

Developing teachers through research: reflections on method

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The research process that was used in a study conducted to capture teachers' understanding of their assessment strategies is reflected on. In particular, the focus is on how the adaptation and reshaping of a method made them aware of the nature and scope of a lesson objective that they were assessing. The purpose is to highlight the challenges of research that has a time frame attached to it, whilst aiming at not only revealing insights about a situation but also intending to promote development.

Introduction

The study was conducted to explore how teachers understood the Continuous Assessment (CA) programme that they were expected to implement in primary schools in Swaziland. Even though workshops have been run since 1995, to date no research has been conducted to measure teachers' ability to work with the programme and its impact on both the quality of learning taking place in the classrooms and how it has enabled teachers to grow professionally. Interest in the programme was motivated by the need to deal with this void. Two teachers' classroom discourses (*cf.* Cazden, 1988) were used as an example to identify how they worked with a lesson objective and specifically devised assessment exercises appropriate to the objective. It was an attempt to answer the following questions, 1) what do teachers understand to be the crucial principles and concepts associated with the objective? and 2) How do they translate these principles and concepts into assessment strategies in the classroom? We assumed that since teachers had participated in in-service professional support to enable them to implement the programme successfully, and had been working with CA from 1993, they had gained adequate experience to be able to articulate what they were working with. To facilitate implementation of the programme, government has provided teachers with support materials. They are encouraged to attend workshops which are organised to show them how they can work with these materials. The teachers, on their part, were not considered as passive recipients of the guidance received. We acknowledged that, like any audience, they actively discriminated between what they were exposed to as professional initiation into CA on the basis of their existing attitudes, beliefs, and dispositions. As Hatton (1990) has argued, teachers tend to be pragmatic rather than theoretical (see Lortie, 1975; Denscombe, 1975; Woods, 1986). They rely, in terms of Hatton, on 'intellectual bricolage' as a response to the everyday pressures of their work. These pressures tend to foster a preference for using theories in an *ad hoc* fashion in attending to a problem rather than applying such theories in a systematic way. The study respected this position and viewed it as offering cues for understanding what informed the nature of assessment exercises the teachers decided to use as means to measure whether the requirements of the curriculum objective were met or not.

We expected teachers to function with a concept that, amongst others, Pinar *et al.* (1995) refer to as curriculum understanding. In their view the effective implementation of a programme requires a move from a conception of curriculum as development to understanding. Curriculum development is considered as emphasizing procedures without making an attempt to reflect critically or think carefully about them, whilst the latter provides the possibility of generating different interpretations and views of a situation which impact on a plan of action. Such planning would involve asking questions of feasibility instead of prioritizing the mastery of routine procedures. In the case of this study, it implied expecting teachers to be able to reflect and display critical understanding of, first, the CA objective, second, the context for its implementation, and third, an appreciation of what was embodied and meaningful to the knowledge to be taught as a means to fulfill the requirements of the objective.

For Pinar *et al.* (1995) understanding involves a kind of reflection that necessitates either an interpretive or reflexive analysis on the part

of the teacher. With the former, concepts and constructs on the basis of which procedures are determined should be clarified first to highlight what is essential to them in terms of tangible and concrete factors to be measured. Drawing on this view, teachers were expected to be able to infer concepts from the lesson objective they were given and identify principles and concepts that were crucial to it. They were further expected to be able to isolate significant features of these principles (*cf.* Hirst, 1972). The adaptation and re-adaptation of the feature to a context would thus be a result of an individual teacher's reflexive analysis. It was on the basis of this that classroom discourse was decided upon as the best means of reflecting teachers' understanding of what it meant to teach for an objective within the CA thinking. Lather's (1986) and Gitlin's (1990) concept of research as praxis, was employed as a strategy that involved teachers in a dialogue aimed at prompting them to clarify their understanding of essential principles of the objectives they were assessing. Through dialogue the researcher and the researched could reflect on their behaviour and attitudes, identify taken for granted dispositions and the extent to which these factors facilitated, or not, the use of exercises that were fulfilling the requirements of the objective. In this specific situation, an understanding of CA as part of curriculum design process was crucial. Smith (1992), Darling-Hammond (1994), Taylor (1994) and Winch (1996) also emphasise the importance of understanding the purpose and underlying principles of assessment when it is to act as a guide in teachers' judgements on classroom practice.

