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REFLECTIONS OF SOUTH AFRICAN TEACHERS TEACHING UNDER ADVERSARIAL CONDITIONS

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Abstract

Teachers often teach under difficult conditions of which they do not have oversight. In order for teacher development programmes to be responsive to teachers' needs, it is necessary to understand the teaching contexts of their participant teachers. Accordingly the purpose of the research was to identify the problems of practice reported by 41 Mathematical Literacy teachers who teach under impoverished conditions in South Africa. The participants identified their problems of practice and focused on one problem which they tried to address during a two-week teaching intervention. They were required to generate a reflective research report based on their teaching intervention, which formed the primary data source. The findings indicate that of the 305 citations of problems, 174 were attributed to socio-economic factors, 111 to pedagogic factors and 51 to school management factors. With most of these problems being out of their locus of control, these teachers are forced to spend time dealing with the consequences of these problems, instead of focusing their energy to find ways to improve their pedagogic practice. Teacher development agencies need to consider how such teachers could be more appropriately supported.
Key words: *classroom practice, non-prototype classes, problems of practice, teacher learning.*

Introduction

Even with the advent of the new democracy in South Africa in 1994, the education system has struggled to produce improved learning outcomes. South African teachers have been subject to numerous curriculum changes, including the introduction of completely new subjects. Hence there has been an increasing demand for effective teacher professional development programmes that can support teachers to cope with these numerous demands. However there is a dearth of research that focuses on the kinds of challenges faced by these teachers, since most research about teachers' professional development mainly reflect the dominant concerns of researchers working in developed countries. Most South African teachers teach under adversarial conditions that do not provide them with sufficient support and their professional development needs are different from those commonly portrayed in most literature. This situation has been recognized by Skovsmose (2006) who used the term "prototype" to describe the type of classroom most commonly described in the research field. He argues that the dominance of the discourse created around the prototype mathematic classroom should be challenged. Skovsmose reports that 10%, 86% and 4% respectively of children aged 6-11 years lived in more developed, less developed and countries in transition respectively, where the more developed regions include North America, Western Europe, Australia, Japan and New Zealand. He further comments:

> … we find many schools without electricity. Schools might be missing all kinds of equipment, while students might be missing schoolbooks. Many schools are located in violent neighbourhoods, where students might fear gangs operating in the vicinity … Contrary to all of this the prototype mathematics classroom stays homogenous, and is well equipped. However, the statistical figures may indicate that what has been characterized as a prototype mathematics classroom belongs to a small minority of the sites for learning mathematics. (Skovsmose, 2006, p.269)

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Skovsmose argues that this ideal classroom over which discussions about effective teaching takes place, actually constitutes a minority amongst the many real classrooms that are found in developing countries or in pockets of neglected areas in developed countries. Johnson, Hodges and Monk (2000) caution that developing countries should not export ideas from the West without taking context into account, when developing teacher support programmes. They comment that teacher trainers' expend much of their effort in trying to change teachers. Instead a shift in focus is advised, and teacher trainers should rather try to "understand teachers' un-transformed behavior" (Johnson et al., 2000, p. 180) by examining more carefully how the environments in which these teachers practice impact on their teaching and learning. These authors are adamant that teachers who come from the *non-prototype* situations are "constrained by a somewhat different set of circumstances, have different perspectives on the work they do, and need different in-service provision to those in developed countries.

In line with the recommendations of Johnson et al., (2000), this study was designed to explore the experiences of a sample of teachers who teach in such non-prototype classrooms, as they undertook a small-scale inquiry into their teaching of a Mathematical Literacy (ML) topic over two weeks. The teachers in this study were enrolled in a continuing professional development programme which included "planned opportunities for teacher learning" (Kelly, 2006, p. 505). One such planned activity was a reflective practice module which was designed to encourage the teachers to use their routines in practice as objects of their reflection. Reflective action often originates from a problem situation encountered by teachers who are then prompted out of their routines in order to solve the problem of practice. Hence problems of practice can become powerful objects of teacher learning, when taken as catalysts for reflection. Furthermore, the problems that teachers manage on a day-to-day basis in addition to illuminating the conditions under which they teach, can also inform researchers of their learning experiences. Accordingly, the purpose of this research was to investigate the problems of practice experienced by the group of teachers who teach in non-prototypical classrooms.

Research Focus

Researching aspects of their own classroom practices have the potential for deepening of teachers' own content knowledge and their knowledge about student learning and reasoning. (Huillet, Adler & Berger, 2011). In this study teachers were engaged in research about their own practices, with the intention of improving their own teacher learning, while also providing data about their teacher learning experiences.

