

Transformation of teacher belief and practice?

Enhancing formative teaching and learning in Nepal

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Abstract

This paper explores the use of formative, continuous assessment strategies as a tool for improving the quality of teaching and learning in Nepalese primary classrooms.

In the 1990s Nepal adopted a liberal promotion policy (LPP) to reduce the number of student drop-outs and repetitions in the primary grades (WEF, 2000). The policy was linked with a continuous assessment system (CAS), aiming at ensuring children reach certain levels of learning as they progress through the year, rather than waiting for the examination at the end of the year. However, the principal purpose and meaning of CAS have not been fully understood by teachers to date; deep penetration of practice of assessment for learning is rarely observed in primary classrooms.

Drawing on data yielded by an ongoing basic education project, this paper discusses teachers' perceptions of learning in relation to continuous and formative assessment. The project introduced a basic number skills diagnostic test as part of teacher development measures to gain an understanding of current problems in primary level mathematics education, and more specifically, to enhance teachers' awareness of their students' systematic mistakes.

Many teachers did not differentiate between CAS and traditional paper tests and generally saw the learner as a passive recipient of knowledge rather than as an active constructor. They demonstrated little understanding of the need to encourage children to think so that they learn better.

Provision of feedback on the math test results with analysis of students' systematic errors was positively received, but the teachers' capacities to take necessary measures to improve learning were mixed. In one school, however, there was a major transformation: teachers restructured their perceptions of children's learning after being confronted with their students' systematic errors. They realised that if a number of children make the same mistake, it is likely to be explained by the ways they had been taught.

Although the overwhelming majority of attempts to transform pedagogy in low income countries have so far been unsuccessful, there is a prospect of improvement if more attention is

*Views expressed in this paper are the authors' and do not necessarily reflect those of the Department of Education or of Save the Children.

paid to methods and techniques currently being practiced in the classroom, and to teachers' attitudes and values which inform these practices.

1. Introduction: education quality and assessment

As the target year for achieving the Millennium Development Goals (MDGs) and Education for All (EFA) goals approaches, the global debate on education development has shifted markedly from a stress on enrolments to concerns about quality. Although policy makers and education practitioners have not reached a consensus as to what constitutes quality, it is becoming apparent that measures of learning achievement, as defined by test scores, are rapidly being accepted as the most suitable indicators. This can be seen clearly in the reports published by World Bank economists (Filmer et al., 2006) and the Learning Metrics Task Force (LMTF) members (UNESCO & Centre for Universal Education, 2013).

In evaluating quality of education in low-income countries, it is relatively straightforward to take input measures such as the pupil-to-teacher and pupil-to-textbook ratios, the proportion of teachers with formal pre-service training, or the presence or absence of facilities such as libraries as indicators. But these input indicators alone tell us nothing about the effectiveness which these resources are used to strengthen teaching and learning.

Furthermore, although the processes of pedagogy which take place in the 'black box' of the classroom have a deep significance for children's learning, they are hard to capture. Some aspects of educational process can only be judged through observation against qualitative indicators (O'Sullivan, 2006; Alexander, 2008). It is not realistic to attempt to incorporate these processes into macro-level evaluation of quality. That is why many education practitioners rely so heavily on outcome measures, including international assessment surveys such as PISA and TIMSS, in making judgment as to quality.

Although students' test achievements may provide some indication of the learning taking place, they do not directly measure the quality of the teaching. External test results offer few insights about necessary measures to improve learning, unless they are analysed systematically and feedback is given to schools (Somerset, 2011). The danger in placing a heavy emphasis on learning outcome goals is that it may lead to reliance on high-stakes summative testing, which can be detrimental to the relevance of education (Barrett, 2011).

The challenge now facing education policy makers and practitioners is to explore ways in which knowledge and understanding of learning outcomes can be used for diagnostic purposes to improve teaching and learning. David Archer of ActionAid advocates 'a massive complementary investment in formative assessment by teachers themselves' (Archer, 2014). Teachers need to be able to identify the progress their students are making, and the learning difficulties they are encountering, and to adjust and modify their teaching as needed to meet these difficulties. In many low-income countries, however, the hasty expansion of

enrolments– thanks to the MDG and EFA initiatives– has led to the deployment of large numbers of non-professional teachers who have not been trained even at a basic level (Lewin, 2007). Teachers’ capacity to provide quality instruction in the classroom is the key to linking assessment to learning improvement, but the necessary enabling environment is absent in many countries.