Background

The CA programme was introduced in Swaziland as a means to achieving quality learning and teacher development. Studies conducted on, in general, teachers' classroom practices and, specifically, assessment strategies in Swaziland, point to how the prevalence of norm referenced assessment has not catered for the cognitive development needs of individual learners. The shortfall has resulted in large numbers of learners having to repeat classes and high drop-out rates for those not willing to repeat or financially unable to do so (NERCOM Report, 1985; National Policy Statement on Education, 1999). To overcome these problems, government has introduced a number of policies, amongst which was the Continuous Assessment (CA) programme to move the focus on norm reference to criterion-referenced assessment.

The programme was introduced in 1993 in Grades 1 and 2 at all Swazi primary schools (Magagula, 1995). The hope is that this kind of assessment will encourage teachers to re-think their instructional and assessment strategies and be able to guide learners to attend to pitfalls in learning on time. There is also a belief that teachers' professional development will be enhanced by having to reflect on their practices in the search for strategies that address effectively the problems experienced by individual learners.

Conceptual framework

In the effort to understand what informed the teachers, in general, curriculum design strategies and, in particular, their choice of assessment exercises the views of Nozick (1995) and Habermas (1984) on 'instrumentality' as a concept proved crucial. Nozick (1995) highlights that when people use principles to guide judgements that are related to cog-

nitive tasks, such principles ought to have an intellectual function because they help them make intellectual judgments. The implication for the study was that teachers could make proper personal judgements in their work when they had a clear understanding of how the underlying principles of the objective with which they worked served as important teleological devices in their professional roles: "A principle is a device for having certain effects, it is a device for having those effects when it is followed; so what actually happens when it is followed, not just what it says, is relevant in assessing that principle as a teleological device" (Nozick, 1995:38).

Habermas (1984) also explains that proper judgment would be achieved when people do not just follow instructions and prescriptions blindly but when they understand what they are doing and why. Through the use of language (communication) people critically understand a plan of action. He explains this as communicative or critical rationality and contends that in this form of rationality the efficiency and utility of means is not enough. There should be mutual understanding between people concerning their ends and means. Only then can actors come to understand each other and thus co-ordinate their actions to pursue shared goals. What can be concluded from this stance is that people should not blindly accept what they are told, or meant, to do. It is the duty of the one making the claim to explain through providing reasons why his/her claim is a valid one in a particular situation. This will ensure that all people share the same goals. The common understanding they have will enable them to co-ordinate their activities efficiently to achieve the pursued goals. Implicit here is the importance of mutual understanding of a situation and a co-ordinated plan of action. As Habermas (1984:99) puts it, "reaching an understanding functions as a mechanism for co-ordinating actions ...". This was a useful stance for the study. Policy mediators needed to have explained and provided reasons for the value of CA to teachers to ensure that everyone involved in its implementation shares goals. This was important for effort in promoting collaboration and collegiality among teachers in their efforts to implement the programme as a teaching and learning device.

Research design

The sample

Sampling of schools and teachers

The research was confined to teachers who participated in all CA workshops that were run in the Manzini region over a period of about seven years. Their participation depended mainly on the accessibility of transport facilities to their schools for the researcher. The criterion of convenience (Flick, 1998) availed itself as the only way that would make the study possible in a situation of limited resources of time and money. In this case, as Flick (1998:70) explains, making generalisations was not of great significance to the study, but to unravel the nature of understanding that shaped what was happening in classrooms.

Out of the 23 schools in the Salesian-Ekutsimuleni zone within the Manzini region, 10 were selected. They were all rural. In terms of Le Compte and Preissle (1993) this would be defined as a naturally bounded group. In each school one Grade 6 Social Studies teacher participated in the study. Two teachers' accounts are used to illustrate the nature and scope of the challenges experienced, first, in an effort to persuade them to reveal how they translated the principles of the curriculum objective with which they were trying to work into an effective teaching strategy and, second, assessment exercises.