Adler (2000, p.37) notes that the process of teacher learning "… is understood as a process of increasing participation in the practice of teaching and through this participation, a process of becoming knowledgeable in and about teaching". Kelly (2006) points attention more specifically to the contexts in which such learning takes place. Drawing on the work of Lave and Wenger (1991), Kelly (2006, p.507) describes teacher learning as "the process by which teachers move towards expertise" which is "closely linked to the circumstances to which it pertains … to the particular working practices and their associated ways of thinking which define their school circumstances".

This perspective helps us understand how it is, that for example instrumental working practices in schools contribute to the "development of expert teachers who adopt instrumental stances in their working lives" (Kelly, 2006, p.513). On the other hand the working practices of practitioners who work in an environment where decision making is collective and inclusive, will "afford different notions of expertise for teachers … and the privileging of different problems" (p.512). Kelly's arguments have resonance with the finding from the study by Day and Gu (2007) that school context was a key mediating influence on teachers' effectiveness. The authors are adamant that "schools are the primary site for teachers' professional learning" and the environments they provide can enhance or diminish "teachers' sense of space and energy to learn, their sense of identity, efficacy and effectiveness, and whether they sustain or jeopardise

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their motivation and commitment to teach well in a range of circumstances" (Day & Gu, 2007, p.427).

These studies suggest that teachers' learning and hence their knowledge of teaching is strongly influenced by the experiences they are afforded in the contexts of their working environments. In fact the work by Spaull (2011) and van der Berg (2007) show that teacher knowledge is a significant factor only in South African schools that work well. Van der Berg (2007, p.871) argues that "better school management is probably the most important factor" in improving school performance. For schools that do not work well, the effect of teachers' knowledge may be washed out by other factors associated with school functionality. For schools of low socio-economic status (SES), teacher knowledge is not as significant a factor in predicting learners' performance as it is for high SES schools. Spaull's results "show that for the poorest 80% of students, the impact of teacher knowledge is almost half that of the impact of teacher knowledge in wealthier schools" (Spaull, 2011, p.22). These results suggest that the 80% of schools can be considered as non-prototype schools. Spaull comments that it "appears highly probable that students and teachers in poorer schools face multiple constraints which overshadow the impact of teacher knowledge"(Spaull, 2011, p.22).

Johnson et al's (2000) environmental selection theory may help explain the findings of these statistically based studies conducted by Spaull and van der Berg. The authors (Johnson et al. 2000, p. 183), argue that "professionalism is not differentially distributed because of the inadequacies of individuals within the system" but because of the "variations in the systems within which the individuals work". The authors comment (p.179) that the environment in which teachers work — physical, social and political — acts to select a more limited repertoire of behavior than those providing in-service might imagine. We often assume that teachers will do something if they know how to do it, but such an assumption may not be warranted. Johnson et al. (2000) propose a selection theory which is that "the selection of actual classroom practice is constrained by the resources to hand and the normative behavior of the school the teacher works in". The environmental selection theory contends that "the actual classroom practice the teacher uses for a particular group of students on a particular day with a particular topic can only be *selected* from the teacher's stock of pedagogical content knowledge" (Johnson et al., 2000, pp.185-186). The authors make a crucial distinction between the *selection* process undertaken by teachers in the well supported northern/western contexts and those by teachers in fragile educational systems. They argue that for the former, it is the teacher who does the selection while in the latter case, "it is the environment in which the teacher works that creates the selection". They comment that many teachers are free to "think what they wish" but cannot "do as they wish" (Johnson et al., 2000, p.186).

In this study the lens that is used to understand the teachers' contexts, is the concept of a *problem of practice*. Lampert (1985) used the phrase "problems in practice" to highlight the dilemma management role taken on by teachers when faced with particular problems during their practice of teaching. In this study the phrase *problem of practice* refers to a situation faced by a teacher which has the potential of negatively affecting the teaching practices in the classroom.

Problems of practice can be caused by various factors. Socio-economic factors are those which are directly related to learners' community or family circumstances. School management factors are those related to the (lack of) effective management of the school such as large classes or a lack of photocopying facilities in the school. Pedagogical problems of practice are those related to the organization, management and the teaching and learning processes in the teachers' classrooms. Examples of pedagogical problems could be gaps in knowledge of learners, misconceptions of learners, incomplete homework, poor motivation of learners etc.