This paper discusses some preliminary results from a basic education project in Nepal, which is attempting to enhance teachers’ skills in understanding their students’ learning. The project started in 2012. It builds on a previous initiative, the Continuous Assessment System (CAS), introduced in the 1990s to complement the Liberal Promotions Policy (LPP), which aimed at reducing drop out and repetition during the primary cycle (World Education Forum, 2000).

When CAS was introduced, a format for recording students’ progress was developed as a key component, and circulated to the schools. CAS format filling has become a routine for many teachers, but few of them utilise the information to identify gaps in learning or to modify their teaching accordingly. The current project has attempted to remedy this deficiency. Our aim has been to move teachers away from a preoccupation with record keeping, and to draw their attention towards the importance of oral questioning and diagnostic testing, as sources of information about their students’ learning difficulties, and as a basis for giving constructive feedback. As the project has developed, we have started to realise that teachers’ beliefs concerning children’s learning are a critical factor in determining the quality of the instruction they provide.

The term ‘formative assessment’ is usually used in contrast with summative assessment. But in fact these two form a continuum: even external examinations can have some formative elements if feedback is given. A further distinction between continuous and formative assessment is sometimes drawn; the former referring to marks awarded for tests and assignments given by the teacher during the term or year; the latter to questions asked during day-to-day interaction between the teacher and the students. However in this paper, we use the terms formative assessment and continuous assessment interchangeably.

2. Global and ‘local’ perspectives on formative assessment

Informed by seminal work by Black and Wiliam (1998), showing that formative practices enhance students’ learning, policy makers in many countries in the North have been attempting to make major changes to assessment policy and practice (Dixon et al., 2011). Defining formative assessment is by no means straight forward, but the one given by Black and Wiliam (2009, p.9) is pertinent in the context of this paper:

Practice in a classroom is formative to the extent that evidence about student achievement is elicited, interpreted, and used by teachers, learners, or their peers, to make decisions about the next steps in instruction that are likely to be better or better founded, than the decisions they would have taken in the absence of the evidence that was elicited.

Research into formative assessment has its roots in the 1950s. From early days the introduction of formative assessment was not meant to be a replacement for summative assessment. Rather, it was recognition of the potential for assessment to contribute to and improve the learning process (Hares, 2013). The emergence of formative assessment is closely related to the theoretical development of learning models, especially to the ideas of learning as social construction (Torrance & Pryor, 1998).

In contrast with a large body of literature in the Global North, accounts of formative assessment practices in low-income countries are relatively limited, except for cases from Ghana (Akyeampong et al., 2006), Malawi (Hares, 2013), South Africa (Lumadi, 2011; Pryor & Kubisi, 2002), and Zambia (Kapambwe, 2010).

The CAS Implementation Book developed by Nepal's Curriculum Development Centre in 2011 for Resource Persons and teachers shows an intention to use students' assessment data for formative purposes (CDC, 2011). It says:

‘CAS is a system that goes hand in hand with the teaching and learning process. For effective teaching and learning, we can't separate assessment process from teaching and learning process.’

The meaning is clear: CAS is aimed at supporting and ensuring effective learning. This progressive statement by CDC, however, was diluted by the time the idea reached the district officers and teachers. Observations in the field show that formative elements have been lost and the focus has moved to summative record keeping, leading many teachers puzzled as to the relationship between records of student progress and planning for future lessons.

The CAS format devised by CDC specifies that the teacher evaluate the students on the basis of criteria such as participation in classwork or project work, creative work, and behavioural change. However, these criteria are not clearly defined, and guidance as to how the information can be gathered, and how it can be used for strengthening future teaching, was not provided. Apparently it was assumed that the teacher could devise these crucial steps for herself.

This shift of focus in Nepal from formative to summative assessment, and towards a heavy bias on record-keeping, is strikingly similar to experience in Ghana (Akyeampong et al., 2006) and Malawi (Hares, 2013). A radical reformulation of the roles and responsibilities of teachers, coupled with systematic teacher in-service training was needed for the effective implementation of CAS. However, these essential steps were not taken. In the field, a ‘CAS implementing school’ is taken to mean a school where teachers use the CAS format or practise some kind of record keeping. Without visiting the school, observing lessons and interviewing teachers, it is impossible to gauge whether, and to what extent, CA is being effectively practiced.