Research method

To understand what informed the teachers' teaching and choice of assessment exercises, attention had to be given to the broader framework of the lessons they taught. According to Cazden (1988) classroom discourse is about the communication and interaction system in the classroom (both verbal and non-verbal), and the structure and variation it takes. It was not possible to gain insight into what informed teaching strategies and assessment exercises without looking at them as part of

a whole lesson. To do this a multi-method strategy was adopted. It first drew on ethnographic research tools, i.e. observations and an interview process, to capture the teachers' practice and obtain an explanation of the strategies and exercises they used. Their explanation made it necessary to also adopt a developmental research strategy that could help them appreciate what was significant to the lesson objective with which they were working. However, since this was a project restricted in terms of time, data could not be collected over a long period during which the growth or maturation of the respondent would be captured comprehensively (*cf.* Le Compte & Preissle, 1993:83). Albeit, the methods employed highlighted the challenges experienced when research is meant to both reveal insights and improve or develop people within a restricted time.

Research tools

Teachers' classroom discourses or curriculum work was video recorded to capture (detailed descriptions) everything that they were doing and to enable follow-up discussions. Teachers were notified of the use of this device before recording. The researcher was aware that her interpretation of the discourses would not be adequate explanation if solely relied upon. This pointed to a need for another tool to examine meanings and clarify misconceptions (Bogdan & Biklen, 1982; Bilmes, 1986). Discussions proved to be useful in this regard. They were recorded on an audio tape recorder (Brown & Dowling, 1998).

Recordings were used later to stimulate a conversation through a semi-structured interview process, in which teachers were expected to explain what informed their teaching. Special attention was given to what they spoke about in general teaching and, in particular, their choice of assessment exercises to identify the link or its absence between the way they taught and assessed the essence of the objective of the lesson.

Research process

Four lessons were observed and video recorded. To avoid bias in capturing data, no schedule was prepared beforehand. Although the researcher admits to having gone into the classroom with pre-conceived views obtained from analysing the CA policy documents, she was determined not to allow them to influence her observations. She refrained from making explicit judgments about what she observed. Instead, a conversation was held with teachers at the end of the day in their respective schools. It began with their being asked to watch the lessons recorded on videotape. They had to choose one and 'take' the researcher through it. The assumption here was that choosing a lesson the teachers preferred, would provide them with the courage to talk about it in a relaxed state of mind. The teachers' accounts were to be listened to without any interruptions from the researcher. This was to ensure that the teachers' interpretations were captured as accurately as possible (Bogdan & Biklen, 1982:87). Engaging the teachers in this reflection exercise was aimed at putting them in a situation where they could point out influential factors that guided their practices. They were not expected to be able to talk theoretically about what informed their classroom practices (Carter & Doyle, 1987). Instead they were expected to explain why they taught as they did and from these accounts the researcher hoped to identify what they considered to be essential principles of the lesson objective and describe how these principles were translated into teaching and the subsequent choice of assessment exercises. The clarification was of special interest to the study.

The teachers suggested that they be given a chance to quietly watch the lesson they preferred again and then give their explanations to parts of it at a time. This meant stopping and rewinding and playing the video to let them have a clear picture of the lesson before talking about it. At times parts had to be replayed several times. The review of a 35-minute lesson lasted about two and a half hours for the silent review and an hour and a half for the rest.

According to Davies *et al.* (2000:42), to avoid teachers making conscious and mainly practice-focused interpretations of their work,

a researcher should use indirect strategies to uncover the assumptions and concepts embodied in teachers' work. They emphasise that these should involve enabling teachers to realise the contradictions and consistencies to theory in their practices and to interrogate the origins of such. This would push them beyond reflection on their practices and urge them to start thinking about the theories and philosophies that they draw on as they function in the classroom. The following is an example of how the researcher tried to 'push' the two teachers beyond a practice-focused reflection process.

