CET	
Morobe	-	-	-	-	12	Tok Ples and Tok Pisin
Sandaun	-	-	-	-	11	Tok Ples and Tok Pisin
EHP	-	-	-	-	12	Tok Ples and Tok Pisin
Simbu	-	-	-	-	9	Tok Pisin
ENBP	1	2	3	-	8	Tok Ples
New Ireland	3	1	-	-	9	Tok Ples and Tok Pisin
Milne Bay	-	1	3	7	12	Tok Ples
Central/NCD	-	5	7	8	21	Tok Ples in Central English in NCD schools
Total	4	9	13	15	94	

Teachers report that of the 31 schools in the sample, 20 schools use Tok Ples as the language of instruction followed by nine schools that use Tok Pisin. The two NCD schools are the only schools that report teaching in English.

Curriculum materials distribution

Packs of curriculum materials were forwarded to elementary schools commencing in 2003. The pack included one teachers' guide per school and a set of the syllabus documents for each teacher in the school. In addition, curriculum kits were sent to schools for each elementary grade in 2004. The following summarised data indicates the receipt of curriculum materials in the schools in the study.

- All schools had received the 2003 elementary reform curriculum materials in varying numbers, and the curriculum kits by the end of 2004.
- Some schools received the syllabuses, but not the teachers' guide.
- Most schools received less sets than the number of teachers in the school.
- Schools with two teachers indicated that they were able to share the materials adequately.
- Schools with more than three teachers encountered difficulties sharing the materials. Some teachers were reluctant to share while some simply refused to share materials once they got hold of them.
- The ... cluster of six schools (in Milne Bay Province) in the study is part of a larger cluster of nine schools. The nine schools shared one set of syllabus documents and one teachers' guide throughout 2004. The materials were shared systematically between the nine schools and the curriculum approach was in evidence in the ... cluster schools during the first site visit. The researcher, with the assistance of CRIP staff, collected sets of curriculum materials from DOE stores in Port Moresby so that each school had its own set. The materials were delivered to the schools during the second visit in 2005.

Table 8 provides aggregated data collected to date in relation to the nature of the access that teachers have to the syllabus documents. All teachers have access to the 2003 elementary syllabuses, although almost 50 percent of those responding share syllabus materials with other teachers.

Table 8: Access to 2003 elementary syllabuses

Sharing set with one other teacher	Sharing set with more than two teachers	Have own set
12	36	53

Table 9 indicates that seven teachers report not having access to a teachers' guide and make do with portions of the guide that they received during trainer directed teaching sessions.

Table 9: Access to 2003 elementary teachers' guide

Do not have access to a Guide	Sharing with one other teacher	Sharing with more than two other teachers	Have own Guide
7	3	38	53

Some 41 percent of teachers share a teachers' guide and 52 percent have their own copy. This is a relatively high number given that officially each school was sent just one copy of the teachers' guide. Schools that have access to photocopy facilities have copied the teachers' guide so that each teacher has a personal copy.

Action research

The site schools in all provinces were encouraged to solve a problem or issue related to the implementation of the 2003 elementary curriculum as part of their active involvement in this research. The teachers were assisted by the researchers to do action research. They were encouraged to identify a problem, analyse appropriate data collected on the problem, formulate an action plan to solve the problem, collect data after a period of implementation of the action plan, and write a report on the problem and how it was solved or otherwise. The action research has been implemented with varying successes in the site schools.

Several projects have been completed. Some of the problems being researched in the site provinces include:

- How can we make our mathematics lessons more interesting?
- How can we teach language more effectively in a multigrade class?
- How can we standardise Dumo spelling in our teaching text?
- How can we increase and improve the number of students' reading materials (small books)?
- How can we improve/replace and increase the production of big and small books?
- How can we involve the community to assist with the production of big books?
- How can we improve children's class attendance in our school?
- How can we improve teacher and children absenteeism?
- How can we improve community support for the school?
- How can we improve classroom organisation to make teaching and learning more effective?

2.3 The perceptions of teachers, head teachers, elementary trainers and elementary inspectors of the quality of the syllabuses and their effectiveness in supporting community-based learning

The majority of teachers are supportive of the new elementary curriculum and state that the syllabus materials are very helpful although not always fully understood.

Teachers who had used the Scope and Sequence Book previously were confused by the format of the new elementary curriculum. A large number of teachers mentioned that the Scope and Sequence Book was often referred to when information and content in the new elementary curriculum proved difficult to

comprehend. The comments of teachers in their reflective journals suggest that the formatting of the new elementary curriculum is difficult to understand.

I have to move pages back and forward to understand the learning outcomes and to see what the indicators are. When I want to see the overview then that's in another place or what they might have done in E1. So we rewrite the syllabus on a big piece of paper A3 so that we can see it in front of us in one go. (Teacher Journal)

The layout of the document explains why a number of teachers have complained to the research team about the constant writing and rewriting that teachers have to do with the syllabus. Teachers copy the learning outcomes, the strands, sub-strands, outcomes and indicators in the weekly program, the term programs and the yearly program. They do this for convenience, as indicated in the excerpt from the teacher journal above, but they are also told by Inspectors and trainers that it is necessary to rewrite entire sections of the syllabus. Teachers who look for a shortcut and use the numbering system included in the syllabus to track outcomes and indicators are admonished and told to copy the statements in full. This appears to the researchers to be an unnecessary waste of time that could be used more productively in terms of producing resources for the classroom.

Classroom observations indicated that teachers were using the teaching strategies recommended in the new elementary curriculum with varying competence. It was also highlighted that little, or no, feedback was provided by trainers to teachers after they had completed professional development activities.