One of the differences between an ideal prototypical classroom and a non-prototypical one lies in the types of problems that a teacher manages. With the former, the overriding concern of teachers is to manage their pedagogical problems, while for the latter; the teachers have to deal with problems emanating from different spheres.

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Methodology of Research

General Background of Research

South African teachers have faced numerous challenges because of the many curriculum revisions and the low levels of support available to them. The purpose of this study was to investigate the problems that impact on the classroom practices of South African teachers. It is qualitative in nature because of its focus on interpretative dimensions. The participant teachers were enrolled in a part-time in-service programme at a local university to train them to teach the subject Mathematical Literacy. The authors were facilitators in the programme and initiated the study to learn more about the context in which the teachers worked. The study was specifically located in the Professional Practice module, which focused on engaging teachers in reflections about their practices.

Sample of Research

The participants in this study were 41 Mathematical Literacy (ML) teachers from two of the most impoverished districts in the province of KwaZulu-Natal (KZN) in South Africa. They were enrolled in the in-service teacher programme, and attended classes on a part-time basis.

Instrument and Procedures

As part of the professional practice module, teachers were asked to identify a 'problem of practice', and to attempt to find ways to deal with the problem during a two-week teaching intervention. They were required to generate a research report based on their teaching intervention. Additional information in the form of relevant lesson plans, daily reflections, and copies of learners work were also included in their submissions. The teachers' reflections on their problems of practice and their experiences in resolving such problems provided a critical lens through which insights into their lived experiences were gained. Data for the study were generated from these documents submitted by the teachers.

Data Analysis

The process of data analysis followed what Polkinghorne (1995) terms "analysis of narratives". These are studies whose data consists of narratives or stories, but whose analysis produces categories. Stories from the participants were subjected to content analysis. Common elements of the stories were organized according to themes based on the different kinds of problems of practice encountered by the teachers. In order to ensure validity of the data analysis, coding of the data was done independently by two people. These were then crosschecked and discrepancies were addressed. The coding was then transferred to an Excel file which enabled further numerical analysis in terms of the number of times particular problems were cited by the various teachers. The results were used to provide answers to the research question:

Results of Research

Many teachers did a broad listing of factors which they saw as constraints to their practice. There were 305 citations of problems identified by the participants, and these were then categorised further into three broad themes. These were problems emanating from the poor socio-economic situation, school management issues (SM), and pedagogic issues (P). These are discussed in further detail. Note that the teachers' written quotes are reproduced verbatim, without any language editing.

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Problems of Practice Influenced By Poor Socio-Economic Context

The most cited socio-economic problem was the poverty of the community or parents. For example participants T_5 and T_{25} wrote:

> *My school is in a deep rural area and most of my learners are from illiterate and very poor homes* (T5)
>
> *Most parents are illiterate, unemployed and wholly dependent on govt grants* (T25)

The KZN province suffers the highest rate of HIV infections in South Africa and some teachers alluded directly to this problem, while others spoke about the related problem of children who are orphans or living in child-headed households. T_5 reported that many of her learners were breadwinners and they had responsibilities to "fetch water, cook food, look after siblings" which prevented them from getting their homework done. T_{23} wrote about the many child headed families in her school:

> *There is not enough water and learners are forced to stand in queues to collect water in the morning and afternoon. As a result learners don't do homework and fare poorly in tests and exams.* (T_{23})

Another serious problem in South Africa is that of teenage pregnancies. In accordance with the guidelines set out in South African Schools Act (1996), girls who fall pregnant are allowed to return to school after the birth of the child, and many do. Teachers cited this as a problem because the teenage mother has responsibilities which impact on the time they could spend on school work. Teacher T_{19} reported that all except 2 girls in his Mathematical Literacy class were mothers.

The high crime rate in South Africa also played a role in the teachers' perceptions of their problems. T_{11} spoke about the high rate of car hijacking and burglaries that took place near his school, making them fearful for their own safety. Teacher T_3 spoke similarly about the feeling of imminent danger while at school because "gangsters invade the school and rob the teachers of their phones and their valuable belongings".