Teacher 1

Teaching a lesson on the location of South Africa in relation to other southern African countries, the teacher drew by hand a map of southern Africa on the board. Thereafter she asked the learners to open their textbooks on page 121 and read silently a summary provided on the location of South Africa. She also gave them flash cards, some with names of countries and others with oceans written on them. The learners then took turns to respond to her questions orally. After each correct answer was provided they had to pick a flash card with the correct name and paste it on the space provided within the map to name a country or surrounding ocean.

When the teacher was asked to explain why she taught as she did, she answered:

KM: *When using a map it is very easy, you put your map up and learners can see SA in relation to other countries and where it is geographically. They can see all these things that is why visual aids are important. I have a blind child in my class and it's required that I do his drawings before hand so that when I start teaching he can also read the map using his Braille. He is able to locate countries this way. Such children have problems when lessons do not involve drawings, as they have to rely on notes. They also cannot read newspapers nor watch television yet with the other students it's very easy to measure your objective but with the blind it's very difficult.*

How this teacher talked about her practice and the way the following teacher worked and explained seemed similar. This is what she said.

Teacher 2

Her lesson was on the location of Egypt. It started with the teacher putting up a map of Africa on the board. The map was to be used to encourage learners to point at the different places she referred to during the lesson. She asked questions orally and learners were to stand up and show the place on the map. The teacher would then confirm the answer. A few notes were written on the board. This is how she went about it:

MM: *... interesting things should be part of the lesson that is why I brought along the map. They should use it to locate the country being studied. As I asked them questions they responded orally and also got to show me the places in the map. This is also an activity, learners should not just sit down for the whole lesson and listen to the teacher talking all the time otherwise they get bored. Somehow they should be involved in the lesson. When we are done with discussions I normally write summaries on the board to make sure that they all copy the correct thing.*

For both teachers to teach, learn, and know is to be able to use referents. For them if learners could simply point at a country on a map or name it, then everything was fine. Nothing else was done to ensure that learners had understood the concept of 'location' that was central to the lesson. According to Hirst (1982) familiarity with a fact is not to know it. He considers knowing to be a state of mind. This makes education a consciousness-raising exercise that requires engaging with principles and processes related to the concept that is taught. Teachers in this study assumed that as long as learners could point to or name a place on a map, they understood its location, instead of first identifying a way in which the concept of 'location' could be taught effectively within the field of knowledge from which the content of the lesson was derived.

In Hirst's view it is crucial that the nature and scope of educational objectives be clearly understood if learning is to be effective. Only when this is the case can it be possible to understand with precision and unambiguously what needs to be taught and learned. But our teachers did not understand that to teach 'location' is about performing an intellectual task (Nozick, 1995) that was to draw its logic from the principles relevant to teaching place depiction in the Geography section of the Social Studies curriculum. The following discussions clarify the point further.

Teacher 1

Researcher (R): How should you work with this objective, that is, "learners should be able to locate South Africa on a map of Southern Africa" [here reference is made to the relevant section in the text-book used by the teacher], so that you can be in a position to tell if your learners are able to locate SA on a map of southern Africa?

KM: *I am going to measure it at the end of the lesson because according to CA we need to assess at the end of each lesson.*

R: What I was hoping you could tell me was at what point can you say the learner has mastered an objective? For example, if your objective is to locate SA, now that you have taught them, do you think the learners have an idea of what they need to do to locate a place or country on a map if they have no flash cards?

KM: *... but, by the end of the lesson learners were able to list the neighbouring countries of SA.*

R: Yes, but other than repeating what is in the book, do you think if you gave them a different exercise, they would still be able to provide correct answers?

KM: *Well, you saw for yourself, they generally did well in the exercise I gave them. They know the answers. What do you mean with a different exercise?*

R: Remember your objective was to help learners locate SA, do you think being able to indicate practically on the board is, for example, an indication of being able to tell where SA is in relation to the other countries?