The length of interaction with the new elementary curriculum and the quantity of workshops attended facilitated confidence in use and more understanding of the new elementary curriculum materials. This was observed during the second visits to the sites schools as some changes were observed in the teachings methods, classroom organisation and more positive comments regarding the new elementary curriculum materials.

Support

It is assumed by the provincial authorities and elementary trainers that the level of qualification and number of years of teaching enables an elementary teacher to cope with the English content of the new elementary syllabuses, teacher's guide and other support materials. A provincial education advisor commented: 'I looked through the content of these materials and find that I can understand them well because I took time to read them'. A trainer made this comment: 'Use your intelligence to read and understand the content'. On the other hand, most of teachers whom the researchers interact with refer to the language level in terms of: 'The English level in the elementary materials is a bit difficult to understand. We do not understand some of the new words'. Some elementary teachers are not keen readers and some have difficulty with writing in their reflective journals. Some teachers have decided not to continue with journal writing. The level of English exhibited by most of the teachers in their journals is at a lower level than that

contained in the 2003 elementary curriculum. For such teachers, their lack of competence in English contributes to their inadequate comprehension of the syllabus and teacher's guide.

The research indicates that in most cases, elementary inspectors and trainers are capable of monitoring the implementation of the new elementary curriculum. However, poor logistical support hinders such activity. It was also noted that continuous professional development was an established culture in some of the provinces even though the quality of follow-up support was reported to be insufficient as viewed by most of the teachers. Teachers also reported that inspectors' and trainers' visits to the schools are generally inadequate. A number of schools report regular visits by inspectors and trainers, but there are also schools that have experiences such as the following:

No trainer in 2004 or 2003. Last time we saw the trainer was in 2001/02. He only came over for familiarisation. Nothing since then. (Teacher Journal)

Most of the schools in the eight provinces, including NCD, have conducted in-service training workshops with the focus on the use of the new elementary curriculum. Some provinces conduct workshops solely for elementary teachers while others provide workshops for both elementary and primary school teachers. The number of workshops conducted in each province ranged from one to four. Despite having participated in these workshops, the teachers in the site schools state that they do not fully understand 'outcomes', 'indicators', 'catering for different ability groups' and 'integration across subjects'. On one occasion, trainers in one province were asked to explain the meaning of these terms to the researcher. They had problems with their explanations. Also, the elementary teachers in the site schools in one province did not quite understand why language was in the centre of a chart at an in-service session with a trainer, its links with cultural mathematics, and culture and community in their program map. The teachers had participated in developing the map during one of their workshops. A teacher commented: 'I do not understand why we did this mapping, and why language is in the centre of the chart, but it's colourful so I put it up to decorate my wall'.

All the teachers in the site schools in this particular province did not really understand the purpose of this map. Focus group work with the researcher about mapping led to a better understanding by the teachers about the value of mapping their lessons.

Some of these teachers also expressed the need to use Tok Ples and Tok Pisin during workshops to facilitate better understanding of the content of the new elementary curriculum. Several teachers commented: 'The English used in the curriculum material and workshops is too 'expensive!' This translates to the language level is difficult to understand. The general view of teachers is that the material 'is a bit difficult to understand'.

The conversations with teachers in all provinces suggest that follow-up professional support during the implementation of the curriculum after workshop participation is generally inadequate.

There does appear to be a period of some two years in which teachers have difficulty coping with the demands of the new curriculum. Teachers who have been working with the curriculum materials for two years or more are much more positive and confident about their understanding of the curriculum and their ability to implement and manipulate the curriculum to suit local circumstances. The experience of using the curriculum, in-service activities attended, and working with colleagues during the first two years, results in more confident and successful teachers by the third year of teaching.

The members of the research team have noticed that teachers are receptive to imaginative ideas about teaching and grasp ideas that the researchers might make on the basis of classroom observations. There are comments from teachers that trainers and inspectors do not support ideas that encourage flexibility and imagination in teaching at the elementary level.

Researchers have found insufficient monitoring of the actual implementation of the new elementary curriculum in all site schools. The teachers claim that they still do not understand the new curriculum well, and state: 'Mipela i burukim bus tasol' (We are practising what we think is 'right').

The irregular visits by inspectors and trainers often leaves teachers with a lack of confirmation or approval that what they are doing is appropriate, or could be enhanced with some classroom observations and the benefit of experience of others. The senior teachers in some schools are confident enough to perform this role with younger teachers, but the senior teachers may be as uncertain themselves about the new curriculum as anyone else.

Integration with community activities

Classroom observations by the research team indicate that the subject content taught in the classrooms is linked to everyday community activities. This is particularly evident with the Culture and Community and Language programs in all site schools. Themes such as fishing, gardening, ceremonies, families, festival and transport are linked to familiar community activities of which students are aware. Students and teachers share much information during such sessions and seem to enjoy them. Integration across curriculum and catering for different ability groups on the other hand, are not evident in all lessons observed. Discussions revealed that the teachers are not yet confident using such teaching strategies. Many teachers in the site schools also stated that they are not confident in teaching the new cultural mathematics syllabus. Teachers point out that they have insufficient knowledge of traditional mathematics. Some teachers in some of the provinces are able to share their traditional mathematical knowledge they have with the research team. However, most could not relate such knowledge to that recommended in the new

cultural mathematics syllabus, until discussed with the researchers. The weaknesses identified in the teaching of all the subjects and classroom management were discussed during teacher meetings held with the researchers, and changes in teaching approaches were observed, including the teaching of cultural mathematics during the period of the first visit. Marked changes and improvement in teaching practices and classroom organisation were observed during the second visits to these site schools.