3. Method

In 2012, Nepal's Department of Education (DOE) of the Ministry of Education launched a basic education development project in collaboration with Save the Children, focussed on five of the country's 75 districts. A recently published mid-term evaluation report of the ongoing School Sector Reform Program (SSRP)² had highlighted issues concerning the implementation of CAS. Both sides agreed to make efforts to strengthen CAS, and more generally, to improve teaching and learning in the project areas.

A series of training programmes was designed for delivery to Resource Persons (RPs)³ and teachers in the project schools. The implementation team consisted of DOE and Save the Children staff.

The training workshops were organised in two phases in each project district, over a period of one and a half years. In the first phase, a strong focus was put on formative assessment, that is, activities undertaken by teachers to provide information to be used as feedback to modify their teaching. For this purpose, much attention was paid to the development of teachers' oral questioning skills, as a key tool for strengthening pedagogy. One trainer acted as a teacher, and the participants as students, to demonstrate effective questioning techniques. A video clip showing a Nepalese teacher asking low-order and high-order questions of her students was screened.

In each district, the first-phase programme was typically structured along the following lines:

- Day 1: Discussion of the meaning of CAS, formative and summative assessment, purposeful use of question-asking in the classroom.
- Day 2: Teaching technique with formative element, demonstration teaching preparation, introduction to a number skills diagnostic test.
- Day 3: Visit to schools for demonstration teaching by participants, administration of the diagnostic test.
- Day 4: Reflection on the demonstration teaching, preliminary analysis of results of the diagnostic test, discussion of meaning of education and learning, development of action plans for changes to pedagogy in the participating schools.

For training purposes, several tools were devised by the trainer team. One of these tools was a basic number skills diagnostic test, which was introduced and administered in two out of 40 project schools in each participating district. Following the lead of Somerset's (2003) work in the Philippines, the test was based on Nepal's current math curriculum for the first three primary grades, and designed to identify the particular concepts which students find difficult

²The SSRP is a six-year education plan started in 2009, aiming at comprehensive education reform. A mid-term survey was conducted by a group of consultants and a report was published in early 2012 (Government of Nepal (2012). *Mid-Term Evaluation of the School Sector Reform Program.*) In this report, the authors proposed to create a renewed focus on achieving quality education (p.47).

³Each of the 75 districts of the country is divided into Resource Centres (RCs) and one Resource Person (RP) is appointed to supervise all educational affairs within the centre.

to comprehend, and to enhance teachers' awareness of their students' systematic math errors⁴.

The second phase, which was held about ten months after the first workshops, focused on a review of the progress achieved by the participants in implementing the techniques demonstrated during the first-phase programme. Aiming at enhancing the participants' understanding of continuous assessment, the problems the participants faced in implementing CA in the classroom were discussed.

The second-phase programme was structured as follows:

- Day 1: Review of progress of CAS implementation at schools, review of two types of assessment, written question construction.
- Day 2: Briefing about CAS by Curriculum Development Centre (CDC), analysis of records of effective and not-so-effective lessons, demonstration teaching preparation.
- Day 3: Visit to schools for demonstration teaching by participants.
- Day 4: Reflection on the demonstration teaching, discussion of students' systematic errors in mathematics from the previous year's test results, development of further action plans.

After the diagnostic test administration during the first phase, the trainer team subsequently wrote a report, analysing the different kinds of errors the students made in answering each type of question. The report was made available to the participating schools as guidance feedback. At each school, Save the Children's project staff explained the contents of the report to the head teacher and teachers, and encouraged them to think why their students made these mistakes and how they might modify their teaching accordingly. In most cases, the teachers accepted the feedback positively, sometimes showing surprise at their students' mistakes or noting that they had never received such feedback before. This was a major shift, for teachers who had, for the most part, been used to simply checking the students' answers as right or wrong.

Examples of systematic errors were discussed during the second phase workshop for wider sharing with all the other participants, and the reasons why students make such mistakes analysed. Some of the teachers from the participating schools talked about their experiences,

⁴The test was made up of four main sections: (1) Counting: Six questions tested the simplest number skills. Students were shown groups of apples, numbering between 1 and 9, and asked to count how many apples there were in each group; (2) Number values: Students were asked to arrange groups of three numbers in order, from the smallest to the largest. In the first two questions the numbers all consisted of single digits, but the later questions included three- and four-digit numbers; (3) Mechanical arithmetic: A third group of questions tested the students' ability to carry out the four basic number operations – addition, subtraction, multiplication and division. The simplest questions involved one- and two-digit numbers only; the more complex questions, three- and four-digit numbers, together with carrying and borrowing; and (4) Applied number problems: The final group of questions presented students with practical number problems, of the kind frequently met in everyday life. In number problem questions, students are not told which operations to carry out, as they are with mechanical arithmetic questions. Instead they must decide for themselves, from the information given, which operations are needed.

giving accounts of formative and diagnostic actions they had started to take in their teaching.