Problems of Practice Caused by Ineffective School Management

The issue of large classes was the most cited problem of practice. In analysing the data, there were 32 teachers who listed their actual class sizes, with 22 reporting class sizes greater than 50. The difficulty of dealing with such a problem is captured in the report by T_{25}, who had 78 learners in his mathematical literacy class:

> *So when the teacher apply individualistic learning might a big problem because I fail to manage, and mark the work of all the learners in the class and also to get the problem of those who are slow, and even the cooperative learning is so difficult because of space and furniture are short/ scarce then I end up fail to conduct a groupwork because of no space of moving around the group to help them, and then other learners copy other learner's work, making noise, others are not working in the group because of a huge group of 10 learners. I lost a lot of time even to allocate the groups because not all of the time sitting in groups. Also I'm being running behind of my work always, at the end of the day I need to record the continuous assessment because there's some marks from continuous assessment.* (T_{25})

His writing conveys his sense of helplessness in trying to manage the competing demands of attempting different teaching methods, seeing to slow learners, moving around the class to help his learners while struggling to comply with the continuous assessment requirements. Teacher T_{41} wrote that he had to make alternate arrangements out of the scheduled timetable to

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manage the marking load created by his large classes. Two teachers (T_{35} and T_{31}) wrote about the practical constraints of large classes:

> *To make sure that all learners participate, I divide them into groups. Each group has 10 learners, 9 groups in all, unbelievable to educators who work in urban areas.*(T_{35})

> *I teach Mathematical Literacy in a class of 62 learners, not enough space to walk around for the teacher, ... 62 learners in a 7 m by 7m class*.(T_{31})

These comments reveal that with such large classes, assessment of class work and homework is transformed into an overwhelming task. Overcrowded classes were also cited as the reason why teachers (such as T_{25} above) were not keen to use group work. Another problem reported by ten teachers was the lack of resources such as laboratories, libraries or even electricity. For example teacher T_{18} complained that his school had "no laboratories, no electricity in classrooms only in the principal's office and the staffroom". Participant T_{26} wrote that his school did "not have any library or computers because we use the low power electricity, the solar", while another wrote:

> *The school has insufficient material and equipment, classrooms are overcrowded and chalkboards are not well fixed. Maybe 40 out of 500 learners have calculators, 20 out of 500 have textbooks and 120 out of 500 have proper desks*.(T_{11})

There were also more serious problems such as insufficient number of classrooms. Teacher T_{23} described how the school tried to solve their problem of insufficient classrooms:

> *There are 8 classrooms for 645 learners, the governing body bought 2 tents but that was not enough. Some learners learn under trees, a great inconvenience as there are no portable chalkboards and learners fail to concentrate attentively.* (T_{23})

This teacher's comment is a reminder that such a situation (learning under the tree) still exists. Note the teacher's matter-of-fact tone about the "inconvenience" to the learners, without even being angry about the school situation. Other problems that were reported were crime by learners as mentioned by T_{10}:

> *There is a lot of crime mostly the learners of our school. Police collect some of the learners while we are learning and this disturbs teaching and learning and they will return after a few days*.(T_{10})

Teacher T_{11} estimated that there were serious fighting incidents taking place between learners at his school at least four times a week.

Many teachers recounted that they faced interruptions to teaching all the time. Some interruptions were because of teacher workshops; cultural celebrations; or, from outside the school. One teacher described an interruption from outside the school:

> *My lesson was destructed on the seventh day when there was an incident involving two women who came to my class, got a pupil out and began to hit her. The whole school became chaotic as learners love disturbances. I intended revising that day but I could not due to the chaos. So I could not give them the test the following day*.(T_{16})

Some reasons for the loss in teaching time were because of the preparations for the annual matric dance, other teachers taking over their timetable slots to complete some tasks with the learners because of some policy requirements. This reveals the ease with which the official school timetable could be disregarded.

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Problems of Practice Impacting on the Classroom Pedagogic Environment

Socio-economic and school management problems impact on teachers' classroom practice. Many teachers reported that their students were second language English speakers, who struggled to understand many of the ML tasks based on everyday contexts, because of its reliance on language. One teacher T_1 wrote:

> *Most learners failed to understand the phrasing of questions, meaning the language issue is the one that influences our teaching and learning. Using code switching does not mean you are teaching in that particular language but it is to give clarity e.g. when teaching mathematics there are key words like terminology to reinforce understanding, code switching can be used e.g. multiply (phindaphinda).* (T_1)

Here teacher T_1 identified language as an issue that affected her learners' performance in ML. Teacher T_{16} felt that because his learners spoke the local language at home "they were afraid to speak English". For some teachers, the language presented even more challenges because there were different home languages to consider in those areas close to the border of Mozambique. Participant T19 wrote:

> *Teacher cannot communicate in English, even their Zulu is not appropriate (affected by the border line). Their mix is IsiZulu and IsiTonga*. (T_{19})