The data seem to suggest that the trainers may not have had adequate training on the new elementary curriculum content and particularly in the integration across curriculum in order to assist the teachers. The evidence indicates that ETESP and TPPS teacher training has had some impact on the teachers' current practices as these programs emphasised integration of formal learning with the students' everyday community activities. There are teachers and schools in the sample that have had a long history that commenced in the Tok Ples Priskul period. The organisation, experience and resource development displayed by those teachers and by the schools is invariably at a higher level than teachers and schools that are contemporary to the elementary school movement.

Several Grade 3 primary school teachers have been interviewed as part of the study. The teachers tend to complain that elementary graduates do not have sufficient English language skills by the time they arrive at Grade 3. This is hardly a criticism because it is not the intention of the elementary syllabus for children to have well-developed speaking, reading or writing skills in English. The Grade 3 teachers comment that the children are literate in their own language, which is confirmation that elementary education is successful in these cases.

The researchers have a clear view of the achievements of the elementary program. Children do write stories in Tok Ples, or in Tok Pisin, and they are able to read those stories with fluency to the researchers and to other children in the classroom.

Another positive comment from the Grade 3 teachers involved in the study so far is that elementary graduates are well grounded in cultural understandings. Children have a wider knowledge of language and expressive arts including drawing, dance and song and have experienced and written stories, and talked about important cultural activities that occur in the community in comparison to children who have not participated in the elementary program.

Tok Ples as the language of instruction in many of the site schools has had a significant influence on the link between classroom lessons and the students' lives in their communities. The teachers referred to activities in the communities that the students could relate to during the lessons observed, such as land, family, animals in the communities and use of water, feasting, and ceremonies. This practice is particularly notable in the semi rural and rural schools in the eight provinces. It is also apparent that the integration of classroom knowledge with the community knowledge varied in each province and within each school in each province. In some schools, the students were taken into the community to participate in a

mortuary ceremony, a wedding ceremony, and church activities. Participation in the mortuary ceremony was linked to some of the classroom themes 'shell money' and ceremonies.

One of the teachers in this particular school used *tabu* (shell money) to count in sets of 20 in the cultural mathematics class the morning before the ceremony, as 20 pala tabu (small shells) is used by those who do not have much Western money to buy a small bundle of peanuts in the community. Small bundles of peanuts are often sold during mortuary ceremonies. She posed this problem to the students on the board: 'How many bundles of peanuts can you buy with 60 pala tabu and 80 pala tabu? This exercise was written in Tok Ples. The sentence was followed by the abstract symbols of $60 \div 20 = ?$; and $80 \div 20 = ?$. The students were asked to bring 'a tura malmalikun na tabu' (a length of tabu threaded in strips of cane and measured from the tip of the middle finger to the elbow) to class for this exercise.

It must be mentioned that most of the teachers do not make connections with mathematics at home and the formal classroom mathematics, nor do teachers integrate across the Language and Culture and Community lessons. The weekly lesson programs seen by researchers do not show integration across the curriculum. However, they showed integration of Language and Culture and Community lessons with community activities. It was interesting to note that in two provinces the weekly teaching programs placed Cultural Mathematics in separate boxes. Teachers reported that they had limited knowledge about integration across the curriculum and mathematics was placed in a separate box.

2.4 The perceptions of teachers and head teachers about the quality and effectiveness of the teachers' guide, the implementation support booklet and other teacher support materials supported by CDD

The perception of the quality and effectiveness of the teachers' guide differ among the teachers and head teachers. Insufficient copies of the teacher's guide were sent to most schools and most teachers are sharing the materials.

Many teachers state that the teachers' guide is effective especially after longer use and interaction with it. There are some teachers who do not think that the guide is effective and others are unsure about its effectiveness.

Teachers have commented in journals and during focus group work that sections of the teachers' guide especially programming and planning are complex and require time and re-reading in order to understand the language and the concepts. It was found that the two-year exposure to the material and attempts in the classroom to implement the ideas is important and is required before teachers begin to comment positively about their ability to manage the teachers' guide.

There are also strong comments from teachers who want more examples in the teachers' guide about programming, planning and teaching activities. The following excerpts are from the journals of two teachers:

They should break down indicators – they are too broad at the moment. Also give more activities. It's time consuming for teachers to break them down in planning. Lesson plans should be made by CDD so that teachers follow the same format. Not all teachers have a lot of education. One of my teachers only has Grade 6 education.

The teachers' guide shows me how to put three syllabus areas into order – samples are in the teachers' guide. I was not doing annual program after TDT because of no teachers' guide. TDT did not look at the teachers' guide. Trainer used it but we did not see it. We had to write down lessons from the black board from the trainer. Maybe some more ideas and samples of planning and how to teach are needed.

A common view of teachers is that the ideas and procedures in the teachers' guide are all that they are allowed to put into practice. This view seems to be reinforced by the advice teachers receive from trainers that there is one way to program, plan and teach. The teachers are not encouraged to be imaginative or flexible. They comment that if the teachers' guide gave them more ideas that encouraged flexibility then they would feel more confident about trying new ideas in the classroom.

Many of the teachers are uncertain about the nature of support materials. There are examples of schools in the study that have not used the kits forwarded to provide support materials for each of the elementary grades. The shell books in these kits, which are meant to be the basis of Big Book and Small Book production, are unused.

Teachers state that the local curriculum committee has not met and so the Big Books have not been produced. There is a poor understanding of the role of the curriculum committees by many teachers, which may account for the fact that none of the site schools in the study have an operating curriculum committee. There are several schools in the study that report having no Big Books at all.

There are a number of site schools that have a large library of Big Books and have used all of the shell book support material and would like further shell books. Some teachers encourage students to write the stories for the Small Books from the shell series rather than the teacher doing it. This is done more so with E2 children.