KM: *Now, I can see your point, but they knew the answers how else could I have determined whether they understood or not what these answers meant in real life.*

R: Yah! Can you clarify what you mean with real life?

KM: *Outside the classroom.*

Teacher 2

R: Please tell me what you thought was important when working with this objective [pointing at an objective for the lesson taught by the teacher as indicated in the textbook] 'At the end of the lesson learners should be able to locate Egypt on the map of Africa'.

MM: *I use objectives for planning assessment items.*

R: Before we go to issues of assessment can you tell me how you used the objective when planning for the lesson?

MM: *In our Social Studies books objectives are written for us and when preparing a lesson I only pick those that I think I will cover for that day and there is nothing really to think about.*

R: Okay, the objectives are in the Social Studies textbooks for you, however, I believe you also have to think about them before you teach the lesson. Can we talk about what you thought was important when you read it.

MM: *The objective is for me to find out how much the children have learnt, what can I say, it is for guiding me [she said laughing].*

R: Would you like to tell me how it guides you?

MM: *It is for guiding me in lesson presentation and in assessing so that everything I say and do is linked to the objective.*

R: Do you mind elaborating on what is involved in such a process?

MM: *I use it [objective] to check if the content I am teaching is in line with what is required.*

R: What exactly do you do when 'checking'?

MM: *For instance the objectives expect learners to locate Egypt so*

I should make sure that all of them could point at Egypt in the map.

R: If they are pointing does it mean they can locate?

MM: [Teacher is quiet for some time, seems to be thinking] *Yah I think so.*

The dialogue highlights that the teachers did not have an idea of how best the lesson could be taught to enable the learners to understand location as a concept. Also the way they responded to the questions asked confirmed their lack of understanding of the principle that they had to work with and which was required of them in terms of the field of study from which the lessons were drawn. Assessment for one teacher was conducted through an exercise requiring learners to fill in the correct answers in the blank spaces and for the other it was done orally. Exercises were transcribed from the textbook.

Teacher 1

Use these words to complete the sentences below: southern-most tip, south-east and south, Atlantic Ocean, Natal, 1 221 037 square kilometres, the Transvaal, the Cape Province, and the Orange Free State, Namibia, Mozambique, Lesotho, Zimbabwe, and Swaziland. Lesotho is completely surrounded by the Republic of South Africa.

1. *South Africa is located at the of Africa.*
2. *..... is a country that is completely surrounded by the Republic of South Africa.*
3. *Along the north-west, South Africa is bordered by.....*
4. *The four provinces of South Africa are,, and the*
5. *The total area of South Africa is*
6. *The Indian Ocean borders on South Africa along the and the borders on South Africa along the south and west.*
7. *The two countries bordering on South Africa to the north are and*
8. *Along the east, South Africa is bordered by and*

The interview continues:

R: On the basis of having provided correct answers in this exercise, do you think your learners will be able to determine the location of any country or place without the help of a map in front of them, outside the classroom?

KM: *Yes, that is what they say to us at workshops. ... perhaps the objective could be fulfilled in another way but I cannot think of anything now. I wanted to assess ... [quiet for sometime] so that I can be in a position to help those learners who are non-masters.*

R: And what do you think? Were you able to tell who the non-masters are?

KM: *I thought so but now I am in doubt [pause] Yah! It is possible to end up awarding marks to students who can just repeat answers but do not deserve them ...*

R: What do you mean with awarding marks where they are not deserved?

Teacher 2

This is how the teacher went about the task:

Use your atlas to help you do the following: the first question is locate the country of Egypt on a map of Africa. Can we all point at Egypt.

Class: *Yes teacher!* [She moves around to see if all are pointing at Egypt.] *Now we are not going to shade the following places but I want you to show me where they are in the map.*

Learners point at places each time the teacher calls out [teacher checks all pairs]

- | | |
|--------------------------|----------------------------------|
| a) Egypt | f) the Atlantic and Indian Ocean |
| b) the River Nile | g) Cairo |
| c) Lake Victoria | h) the Great Pyramid of Giza |
| d) the Mediterranean Sea | i) Swaziland |
| e) the Red Sea | |

Let us move on, on the map, locate three more African countries which

border on the Mediterranean Sea and whose people are Arabs [Learners were encouraged to point at these countries on the map. The teacher checked and confirmed answers.]