The data presented in this paper derives from the following sources:

- Focus group discussions on continuous assessment with training participating teachers during the first phase of the workshop.
- Lesson observations by the second author at the math test participating schools during and after the training workshops.
- Open-ended interviews with the head teachers and teachers of the schools where the math test was administered.

The open-ended interviews were conducted to investigate teachers' beliefs and knowledge about assessment and to explore their perceptions of practice. An interpretive, case-study approach was employed. During these interviews, the math test results were used to elicit teachers' beliefs about teaching and learning, and their perceptions about the causes of student failure.

Drawing on the field data, the following section looks into teachers' responses and explores the extent to which their beliefs about learning influence their practice.

4. Findings

(1) The CAS formats

The evidence shows that the aim of getting teachers engaged with continuous assessment is unlikely to be achieved simply through the circulation of CAS formats. As part of the original CAS implementation, schools were encouraged to abolish annual exams and to promote all students automatically to the next grade. However, little explanation was given as to how use of the CAS performance records can replace the examinations. More importantly, there was no clear guidance to teachers that students need to reach a certain level of learning at the end of the year before being promoted. Head teachers and teachers tend to confuse CAS formats with exams, whereas the district officials blame the government for not establishing a proper mechanism to implement continuous assessment.

The first-phase workshop started by putting the question, 'what is CAS?', to the participants before any explanation about it was provided. The trainer team made the judgement that it would be useful for participating teachers to discuss conflicting perceptions of CAS freely to generate an understanding of the purposes and meanings of assessment.

The response of about a quarter of the 40 participating teachers in District A was that CAS is for measuring learning. One male head teacher said:

'CAS is about giving tick marks after measuring the students' achievement.' (17 June 2013)

Similarly, a male teacher in District B responded:

'After a lesson, students are asked questions and based on their answers, they are given tick marks.' (12 August 2013)

It is clear that these teachers made no distinction between CAS and periodic tests; in their perception, entering ticks on the CAS formats is simply another form of summative assessment. Some teachers conduct tests, oral or written, before deciding the number of tick marks to give to the students in completing the format. They then accumulate points to decide the final grading at the end of the school year. Some teachers told me that they are not sure as to whether and in what way the total sums of tick marks for individual students can be made compatible with exam results.

A few teachers, however, had understood more about the intended purposes of CAS, or formative assessment. These teachers expressed the view that CAS is concerned more with teaching and learning, rather than with summing up students' achievement:

'CAS can be useful to find out the status of the students and to improve teaching itself.'

'(CAS is) assessment during the teaching learning process.' (District B, 12 August 2013)

However, the majority of the teachers' views of CAS were confused, suggesting poor understanding of the meaning and purpose of continuous and formative assessment:

'CAS helps students achieve learning outcomes and become more disciplined.'

'Promoting students by assessing their attendance and involvement in extracurricular activities.'

(District A, 17 June 2013)

'After [conducting] continuous assessment for a month, we should [be able to] identify who stand first, second and third positions in the entire class.' (District C, 30 August 2013)

Most teachers in the training workshops felt that their students' current levels of achievement were lower than they should be, and that therefore some measures needed to be taken.

However they usually blamed others for this state of affairs. Some criticised parents for not showing a sufficient understanding of the education of their children whereas others pointed to district education office's unsatisfactory backing and support. Few of them problematized classroom practices or made connection between teaching process in the classroom and learning improvement. Nevertheless, many teachers shared an assumption that once 'modern' teaching methods are adopted, learning will be strengthened. They often contrast 'traditional' approaches to teaching with 'modern' approaches, often associating the latter with student-centred pedagogy. As a male teacher says:

'Teachers don't understand its (CAS') importance because of lack of training, resources and time. Many have just traditional mentality. We can't use student-centred pedagogy. Teachers and students are used to doing written exams only.' (District B, August 2013)

(2) Oral question-asking

There is growing evidence from around the world that teachers' use of interactive communication strategies enhances classroom pedagogic practices and has a positive impact on student learning outcomes (Westbrook et al., 2013). According to Alexander (2001), teaching practices comprise: 1) teachers' spoken discourse; 2) visual representation; 3) the act of setting or providing tasks for learners; 4) and a variety of social interactions.