A particularly innovative E1 teacher indicated that when the shell books have run out he uses A4 paper cut in halves and encourages children to develop their own small books using stories that the children create or he provides a topic for them. The small books are hung in the classroom and read regularly by children.

The same teacher is no longer prepared to wait for CDD to send support materials, but produces his own posters using A3 paper and uses cut-outs from newspapers and magazines in the classroom to stimulate reading.

One of the schools in Milne Bay has completed a useful piece of action research in which the 84 Big Books in stock were analysed in terms of the portrayal of gender in the stories. The teachers developed a definition of gender inclusiveness that included males and females in the book and the roles that each gender played in the story. The action researchers analysed each Big Book and concluded that 32 Big Books involved a male character only, and 17 of the Books included men and women, but portrayed women in an inferior role to men. A total of 16 Big Books included men and women characters and portrayed women in positive ways. The remaining books were stories about the bush, the moon and stars, or animals. The teachers and the board of management have deleted a number of the books because of inappropriateness and targeted community people to work with the teachers to produce a set of replacement Big Books for 2006.

2.5 The processes used by teachers to implement the new syllabuses and their effectiveness

The research team has undertaken classroom observations during 2005. Some teachers have developed a professional teaching style and have benefited from previous ETESP, and in some cases TPPS teacher training, along with professional development support provided by PNGEI. There is, however, a large number of teachers who are either unable to adopt a student-centred approach, or do not care for that approach, and employ a strongly teacher-directed approach.

Most children's attention is on the blackboard and the teacher in elementary classrooms does the majority of the talk. There is an assumption by many teachers that desks are desirable and schools will often allocate the few financial resources they have to the construction of expensive desks. In those classrooms without desks children are often expected to sit in three or four lines in the classroom for the duration of the day. Researchers have been in some classes where classroom order is non-existent and children are allowed to walk in and out of classrooms at any time and to engage with the teacher and other children as and when they desire.

Lessons tend to be lengthy. There is little stimulus variation and children may spend the entire morning on a set of maths questions which are written on the board and the children transcribe them to exercise books, or more often to slates, and then carry out the function. Much of the teaching of maths follows an abstract process in which children solve addition and subtraction sums. There is little talk about the way maths occurs in all aspects of everyday life. The talk is invariably an answer to a calculation. Although concrete materials may be used this does not seem to happen enough in order to fully develop mathematical concepts at an early age. There are classrooms where there is no evidence of the use of concrete

materials by teachers. Researchers have been in classrooms where Prep children and E1 children are expected to do the same abstract mathematical activity.

Questioning is used widely in the classrooms but the majority of teachers are content to receive chorus answers. Few teachers observed take care with questioning directing them at individual children and spreading the questions amongst all of the children.

Teacher development workshops

Seven of the provinces continue to conduct a six-week workshop during the year to cater for teachers who are still undergoing training. Sandaun, on the other hand, has not conducted any new elementary teacher training for the past three years.

A focus of this training is the implementation of the new elementary curriculum for early career teachers in their first two years of service, although teachers state that they may only work through one outcome during the TDT. It has also been suggested that TDTs concentrate on helping teachers complete self-instructional units (SIUs) rather than classroom and teaching issues. Early career teachers believe that too much TDT time is spent on administrative matters and how to complete forms rather than professional activities. The TDT for Year Three trainees concentrates on administration matters. This is intentional to assist them to take up senior teacher duties in elementary schools.

In 2005, the timing of the TDT workshops in most of the provinces disrupted classroom teaching because it was conducted in the middle of the year. The qualified teachers carried the teaching load while undergraduates attended training. In some provinces, this meant half or more of the teaching staff were committed to teacher training for six weeks. Timing for such teacher training needs to be revisited by the provincial elementary teams to minimise disruption of normal teaching activities. It is worth pointing out that during the life of ETESP, the elementary teacher training for undergraduate teachers was usually scheduled for the first six weeks of the school year to minimise disruption to normal school activities. Students stayed home for an extra six weeks and started the year later than the other levels of education.

Teacher absenteeism has become a significant issue for one of the NCD elementary schools particularly during the TDT activity. The teachers decided to carry out a piece of action research to understand the issue better and the implications for the curriculum and the learning of children.

The school has a total of fourteen teachers and five of them went to the TDT program in 2005. As well, the staff have a high absentee rate and many of these absences are unaccounted absences. The researchers requested the daily attendance book that is kept by senior teachers and analysed the absentee rate for Term 2 in 2005. The absenteeism data were analysed on the basis of gender and grade level. The E1 classes were the most affected by absences and women teachers from E1

had the highest rate of absenteeism. A sample of these teachers was taken and a questionnaire designed to inquire as to what actions were taken to provide education for the children during periods of teacher absence. The school policy is that other teachers would cover classes. In effect, this meant that the class without a teacher was visited irregularly by another teacher. The children, aged seven years, were given work to do by themselves. It was calculated that E1 children, on average, lost three hours of instructional time per week in Term 2, or seventeen percent per week. Teachers further reported that they did not talk with teachers upon their return to school to gauge what work had been completed by children. The teachers' practice was to commence teaching activities planned for the week of their return with no attempt to compensate for the missed activities. The school is continuing to monitor absenteeism during 2005 with a view to developing a new policy in 2006.

Cluster organisation

In most of the provinces, cluster workshops established during the life of ETESP are still being used for the professional development of teachers. Several provinces use this framework well and the organisation of the workshops is the responsibility of head teachers, senior teachers and confident elementary teachers in the cluster groups. Scheduled times for cluster workshops over the year are displayed in all teachers' classrooms in this province. The current focus of such workshops includes the use of the new elementary curriculum. It was reported that teachers share teaching difficulties and strengths during such sessions. Consequently, teachers learn from each other and improve their teaching practices.