The interview continues:

R: From the way you presented and assessed your lesson can you say you have achieved the objective?

MM: *Yes I have because learners were able to point at the places in the map when I asked them questions.*

R: Do you think that when learners pointed at the places in the map it was an indication of their mastery of the skills to locate a country?

MM: *I am not sure I understand what you are saying.*

R: Let us put it this way, if you were to send your learners to the field do you think they could be able to determine what to use to locate specific places?

MM: *I do not know maybe yes and maybe no.*

R: Why do you feel this way?

MM: *Maybe it is because in class we were looking for names of places in the map and there is a possibility that some learners cannot use the cardinal points.*

R: What do you think, was this necessary to refer to in the lesson and why?

MM: *It is difficult ... all learners could point at places on the map but I am not sure they would be able to work with cardinal points.*

R: Do you think if you phrased the questions in a different way it could have helped?

MM: *Yes, may be if learners were asked to describe the location of Egypt it is possible that they would have thought of using cardinal points, I do not know ... but how do I come up with such exercises?*

At this point the research process was informed by the concerns of educative research. According to Gitlin (1990), this kind of research aims for transformation as it creates a situation where participants view their world in a different way and further rethink their strategies acting on these new insights. The teachers referred to here had to first enable the researcher to understand why they taught as they did. Through the interview process/conversation outlined above, how they thought they had to work with CA objectives became clear. The interaction also provided them with a chance to realize that there was perhaps an alternative way in which they could have taught the same lesson. Hirst (1982:287) argues that objectives identifying changes in the behaviour of learners, could have an advantage when one wants to see whether or not learners have achieved such objectives. However, he feels that unless we work on the mind by exposing learners to concepts and procedures, simply adding facts does not change the mind. Knowing a fact is not evidence of understanding.

In Hirst's view to put objectives in Tyler's language is to distort educational objectives since "most of the central objectives we are interested in in education are not themselves reducible to observable states, and to imagine they are, whatever the basis of that claim, is to lose the heart of the business" (Hirst, 1982:290). In the attempt to sensitise the teachers to the essence of this view, a method had to be adapted and reshaped into a dialogue. Gitlin (1990:448) sees a distinction between dialogue and talk or conversation. For him dialogue does not attempt to sway people to adopt your way of thinking but rather attempts an understanding built on working together. He contends that, "a precondition for dialogue, therefore, is that all participants see the discourse as important ..." and advises that even when one participant in the dialogue understands more than the other no one should be judged as someone unaffected, discourse is important to all. Drawing on this advice it was therefore essential that developing understanding be reciprocal (Lather, 1986; Gitlin, 1990) as demonstrated below:

Teacher 1

R: Okay going back a little bit to the objective [reference is made to the objective as stated in the text-book], how can we use it in the lesson?

KM: *I suppose to guide both the teacher and the learners on what they should be able to achieve at the end. That's what they tell us ...*

R: Then how else can we use it to ensure that the learners become aware of what is important to do in order to locate places on a map? You as a teacher knew the lesson objective, and how did you ensure that learners had a sense of it as well?

KM: *Okay, I see now, this is what we struggled with during my training. We were taught that before you start teaching, learners should know the objectives of the lesson. Tell them exactly what is expected of them by the end of the lesson.*

R: How were you taught to do this?

KM: *We had to analyse the objective.*

R: What did this analysis involve?

KM: *Finding out what learning something has to bring about in terms of first thinking and then acting?*

R: Now let us try and do the same with this objective.

KM: *Well, I did not make them think, they only showed me places on the map and filled in correct answers that they had in the books.*

R: That's okay, don't worry, let us think about how you could have taught them about how to think about what it means to locate a place or country as it is the case with your lesson, what is necessary to do to enable them to understand what we mean when we say a country is located here or in this way?