The training workshop team paid particular attention to teachers' spoken discourse, including instruction, explanation, questioning, responding, and elaboration. In the majority of the classes in project schools observed by the trainers during the preparation period, many teachers just read from the textbook, and did not ask questions of the students, nor encourage them to be engaged with the lesson. Even when they did ask questions, teachers generally addressed them to the whole class, often limited them to low-demand 'what' questions, and accepted a choral response. The purposeful use of oral question-asking techniques was rare.

According to one study conducted in the early 2000s in Nepal, only in 10% of the observed lessons in 19 schools the teacher used the strategy in which he questions the class, pauses for students to think, and then indicates one student to respond (Research Centre for Educational Innovation and Development, 2004). This question presentation strategy is more effective than other strategies as it encourages all students in the classroom to think about the problem and work out answers for themselves⁵. The teacher employing this strategy should not always choose the first student who raises his or her hand, but rather wait until the majority are ready to respond. Occasionally the teacher may also choose a student who has not raised his hand to encourage participation. It is also important to generate a dialogue based on the learner's response. If the student's response was incorrect, the teacher should redirect the question back to the other students, by saying for example, "That's an interesting response, but not the one I was looking for, can anyone else provide a different answer?"

In both phases of the workshop, the trainer team emphasised the effectiveness of this strategy and encouraged the teachers to use it in their demonstration teaching. The team's expectation was that the teachers would adopt it readily, because no special preparation was required.

In the event, however, this proved not to be the case. Most teachers were so used to asking questions of the whole class, and to accepting choral responses, that few of them were able to adopt the new strategy effectively. Similarly students were so used to responding to questions immediately, individually or in chorus, that teachers found it difficult to get them to wait until asked to respond.

Between the first- and second-phase workshops, the second author visited a number of schools in search of evidence of effective use of the new approach to questioning. Many teachers claimed that they started asking questions in this recommended way, but lesson observations showed that in most cases, this meant that the teachers had started to ask questions of their students individually. Rather than addressing the question initially to the

⁵In the training workshop, this question presentation strategy was called APPLE: *Ask the question; Pause*, letting the learners to think about what you are asking; *Pick* on a learner by name to answer the question; *Listen* to the answer, make eye contact with the learner, provide effective words when the answer is provided; and *Expound and Explain the learner's answer*.

whole class to encourage all the students to think, many teachers first nominated the student to respond before asking the question.

In general, there seemed to be an absence among the teachers of willingness to let the students think. Bruner's (1996) four models of learners' minds are relevant here. The models are: 1) seeing children as imitative learners; 2) seeing children as learning from didactic exposure; 3) seeing children as thinkers; 4) seeing children as knowledgeable. It is of course arguable whether only the third and fourth models have value (O'Sullivan, 2006). Although the participants had been exposed to the notion of child-friendly schools through training by external aid agencies, it is likely that their dominant beliefs about children's learning are more compatible with the first two models, rather than with the latter two. The trainer team implicitly expected that the teachers would start espousing the third and fourth models and therefore adopt the more effective questioning strategy. But this is a fundamental transformation; and not one which is likely to be brought about easily or quickly, through a couple of training workshops.

Nevertheless, some teachers did use the questioning techniques promoted in the training, to greater or lesser degree. One lesson observation taken from the second author's field notes is given below. At this school, the math diagnostic test was administered to the 47 Grade 5 students. Immediately after the test was complete, the math teacher was asked to review some difficult questions with his students. He himself had not participated in the training workshop, but nevertheless practised purposeful question-asking.

Math teaching at a school in District E

After conducting the basic number skills test with 47 Grade 5 students, I picked out several questions which are usually difficult for many students. These questions were:

$$\begin{array}{r} 47 \\ \times 8 \\ \hline \end{array} \qquad \begin{array}{r} 675 \\ -493 \\ \hline \end{array} \qquad 812 \div 4 =$$

I copied these questions on the chalkboard and asked the teacher, who has been teaching math in this school for the last four years, to teach the students to solve them.