Several clusters reported that a cluster member, who attends a provincial or district in-service activity, is more effective in professional development activities than the district trainer. The local cluster member is more easily available and tends to have the interests of the local community at the forefront.

Some cluster groups no longer operate. The value of a cluster often rests with the organisational capacity of the appointed cluster leader. Some clusters meet irregularly and are inefficient in the allocation of workload and sharing of resources. One of the clusters in the study has a number of schools, which do not have any Big Books, or a relatively small number of books. The teachers would like to have more, but after discussions with the researcher it was apparent that neither the members of the cluster, nor the leader of the cluster, had conceived that the cluster offered a solution to the lack of Big Books. The nine schools in the cluster all share the same language and culture. If each school in the cluster agreed to produce four books, and these were copied by each of the other schools, then each school would have 36 Big Books relatively rapidly.

2.6 **The impact of the syllabuses on teacher practice, student participation in schooling, students' attitudes to school and community support for elementary education**

Planning and programming

The most common concern from teachers about the new syllabus documents relate to planning and programming. These skills are usually the first weaknesses that teachers raise with the researchers.

The data are somewhat confusing as to the basis of this weakness. Time is spent on planning and programming at the initial teacher training stage and during professional development activities. A number of teachers report that they are continually being given conflicting advice from trainers, inspectors and CDD officers about the proper approach to programming:

I thought I knew about how to program my weekly and term teaching but one time the trainer ran a session at the school and he said I was doing it the wrong way. So I changed. Then the inspector came along and said I was doing it the wrong way so I changed. When we did the TDT some people from CDD came and told us to do programming another way. Now I don't want to program. I am tired of too much writing all the time. (Teacher journal)

The teachers in one school have rewritten syllabus documents using the themes and indicators in the syllabus, but developed their own set of indicators and the timing of each outcome in the yearly program.

Teachers point out anomalies in terms of indicators not fitting outcomes and that some outcomes are irrelevant for their communities. For example, the outcome for E2.1.1 of the Language syllabus states: 'Communicate with people from the community for a range of purposes'. This outcome refers to communication with the community and yet only one of the eight indicators suggested in the syllabus actually relate to children communicating with the community. The remaining seven indicators do not require interactions of any kind with the community.

Most of the teachers, including those who had graduated, were of the view that the content included in the elementary curriculum materials was prescriptive and therefore they should not explore other ways of teaching.

Cultural calendars, program maps and weekly lesson plans were seen in most classrooms visited. They are usually pinned on a wall almost as a sign of legitimacy that the teacher is well in control of teaching. Most teachers, however, do not keep up to date with their weekly lesson program preparation. The weekly lesson plans do not reflect integration across the curriculum. This is mainly due to poor understanding of integration, especially by relatively new teachers.

Most of the timetables seen in the classrooms follow standard sequencing beginning with Religion, followed by Language, Cultural Mathematics and Culture

and Community activities. However, some variations are evident. Some teachers, for example, allocate two days for Cultural Mathematics, and three days for Culture and Community or vice versa. This compartmentalisation restricted possibilities for integration across the curriculum by teachers.

Teachers also receive conflicting information regarding timetabling during in-service training which calls into question the uniformity of the implementation of the new elementary curriculum materials and the nature of the training, or the translation of training into practice, by trainers and inspectors in provinces.

Classroom organisation

Displays on classroom walls vary across provinces and classrooms within each school. Some classrooms are flooded with student and teacher print displays, some have minimal displays, and some only have teacher displays. In some classrooms the lack of display was due to vandalism, or extreme weather conditions, which blow displays away. Some teachers are unable to mount displays because of the lack of materials to do so. The school may have run out of funds to purchase paper and card. There are elementary schools that handle funds more efficiently and students have exercise books all year round and there is an adequate supply of materials for teachers to develop interesting and displayable activities for children.

All classrooms in one particular province were flooded with Tok Ples prints. Student section and teachers' section displays were seen in all classrooms. It was noted that the site elementary schools with Tok Ples Priskul experience had more print materials in the language of instruction than those with no experience.

In a number of provinces, desks take up much elementary classroom space, which hinders free movement around the classrooms. This matter was raised with teachers and discussed. Subsequently, a number of schools in some provinces removed desks from their classrooms and stored them elsewhere. These teachers reported that students were happier sitting on the floor and being able to move around more freely.

Storage desks and shelves were also seen at the back of the classrooms. Materials displayed on them varied between provinces and schools within the provinces. Some had books and other materials stored neatly on them while others had all sorts of materials stacked on top of each other. Storerooms vary in size and organisation of materials. There are schools that have no storage facilities and materials are either left overnight in an unsecured classroom or teachers carry them home on a daily basis. One researcher asked to look at the Big Books only to be told that they were at the teacher's house some two kilometres away. The teacher kept them here for safe-keeping and brought them in when they were to be used. However, this restricted the access by other teachers at the school to this valuable resource.

Discussions with teachers after lesson observations focused on strengths and weaknesses of classroom organisation. Such discussions generate overwhelming willingness for the immediate changes in classroom organisation and teaching strategies. Teachers are willing to change current teaching practices and classroom organisation if professional guidance is provided to them.

Student participation

A site school in East New Britain is addressing the issue ‘How can we improve class attendance in our school?’ using an action research strategy.

The teachers worked as a team and interviewed parents, students and observed lessons of each other in order to establish the reasons for poor school attendance. These data have been analysed. The findings of this research were used to draw up an action plan to address this issue. The data showed that the major reasons for the poor attendance of students are hunger and uninteresting classroom activities and displays.