Teachers were also discouraged by the negative attitude or de-motivation of students to the subject as well as a lack of classroom resources, or teaching aids that limited their classroom practice. Other teaching and learning problems cited by teachers included students not having the basic knowledge and skills, copying or not being able to do individual work. However, many of these teaching and learning constraints were related to the socio-economic and school management issues. For example, the problem of learners' non-completion of homework is an issue that affects the quality of learning in a classroom. However, there is often an underlying problem related to socio-economic factors. Some of these problems included children having too many domestic duties because their parents did not live at home (because they could only find work in the cities). Many teachers cited experiences of learners who were responsible for their siblings. Some teachers wrote that this problem was compounded by the fact that many students had to walk such long distances to and from school, thus extra classes were not an option. One teacher re-organised her lessons so that the last 15 minutes of the one-hour lesson was devoted to homework supervision in her class. Another teacher (T_2) supervised additional study time after school: "Homework is out of reach for most of my learners not because they hate it, but because the home situation does not allow it."

Other constraints identified by the teachers were related to classroom management issues. Examples of these were excessive noise in the classroom, or incomplete class work or homework. These classroom management problems impacted directly on the teaching and learning in the classroom. Clearly many of these problems would be minimized if teachers had more effective classroom management techniques supported by school policies designed to strengthen the teachers' interventions. For example, a teacher should have some authority to identify students who stayed away too often and procedures for dealing with high absenteeism.

Six teachers reported an unusual problem — that of noise. In the words of two participants:

> *In most cases when my colleagues are teaching, there is this intolerable amount of noise and chaos and this disturbs the spirit…when learners are asked to work on a problem in class there is noise.* (T_{40})

> *My gr 11 maths lit class is the most chaotic one in the school because the learners misbehave and are unrespecting*.(T_8)

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Problems of Practice and Teacher Learning

The table below shows the categorisation of the cited problems and also reveals how many teachers cited the particular problem. The six highlighted rows represent the factors which were cited most often.

Table 1. Count of various problems of practice.

Code	Problem	Count	Code	Problem	Count
SEF1	Poor community/ parents, unemployed	25	P1	Limited classroom resources	20
SEF2	Illiterate parents/comm	20	P2	Gaps in knowledge	8
SEF3	Domestic duties	4	P3	Negative attitude to ML, no motivation	23
SEF4	orphans /staying on their own/staying with relatives	14	P4	Lazy learners/copying	16
SEF5	No parental involvement in school work or supervision	15	P5	High absenteeism/ latecoming/ bunking lessons	8
SEF6	Long distance to walk home	6	P6	The class is not a science or commerce stream	5
SEF7	No electricity at home	6	P7	Not doing homework	15
SEF8	Teenage pregnancies/mothers	8	P8	Class work not completed	4
SEF9	Single parents	1	P9	Problems with groupwork/ not doing individual work	10
SEC1	High rates of HIV AIDs	8	P10	Noise	6
SEC2	Lack of role models in community	2	P11	Problems with English as a second language	24
SEC3	Crime in community	6	SM4	Too many repeating grades	1
SM1	Crime by learners	2	SM5	ML class is very large	30
SM2	High dropout from schools	2	SM6	No electricity in school/poor resources	10
SM3	Overage learners	1	SM7	Does not have an ML class	5

The results indicate that these teachers reported 174 problems brought about by socio-economic conditions and poor school management, and only 111 pedagogic problems of practice. Thus, the teachers have reported that they are 1½ times more likely to deal with problems of practice emanating from outside their classroom than a pedagogic problem that they have been trained to manage.

Discussion

Most of the schools in South Africa are struggling because of the legacy of apartheid policies which devastated the education system for blacks. The problems cited by these South African teachers in their reflections about their teaching, is supported by other reports. For example, Hugo et al., (2010) reported that one in four learners in KZN are orphans, suggesting that many teachers are working with children who don't have parents. The problem of schoolchildren who are themselves mothers is a concern in the country. A recent report (Govender, 2012) revealed that 160 754 schoolgirls fell pregnant between July 2008 and July 2010, with KZN reporting the second highest number of teenage pregnancies. A recent report (Grobbelaar & Masuku, 2012) also highlighted the fact that there were 3500 public schools