He solved the first two questions with the students. He addressed the whole class, and carried out each operation with them. For the first, he started by asking what he should write below '7' and '8', pointing to the two digits. The students answered '6' in unison. He then asked whether there is a digit to be carried, and the students responded '5!' again in unison. They reached the answer 376. He solved the second question with the students in a similar manner.

For the third and last question, he pointed to one female student, asking her to solve it in front of everyone. She came to the chalkboard and started the division very cautiously. She re-arranged the numbers by putting '4' on the left side of '812' and drew lines for division. While she was doing this, everyone was watching her work quietly. The teacher did not rush her at all. After the student gave the correct answer (203), he asked another student (a boy) to check the answer. This checking was not simply a matter of 'yes' or 'no'; he was asked to calculate at his desk to see whether he reached the same answer. The student said

he did. The teacher nodded.

Realising that this problem was a little tricky, the teacher then gave another, similar question (not from the diagnostic test), which was $402 \div 2$. He pointed again to one student and asked him to solve it on the blackboard. He reached the correct answer.

From the above transactions, it was clear that most of the students were following what was happening.

Then I gave the class two further questions from the diagnostic test, which were:

$$39 + 282 =$$

$$4138 - 753 =$$

For the first question, the teacher arranged the two numbers (39 and 282) vertically, asking his students which digit should come at each place value. They reached the correct answer jointly.

Then, he pointed to a female student who was sitting at the back of the room. She came to face the question on the blackboard. However, she looked at the problem for a while, doing nothing. While this student was struggling, the teacher quietly brought another student, and asked her to try. This student re-arranged the numbers vertically, with all the digits at the correct places. The teacher did not say anything, but the first student quietly saw her peer solve the problem. Although this female student was not asked to try again, there was absolutely no humiliation for her.

When the second girl solved the question correctly, the teacher pointed to another female student and asked whether the answer was correct. She checked by calculating on her notebook and said, '3385'. The teacher again asked another student, a male, whether the answer was correct. This student said, "I'll check it by writing on the blackboard", and copied the problem in Nepali numerical symbols. He carefully conducted the operation and reached the same answer.

Throughout this teaching which took only about 15 minutes, the teacher kept controlled, cool, and even quiet. There was absolutely no shouting or loud speaking by the teacher or any student. It was evident the teacher uses various question-asking techniques effectively. Initially he accepted choral responses but later began addressing the question to the whole class, then nominating individual students to respond. At one point he skilfully included a weaker student. Even though this student could not answer correctly on this occasion, it is likely that she will become aware that she needs to think for herself, because she was not punished or insulted, but encouraged to take part in the lesson. The quiet environment allowed the students to think carefully. (29 September 2013)

(3) Math diagnostic test and feedback

The importance of giving feedback to students to enhance their learning is increasingly recognised and there is a large body of literature on this (e.g. Hattie & Timperley, 2007).

However as we have seen most training participants' day-to-day feedback to their students was limited to checking simply their answers as right or wrong, almost never looking into why particular mistakes were made.

The math diagnostic test was introduced with the aim of enhancing teachers' awareness of students' errors, and subsequently strengthening their skills in giving feedback.

When examples of the students' systematic errors were shown to the teachers during the first workshop, they often came as a surprise and shock to the participants. Some participants said that the student in question did not think enough before answering; others that many students

have not understood the concept of carrying and borrowing.



In the questions involving addition and multiplication, carrying errors were common. In the first question, for example, the student has started by adding the digits 8 and 3, giving the sum of 11. However, instead of carrying the tens digit to the second column, he has written both digits into his answer line. He then adds 2 to 5, giving 711, instead of 81, as his final answer.

Figure 1. Examples of student systematic errors

Some teachers asserted that the errors shown to them were not representative of the tested students' abilities. This suggests that they regard any kind of paper test as summative assessment, even though the facilitator team repeatedly explained about the purpose of testing students as formative and diagnostic.

The schools which participated in the test subsequently received a feedback report. All of them responded to the feedback positively. One female teacher in District B said:

‘We can not necessarily become aware of our problems [in teaching]. We need guidance from outside too.’ (January 2014)

Another female head teacher in District C told us that the diagnostic test had changed her ways of understanding children's learning:

‘After receiving the math diagnostic feedback report, we realised that this is a real problem. We realised that we were not teaching in the ways students could understand. To address the problem, we started doing mini-tests regularly, not only in math but in all subjects. Previously, I and other teachers were aware of students' mistakes. We talked about those mistakes in the staff room, but didn't think that we needed to take action. We were thinking students make mistakes because they don't work hard enough or because they have conceptual problems. After receiving CAS training and subsequent feedback on math systematic errors, we realised that feedback is necessary. We can't always do individual feedback, but when some mistakes are shown using the chalkboard and explanations are given, children respond and make corrections themselves.’ (24 May 2014)

This teacher has started to feel that her students respond to their feedback, resulting in more meaningful teaching and learning. This case illustrates that once a teacher finds a particular strategy meaningful, she is likely to adopt it.