The teachers called a parents meeting to discuss the provision of lunch for students everyday. The teachers also made every effort to make their lessons interesting and worthwhile for the students. It is planned that the next data will be collected in November. Analysis will enable comparisons to be made with first data collected and then a written report will be completed about the process of this action research by the end of the year. The teachers reported that their teaching approach and the provision of enjoyable and worthwhile lessons, and parental support for the students in terms of prepared lunches, have largely contributed to the current improvement in school attendance. The researcher confirmed increased school attendance, increased use of prepared lunches, increased teacher and student work displayed in the classroom and delivery of more interesting and meaningful lessons during the second visit.

Community support

Boards of Management (BOM)

Each site school in the eight provinces have a separate BOM from that servicing the local primary school. The two NCD schools, however, do not have their own boards and are placed under the authority of the primary school board of management. Both schools believe that the elementary subsidy is not used on the elementary school and much of the money gets used to purchase supplies for the primary school.

The elementary school BOMs constitute a chairperson, treasurer, secretary and three to four community representatives. The BOMs in most site schools are not effective. The frequency of BOM meetings varies in all site schools. Some meet regularly, others infrequently and some none at all. Attendance at BOM meetings is also problematic. The working relationships between some schools in the study and

their BOMs are difficult. Some BOMs do not inform the school regarding expenditure of school finances and some do not support the schools financially. Fundraising activities in many of the site schools are generally poorly organised.

School-community relationships

Statements from the teachers and community members established that currently, the relationship between school and the community is weak in the majority of site schools. The only contacts the teachers have with the community are P&C meetings and occasional fund-raising activities. One school reported that during the initial implementation of elementary education the community support for the elementary school was overwhelming; however such support deteriorated over the years.

Community involvement in many cases is restricted to an annual cultural day or week rather than a planned and regular engagement with the community as a teaching resource and the community as helper within the school. There are schools where community involvement, particularly in the area of Culture and Community is positive, regular and strong.

It was noted, during scheduled meetings with community representatives, that they were not aware that elementary schools are the responsibility of local communities. Researchers observed that in some provinces the meetings conducted with both the teachers and community representatives facilitated a better working relationship between both parties.

In two provinces, communities pledged support for the school as a result of community meetings with researchers. It remains to be seen if this translates into action. One of the schools was labelled a problem school by the provincial education authorities. There was initial reluctance to grant approval for this school to participate in the study. The local community was critical of the teachers' poor attendance and punctuality. The community was encouraged to assist teachers to improve such practices, which resulted in meetings between the teachers and community representatives and improvement in attendance and punctuality. One of the rural elementary schools is using a run-down building constructed some twenty years ago. The building needed urgent repairs at the time of the first site visit by the researcher. A ladder and railing was repaired, two new pit toilets were built and a water tank was installed by the time the second site visit took place. The teachers, in some of the site schools, reported that the relationship between the school and the community had improved considerably since the previous visit while others had not experienced any change. Teachers indicated their appreciation of a better working relationship between the two parties in their reflective journals.

These data suggest that awareness about the relationship between the school and the community, and community support for the elementary school, is generally inadequate. A small amount of awareness raising by the researchers produced immediate positive responses from a number of communities visited. This seems to

suggest that the elementary teachers' professional training on interaction skills with their surrounding communities is inadequate.

Several teachers have indicated in journals that the school is often at fault in that a program of activities for the term or year is not produced by the school or negotiated with the community so that the community can prepare for such engagement. Often the invitation from the school for community involvement comes at very short notice and the community is unable to respond.

Ownership of schools by communities

The school fee is the major means of income for all the site schools. A school in one province encouraged parents, who could not pay school fees in Kina could do so in *tabu* (shell money). The fee is K75.00 so parents pay ten adult-arm lengths of *tabu* and K20.00. The school then trades the *tabu* for K50.00. Fund raising activities vary among all the site schools and provinces. Those communities that understand the importance of community support for schools have done more fund raising activities than those who have not been informed about the need for it. In some schools, parents are encouraged to contribute a small amount of money a term. Other schools have means of generating additional income, such as, the exchange of baskets and selling foodstuff. Some schools did major fund raising activities in 2004, while most did not do any fundraising in the past two years.

Communities are willing to support the elementary schools and the implementation of the new elementary curriculum, however, inadequate awareness about the responsibilities of communities for elementary schools and the curriculum has contributed to the current lack of support for elementary education.

Curriculum committees

There are no functioning curriculum committees in any of the site schools. During meetings with researchers, the community representatives and teachers claimed that they were not aware of the role of the community in the school curriculum development. Furthermore, many of the communities' representatives had not heard of elementary curriculum committees. Some stated they had literacy committees, rather than curriculum committees, whose main function was to support transition from elementary to lower primary education.

Community as a teaching resource

It was reported, during meetings with teachers that community members are requested to assist in arts and crafts, and community and culture lessons. However, such involvement is minimal in a number of the site schools. Discussions with the researchers facilitated fresh communications and realisation of the value of using members of the communities as a teaching resource. Some elementary schools did not use members of the communities because they demanded monetary reward for their services.

These data suggest that although teachers are aware of the importance of the school subject knowledge and community knowledge they are unsuccessful in engaging communities and community members as teaching resources. The data also indicate that community members are not involved due to the fact that most are unwilling to volunteer services to the school and many schools cannot afford paid labour.

Organisations engaging with schools

The teachers in the site schools report that the working relationship between the schools, the churches, health services, police and NGOs is weak. There were, however, reported cases of visits to the school by members of such organisations.