KM: *But, that's hard — it requires thinking about it.*

R: Let's try to think together

KM: *Let me rather try it alone first, are you coming in tomorrow, let's talk during break ...*

R: Good, I am looking forward to your thoughts, tomorrow

Teacher 2

R: Let us look at the example of the objective on Egypt. [Using objectives in the Social Studies book] At the end of the lesson pupils should be able to locate the position of Egypt. Think of when you were taught objectives in the workshop, how do you think you were supposed to work with this one?

MM: *First I had to make sure that it specifies clearly the behavioural change expected and how it will be measured.*

R: Did this happen with the lesson?

MM: *Like I said before to give me a sense of what is important to the lesson by looking at the behavioral change expected of learners.*

R: Yes, I agree. Let us go back to your lesson and try to establish if this was the case with it?

MM: *I suppose I had to think of how to achieve that, I mean how to enable learners to achieve the expected change.*

R: Would you like to try and think with me of a way in which learners could have been taught how to locate the position of Egypt?

MM: *Besides what is suggested in the textbook?*

R: Yes because we are trying to make sure that learners cannot just point but know exactly what to do in future when locating places.

MM: *I do not know about that.*

R: We can try because you know you had to think about this.

MM: *It cannot be rushed if I have to do this, I need time to think more carefully about it.*

From the teachers' response it is clear that, initially, they were simply giving the rhetoric learnt in either pre-service courses or workshops as a response. The responses could be clarified with the help of Schneider and Ingram's (1990:527) argument with regard to policy analysis, that unless the underpinning behavioural assumptions of policy are clearly understood, it will be difficult to determine the consequences for policy participation.

By focusing on the behavioural dimensions of policy tools found within policy designs, ... scientists may be able to advance knowledge about the conditions under which target populations will contribute to preferred policy outcomes.

The teachers' failure to use what they were taught to structure their teaching and subsequently devise assessment exercises that demonstrated that they understood the purpose, nature and scope of the objectives of their lessons needed to be addressed to enable them to grasp what

they needed to create as conditions that contributed to the successful implementation of the form of teaching advocated by CA. From the dialogues they were, at least, aware of the fact that they were not working with the objectives the way they were supposed to. Even though the researcher could not meet with them later on due to other commitments, she hopes that with such awareness, the teachers have been encouraged to take the initiative and re-skill themselves better.

Reflections on method

When negotiations for the conditions under which the study was to occur were made, its purpose, time requirements, and methodology (access, use of observations, interviewing, video and audio taping, and how the report will be put together and made available if required) were discussed with teachers. It was hoped that they would learn as much as the researcher from the study and the experience would be empowering to them as CA implementers. The researcher enjoyed the time with them and she thought they enjoyed her company as well. Her interaction with them added a valuable dimension and perspective of what they faced as practitioners trained in a way the implications of which they had never grasped. When the teachers were asked to reflect on their classroom discourse, they gave an account of actual actions rather than reflecting an understanding of underlying concepts and principles that organised classroom practices. This highlighted the need to re-think the strategy used to enable them to appreciate the importance of having to identify concepts and principles that are crucial to an objective that formed the basis of the manner in which they had to design the curriculum.

The method used was bifocal. Observing teachers in action required an active systematic collection of descriptions. Later on, during the interviews the researcher had to constantly reflect on the interpretations she had given to these descriptions to develop better and, at times, new insights to the enquiry. In addition, because this was a reflexive process, seemingly useful information that was noted during observations at times turned out to be a distortion and irrelevant to the teachers' conceptions. The enquiry was therefore not an unmediated process, it required social, practical and personal skills on the part of the researcher to sustain her role and the involvement of teachers in the field. It became clear to the teachers that they had to consciously reflect on their teaching and assessment exercises and think about them in relation to the concepts they had to make accessible to their learners. This was something most of them had never been made to do before and it did create some discomfort. However, it was not very difficult for the researcher to readjust her interaction with them, when she sensed this, as she shared common cultural references with them. She made sure that her intrusion into their lives was not judgmental. These references ensured that she related to teachers in a manner that made her accepted despite the uneasiness she caused them. As the interviews continued, she gained their confidence and they could open up to her. She was able to understand their practices from their perspective.