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in South Africa that have no electricity, while 2402 do not have a water supply. There are 913 schools which do not have any toilets. So these reports confirm that many teachers and learners in the country have to learn and teach under these very difficult circumstances. Clark and Linder (2006) call for research studies to take cognisance of the 'non teaching' (this refers to the high absenteeism rate and low time in class or on task) that takes place at some schools. In Clark and Linder's study, they showed that during the 14 weeks they spent doing observations at the school, teaching on almost 1/3 of school days was disrupted in one way or another. Hence ineffective school management can result in reduced learning opportunities Clark and Linder (2006) in their case study of one science teacher found that the reason for the overwhelming rowdiness and restlessness of the class they observed, was the fact that the students had missed 6 out of the 23 lessons in that week and they were out of the class in the previous two lessons, because of teachers not turning up at their class. The teachers' experiences reported in this study are therefore not unique and may be more pervasive than we imagine.

The findings from this study reveal the limited teacher learning opportunities afforded to teachers who teach under trying conditions. A stable and well functioning education system is able to offer teachers sustained support. In such a situation, teachers deal mainly with their routine problems of practice encountered in their classrooms which can be compared to a rich rain forest where organisms in complex systems can thrive (Johnson et al., 2000). However, in a dysfunctional schooling context there is little support for the teacher and can be seen as a "desert habitat in which few strategies can survive the harsh environment" (Johnson et al., 2000, p.187). As demonstrated by these teachers' reports of their problems of practice there is poor understanding of the roles of the various structures in poorly functioning structures. Problems have often become bigger because they were not been contained at the level that they should have been. For example, in the case of criminal elements entering the school, it is the responsibility of the school management and governing body to identify and deal with the problem, which may include fixing a broken gate or ensuring perhaps that only school learners are allowed into the school premises. However, if that problem is not managed at the level it should have been, it becomes a threat to the teaching and learning situations. A learner or a teacher may get robbed of essential things that are needed for her lesson as in the case of teacher T_3. This problem then intrudes into the teachers' work of teaching, making their task harder. In a system where functions at each level are compromised, each of the problems constrain the teaching and hence the learning space afforded to the teacher.

If teachers are continually having to teach in adversarial conditions such as those reported by our sample, learning by experience takes on a different meaning. Kelly's (2006) explanation about teacher learning, throws light onto the knowledge construction process taking place amongst teachers in such situations. Teachers in the sample reported that they face more socio-economic and school management problems, so most of their teacher learning will be focused on managing these problems instead of learning how to be more effective teachers. Some teachers were engaged with issues such as how many desks could be fitted into the classroom (T_{11}; T_{31}; T_{25}); how best to duplicate an assessment or design innovative teaching aids when electricity is not available (T_{18}; T_{25}) and how to keep the 100 learners in the tent comfortable while teaching (T_{23}). Under other circumstances, these teachers may have been reflecting about how they could introduce the concept of trigonometry; or how they could design a fairer assessment; or whether they should use different colours of chalk to illustrate the properties of a triangle respectively. However, this was not possible because "it is the environment in which the teacher works" that regulated the selection of what was possible.

This study was done to raise our own awareness of the realities of the teachers who attend our professional development programmes in an attempt to be "both responsible and responsive to teachers, attending to both teachers' knowledge and to teachers' needs" Sztajn (2008, p.300). The intentions were to use their problems of practice as a lens to better understand their learning opportunities. Teacher learning from reflection depends on cycles of action. Hence teacher learning depends on support and opportunities for such reflection. For the teachers in

this sample, it is evident that their space for teacher learning is constrained because they are preoccupied with managing the problems of practice emanating from outside their classroom instead of reflecting about pedagogical problems of practice which could activate rich learning opportunities. As teacher educators the authors have realised that it is unhelpful to design programmes which do not take the daily experiences of teachers from non-prototype classes into account, when most in-service teacher students are from such situations. This study has demonstrated that our assumptions about teachers' learning opportunities were incomplete and future interventions should be designed more closely around the teachers' needs and concerns.

Conclusions

The findings raise concern that the thousands of teachers who teach in non-prototype classes throughout the world face similar constrained environments which limit their own teacher learning opportunities. It is incumbent upon the policy makers, education leaders, politicians and researchers who want to improve the education outcomes, to direct their attention to how the schools and the education system could be managed more efficiently. If the teachers' environments can be improved, then teachers could have more authentic teacher learning opportunities and these could result in them creating more effective learning opportunities for their learners. There is also an urgent need for case studies of effective teacher education practices which support teachers who teach in such difficult conditions. Research in the area of teacher education programmes in developing countries is urgently needed to create common understandings about how such programmes could be made more effective.

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