It was also reported that some of these organisations were willing to support the schools as a teaching resource if they were invited. However their support of the school curriculum is usually at a low level because schools rarely seek assistance. Teachers were encouraged, during discussions, to involve such organisations more as teaching resources. It was observed, during the second visits to the schools, that involvement with other organisations was a little more commonplace.

2.7 The relevance, quality and effectiveness of the teacher in-service materials and the processes used to implement the in-service training

There is little to report on this TOR. The vast majority of teachers have not used the in-service materials in 2005. Many teachers stated that they had not seen any of the units. A common response from teachers who had access to Unit 1 was: 'We do not know how to use them!' Some said they had sighted the material, but had not studied it in depth. Others said they had skimmed through it, but had not used it. The teachers were informed that they were supposed to be used like the SIU materials.

None of the site schools have received in-service materials - Unit 2: Understanding the New Elementary Curriculum and Unit 3 How to Use the Teachers' Guide.

2.8 Curriculum development process

The effectiveness of the processes implemented by CDD and CRIP to develop elementary syllabuses and locally developed support materials including consultation and trialling process.

The case-study interviews have commenced and address the effectiveness of the CDD and CRIP processes around the development of syllabuses and support materials. This fieldwork will continue in 2006 and will be analysed later in the project and incorporated in the draft final report.

3. Preliminary conclusions

3.1 Survey data

- Teachers generally claim that aspects of quality and effectiveness are emphasised in the syllabus documents.
- Teachers generally claim that the syllabus documents help them to achieve objectives and outcomes stated in the syllabus documents.
- Teachers generally claim little difficulty with the layout and formatting of the syllabus documents, and with the ability to distinguish between key terms and phrases.
- These claims notwithstanding, there are groups of teachers whose opinions deviate substantially from the majority.
- Teachers' attitudes and perceptions are associated with in-service training received by the teachers, and with the establishment of curriculum committees that involve members of the schools' communities. Although the associations are not applicable equally to all sets of statements, the general trend is that teachers' attitudes towards, and perceptions of, the syllabus documents become more positive if teachers have received in-service training or if the school has an established curriculum committee. That is, it appears that teachers' attitudes and perceptions of the quality and effectiveness of the syllabus documents become more positive when formal support mechanisms are in place.
- Teachers' attitudes and perceptions of the quality and effectiveness of the syllabus documents are associated with the length of time that teachers have been using the syllabus documents. Teachers who have been using the syllabus documents longer tend to have more positive attitudes and perceptions. However, this effect may be confounded with in-servicing: Teachers who have been using the syllabus documents for longer periods of time are also more likely to have received some form of in-service on the syllabus documents.
- Teachers' attitudes and perceptions of the quality and effectiveness of the syllabus documents are not associated with gender, school location, nor with teachers' previous teaching experience.

3.2 Site data

A total of 31 elementary schools and 135 teachers are participating in this part of the study. The data reported here involve the first six months' visits to elementary schools and data collection using a range of techniques such as teacher reflective journals, surveys at the school site, interviews, action research activity and some focus group work with teachers and members of local communities. Data collection is continuing at the present time and throughout 2006.

The data allow the study to make a strong statement that children are learning to speak, read and write in the language with which they are most familiar. This is consistent with the wider education reform agenda and the intent of the new elementary curriculum documents. This conclusion is supported by elementary

teacher responses to questions, classroom observations by researchers, and the responses of primary school teachers. Elementary children are also gaining a stronger understanding of culture and their place in it than children in the past as a result of the activities contained in the elementary syllabus guides.

The research so far has confirmed that teachers are apprehensive of the new curriculum after a lengthy period of time working with the Scope and Sequence methodology. This is understandable especially given the difficulties that teachers and provincial elementary co-ordinators have identified in providing adequate professional development opportunities for all elementary teachers. There is some concern about the level of English in the curriculum documents and the layout and complexity of the ideas. The coping ability of teachers varies with their own education background, the experienced leadership in elementary schools and the attitude of teachers to take risks and to reflect on the kind of experiences that the local environment offers for teaching rather than conceiving education in terms of a prescriptive syllabus delivered within a classroom.

The teachers, as a general point, do not receive the kind of follow-up attention from trainers and inspectors that they are looking for to confirm that they are teaching in appropriate ways. Teachers lack the confidence, the skills to reflect on their own performance, to establish local structures within cluster groups of schools or within their own school environment, to be critical of existing practices and to seek improvements.

The research has also confirmed what is already well known that most elementary schools are affected by a lack of financial and material resources to successfully deliver the kind of a program that teachers are capable of delivering and want to deliver.

There are teachers in the study who take the attitude that it is government responsibility to provide all of the resources for teaching. They are not prepared to find ways to access the richness of the local communities or to produce teaching resources themselves. There are teachers who take opposing views and find ways to produce their own resources which may not have the style of commercial or professionally produced materials, but are perfectly adequate to develop concepts and provide materials that children can read and complete as an educational activity.

A further positive outcome of the research, at this stage, is the interest of the majority of teachers to improve. They are eager to listen to ideas from the researchers who at times take the place of the absent trainers and inspectors. The research team has debated our role in the study. Should the researchers be observers documenting what teachers do and refrain from offering advice when we are confident that our advice would remedy a particular problem encountered by a teacher? The research team has taken the view in the case of the site schools, which is consistent with the original research proposal, that the researcher is a part of an acknowledged group of people interested in understanding elementary education,

the implementation of a new curriculum approach, and working together to seek ways to improve the delivery of learning in the classroom.

The teachers' guide, according to teachers, is a very useful document and it is referred to during programming and when the teacher is looking for ideas in terms of teaching. There is a great deal of information in the teachers' guide and teachers have commented that pages 21 to 48 are a challenging read for them. They report reading the section many times before they begin to understand the activities and processes expected of them in planning, programming and developing lessons.