It was important to use observations and interviews in a way that could stop teachers from consciously giving interpretations of what the researcher was talking about. For example, in trying to clarify the need to teach 'locating' in a way that raised a particular consciousness and behaviour, teachers tended to think the researcher was asking for the meaning of location and thus could not see why she was not happy with the fact that they expected learners to simply point to a place rather than clarify locating as a concept.

Dialogue provided the second focus of the method used. It was the approach to data collection that allowed teachers to understand what working with an objective required on their part. They began to think, for example, of a lesson objective in a new light due to the probing and cues provided by the researcher. Teachers who were barely aware of what they needed to think about objectives, began to realise the shortcomings in the original ways they took for granted as promoting meaningful teaching.

The impact of the inquiry was the result of assuming a disposition of being willing to work with them on the problem, working flexibly with them and allowing, for example, the teachers whose accounts are given here, an opportunity to reflect on the challenge posed to them first, on their own. As highlighted by Gitlin *et al.* (1988:247) method was not ideologically 'innocent'. The researcher became activist because she needed to gently guide teachers into a particular way of working with educational objectives. Method was used to engage them in conscious thinking about their assessment exercises, "whereas many methods attempt to determine an objective finding by having the researcher taking a disinterested position, dialogical approaches assume that it is impossible to remove bias completely" (Gitlin, 1990:448).

Using method this way would not have contributed to the co-operation that occurred, if the researcher did not consider seriously Gitlin *et al.*'s advice (1988:243) when they quote Habermas as saying "it is impossible for the researcher to understand the 'subject' unless he/she enters into dialogue with the subject aimed at mutual understanding". Therefore, the intent of the dialogical method employed here was not simply to indicate shortcomings in the way teachers worked with a curriculum objective (came up with universal truths), but rather to identify and examine the circumstances that contributed to these shortcomings and how they were embedded in their particular historical context, before trying to make up for them. Of importance here was how teachers explained their practices and came to realise the assumptions they were making in teaching and assessing their learners.

The study did not attempt to embrace the concept of educative research in its purest form as advocated by Lather (1986) and Gitlin (1990) but concentrated on dialogue with participants in order to provide a chance for them to reflect on classroom practices and employ these reflections to identify gaps and distortions that were taken for granted in an environment that was not threatening. Since Gitlin and Russell (1990:187) suggest that "for research to be authentic, the relationship between what is said and the person(s) doing the talking must be made apparent", the challenge here was to make sure that the voices of the teachers were preserved especially when research became educative. It was crucial to make sure that their voices were to remain unaffected by the development the researcher wished to happen.

Dialogue helped the researcher to achieve what could have been easily done in a didactic manner but would have been professionally demeaning to teachers. The challenge was to employ a method effectively in a sensitive situation and within a restricted period. Such a challenge poses questions about research that is aimed at development within a restricted period.

The study was conducted to explore how teachers understood the underlying principles of a curriculum objective. In the effort to do this, it, amongst other methods, had to subject teachers to an interview process that was affirming but also meant to provoke them to reflect on their ways of working and appreciate the nature of change expected from them as CA implementers. Although the research was reciprocal and had a social commitment to contributing to change in schools, the data indicate that the flexibility of method, as it should be in developmental research, would have helped to better evoke a consciousness that teachers did not have before, if follow-ups were made with teachers within the research framework. They would have been useful in involving teachers in further dialogues that could have caused a conceptual 'rupture'.

Conclusion

Method was an attempt to not only capture the reality of participants in the study but also to illustrate how qualitative research can be adapted and its role reshaped to contribute to change in school practices. The research process further highlighted the challenges experienced in the effort to be educative in a non-didactic manner but through a dialogue that results in agreement or consensus. The challenge of having to part with the respondents, without establishing whether they had been able to translate principles into effective teaching strategies, is

lingering and needs to be part of a project that would specifically be engaged with these developmental aspects.

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