The students of one school in District A showed a high level of understanding of basic math in the test. Their male teacher noted:

‘I don't do anything special. I try to ensure that the students understand number place values and memorise multiplication tables. During lessons, I involve students in solving problems by asking them to come to the chalkboard. I have education background, and understand that children have their own individual learning needs, therefore I need to deal with them individually. It's important to understand students. For that purpose, it's important to ask questions when I introduce new concepts

to them.’ (August 2014)

In other schools, the teachers had also responded to the initial feedback positively, but nevertheless had not begun changing their teaching practice accordingly. Not surprisingly, student learning had not been enhanced in these schools. Asked as to whether he had done anything differently after receiving the feedback report, one such teacher said:

‘I tried. I mixed weak students with able ones so that able ones can support the weak ones... I don’t know... I may not possess a technique, but my students can answer correctly during the class, but they can’t do it in exams.’ (12 August 2014)

This teacher is clearly struggling to understand why his students’ learning is not satisfactory. Although he says that his students can give correct answers during lessons, observation of his pedagogy showed that his monitoring of student learning was incomplete and ineffective. He checked only a small proportion of students’ workbooks, and never used incorrect answers formatively.

5. Conclusion

This paper has pointed to a disjunction between the policy vision for continuous assessment and the realities which constrain its implementation at the school level. The introduction of CAS in Nepal was largely limited to the circulation of the paper recording form. Not surprisingly, this step by itself did not lead to learning improvement. In the absence of guidance as to the meaning and purpose of formative assessment, most teachers took the completion of the CAS forms as a substitute for setting and marking examinations.

The implementation of the new policy was further constrained by a tendency, on the part of many teachers, to ascribe responsibility for learning problems to factors external to themselves – to the lack of resources, the laziness or lack of intelligence of the students, or the indifference of their parents. Accepting that the quality of their pedagogy also contributes to student failure is a step that many teachers find difficult to take.

However, the paper also highlighted a small number of cases in which teachers adopted new approaches after realising that the ways in which they had been teaching were not effective.

Numerous attempts have been made, and substantial resources allocated, to introduce what is broadly described as ‘learner-centred education (LCE)’ into low-income countries in the past few decades. However, the history of the implementation of LCE is ‘riddled with stories of failures grand and small’ (Schweisfurth, 2011, p. 425). Insufficient consideration for cultural and historical diversities and local contexts undoubtedly has played some part in these unsuccessful attempts. If particular LCE strategies are at odds with teachers’ beliefs about learning, attempts to introduce constructivist ideas are likely to have little effect on their practice. As we have seen, the current perception of children as ‘empty vessels’ remains the dominant pedagogical stance of teachers in our project areas.

However, this does not necessarily mean that these are authentically traditional Nepalese

values, and therefore immutable. There are already teachers who practise purposeful oral question asking and who provide effective feedback, regardless of their training experience. If, through sensitive handling, constructivist pedagogies are adapted to the local context, they are likely to take root, albeit slowly and gradually. Given training programmes that intertwine the theoretical and practical elements, teachers might start to integrate the knowledge they acquire from training into their experiential knowledge of specific classrooms and students (Lewin & Stuart, 2003).

The approaches espoused in this paper resonate with what O'Sullivan (2004) calls a shift from learner-centred to learning-centred pedagogy. For this to happen, education practitioners need to examine what is involved in the paradigm shift from a formalistic and didactic teaching to a more constructivist orientation (O'Sullivan, 2004, p. 309).

Teachers are the key to the success of any learning improvement initiative. Yet they are often problematized as a barrier to the enhancement of education quality, rather than as an indispensable resource. If future attempts to reform teacher education are to bear fruit, more evidence-based policy, backed up by rigorous and context-based research will be needed. Generating a better understanding of the actual ways in which teachers acquire and use their professional knowledge will be a key component of such a strategy.

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