There is also a view expressed by teachers that there could be more examples of programming, school organisation and classroom strategies and delivery than at present. This is supported by the research in that at present there is an attitude that 'I cannot go outside of the book'. This seems to be reinforced by some inspectors and trainers in their training and conversations with teachers. Inspectors for their part are concerned about standards and see value in a uniform approach that does not celebrate diversity. And yet this is contrary to the spirit of an outcomes based education approach, which establishes an outcome, but gives teachers the freedom to take different pathways in order to achieve that outcome.

Teachers look upon the three syllabus documents favourably. They report that some improvements could be made to the layout, but that the outcomes and indicators are helpful and allow them to prepare interesting lessons and to understand what they should be achieving over a year of teaching. CDD and CRIP produced a large format chart several years ago, which detailed all of the outcomes for elementary and primary education. It is understood that a copy of this was sent to all elementary schools but not all elementary schools received all of the materials forwarded by CDD in 2003. There would be a lot of sense in reproducing this chart and making it available to all elementary schools.

The research has identified a number of issues that will continue to be investigated in relation to the Cultural Mathematics and Culture and Community syllabuses. The store of knowledge and skills held by elementary teachers in relation to traditional mathematical concepts is not as strong as is required by the syllabus document. The importance of communities contributing to the Culture and Community program requires a lot more attention by teachers to secure the kind of assistance that is required by the syllabus.

The research team is encouraged by an outcome that is emerging from the research and requires further testing. Teachers who have less than two years first hand experience with the curriculum documents report that they are unsure about programming, the meaning of outcomes and indicators, and are constrained by a range of interpretations from people who are meant to advise them on procedural and professional issues, or are discouraged because no-one seems interested in helping them after they attend a TDT. After two years' experience, however, the common responses from elementary teachers include understanding of the outcomes based approach, and confidence and an articulateness to carry on a

professional conversation with the researcher about the new curriculum. The uncertainties are no longer apparent, and teachers display a new and strong commitment and confidence about what they are doing in the classroom.

The study has found that the cluster-based approach to professional development matters should be reconsidered with a view to strengthening it. Some clusters are effective and indicate that they get more assistance from the cluster members than the trainer. Other clusters have collapsed for a range of reasons but there are large benefits in terms of funding, efficiencies, rationalisation and immediacy that are not achieved from the cascading model of professional development that is also in use at the present time.

Elementary teachers are not making use of the in-service booklets produced by CDD and CRIP. A large number of teachers have either seen in-service material Unit 1: Education Reform in Papua New Guinea, or have a copy of it, but are unsure what to do with it because 'we have not been in-serviced on it yet'. The remaining two units in the series: Unit 2: Understanding the New Elementary Curriculum, and Unit 3 How to Use the Teachers' Guide have not been forwarded to schools as yet although they have been available for some time. The study is unable to make field based comments on the units at this stage of the study.

The perennial issue of awareness continues for the effective delivery and implementation of elementary education. Parents and communities surrounding the site schools do not fulfil their roles in supporting elementary education. The lack of effective curriculum committee work and the reasons for this are still being explored within the research. Parents do support the schools in that children do attend elementary schools and in most cases do so regularly. There are schools that can call on help from the community and receive it, but they tend to be schools that are characterised by good forward planning and arrange assistance well in advance.

4. Overview of next six months' work plan

The next six months' work will involve the completion of Stage 2 and the commencement of Stage 3, as set out in Table 2. (In Table 2, completed tasks are shown with P and tasks currently in progress are shown with X.) In brief, the next six months' work involves implementation and analysis of the second survey; the completion of the 3rd stage of the action research and the school site studies, and further work on the case-study interviews with key informants. This next six monthly report will report on the findings from this data collection.

Table 10: CRIP Impact Study 6 - Workplan 2004-2006

	Preliminary		Stage 1		Stage 2		Stage 3		Concluding
	July-Sept 04	Oct - Dec 04	Jan - Mar 05	Apr - June 05	July - Sept 05	Oct - Dec 05	Jan - Mar 06	Apr - June 06	July - Sep 06
Administration	Team meeting (Teleconf) <input checked="" type="checkbox"/> Ethics clearance <input checked="" type="checkbox"/> Purchase equipment & software <input checked="" type="checkbox"/>	Team meeting (NRI) <input checked="" type="checkbox"/> Meeting with inspectors / trainers for administration of survey <input checked="" type="checkbox"/>	Team meeting (Teleconf) <input checked="" type="checkbox"/>	Team meeting (Teleconf) P	Team meetings Teleconf (+ extra meeting at Deakin) P	Team meeting (Teleconf) Meeting with inspectors / trainers for administration of survey	Team meeting (NRI)	Team meeting (Teleconf)	Team meeting (Deakin Uni)
Data Collection	Development of survey & interview schedules <input checked="" type="checkbox"/>	Trialling in NCD <input checked="" type="checkbox"/>	1st survey 1st POM site study P	1st school site studies P	2nd POM site study X	2nd school site studies	2nd survey 3rd POM site study	3rd school site studies	
Analysis		Analysis of trial data <input checked="" type="checkbox"/>	Analysis of 1st survey P Selection of school sites <input checked="" type="checkbox"/>	Analysis of 1st stage data P		Analysis of 2nd stage data X	Analysis of 2nd survey	Analysis of 3rd stage data	Repeated measures analysis
Reporting		Steering Committee <input checked="" type="checkbox"/> Report on trial <input checked="" type="checkbox"/>		Steering Committee <input checked="" type="checkbox"/> Report on 1st stage P		Steering Committee X Report on 2nd stage and/or Mid-study report P		Steering Committee Report on 3rd stage	Final report