

FINAL REPORT

A DESCRIPTIVE STUDY OF THE NATURE AND EFFECTIVENESS OF IN SERVICE
TEACHER TRAINING AND SUPPORT IN THE IMPLEMENTATION OF OBE

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1.0 BACKGROUND

1.1 A Broad Description of The Study

The provision of ongoing professional support in the form of In Service Education for Teachers (INSET) is an area of concern to most South African educators. At the one extreme, INSET can be provided to teachers by total removal from school for a fortnight or so. During this time the teacher is totally focused on the course work on offer and is expected to implement the ideas on their return to school. This model is supposedly cost effective as it brings together all the teachers to a single location. The former Department of Education and Training (DET) practised this approach to INSET. At the other extreme, some people believe that the maximum benefits of INSET are derived when the work is done inside individual schools where teachers can be followed up in class and assisted on site. This model for the implementation of INSET is labour intensive as an individual INSET trainer can seldom work with more than a handful of schools at a time but is nonetheless favoured by most educational Non Governmental Organisations (NGOs) inside SA. In between these two extreme models, there is a continuum for implementing INSET through a varying mix of these two, for example regionally or district based training sessions followed by limited intervention in the classroom. Cost effectiveness aside this study aims to contrast the two extreme models of implementation outlined in terms of which of the two leads to changed teaching practises sooner. The national implementation of OBE at the Grade 1 level in 1998 has provided an invaluable context for the research.

1.2 Choice of Schools and Scope of The Study

The study is limited to six schools in the Gauteng Province. Four of the schools were chosen on the basis of active participation in INSET programmes offered by an NGO. The other two were chosen on the basis of being in proximity to the four NGO schools mentioned and of active participation in INSET programmes offered by the Gauteng Department of Education only. The schools tend to be to the north and south of Johannesburg and are all within a 60 kilometre radius from of the city.

The study aims to describe the extent to which schools with ongoing INSET support, implement

OBE compared to schools that receive intermittent support for their implementation.

We take the term support to mean the actual assistance toward professional development teachers get either in the form of workshops or classroom support or both.

1.3 The Study As Collaborative Effort

The study is a collaborative effort between the Cooperative Organisation For Upgrading of Numeracy Training (COUNT) and the Wits University associated Research and Development in Mathematics, Science and Technology (RADMASTE) Centre, both of which are Johannesburg based NGOs. COUNT provides INSET in the Mathematics, Mathematical Literacy and Numeracy (MMLNS) learning programme for the foundation and intermediate phases in and around Gauteng. RADMASTE also provides INSET on a national scale to colleges of education and high schools.

RADMASTE is directly attached to the Research Office of the University and thus has the requisite research capacity to mount research projects independently. This study will describe the effectiveness of the implementation of OBE at the Grade 1 level. The INSET programme of COUNT in the schools is discussed more fully in section 5.2.

2.0 RESEARCH QUESTIONS

2.1. Overview

"Despite the national popularity of OBE, only a handful of studies provide meaningful answers to questions about its effects."

Evans et-al, (1994 : 12)

This points to a dearth of researched writings about the effect OBE has on the most important people in this chain, i.e., the learners themselves. Along the lines of effects, most of what we have heard so far is not grounded on research. There are anecdotes that OBE is successful for some teachers and not for others, and that some learners who might be described as laggards in traditional classrooms, improve so much as to be top performers when OBE is used in the same classrooms and vice-versa for other learners.

Our main concern though the degree of success (impact) with which OBE is being implemented. If there are few reports of research on the effects OBE has on learners, there are still fewer on the success with which any OBE programme has been implemented. This research must be viewed as a contribution to the latter area.

2.2 Context

The transformation of the manner in which education and training is to be provided in South Africa into the next millennium is delineated in the National Qualification Framework (NQF) and implemented at school level through Curriculum 2005. The effective implementation of Curriculum 2005 demands a significant reorientation of the existing teaching corps, through a variety of strategies which must eventually include a substantive amount of INSET. In South Africa, INSET is provided by both the departments of education and a host of NGOs. There are, however, only limited amounts of research literature on:

- I. The extent to which teaching skills emphasised in INSET are transferred to the classroom.
- II. The necessity of providing sustained INSET support.
- III. The relevance of INSET support in assisting teachers interpret OBE as framed in the South African context.

While admitting that there are other reasons for which INSET is pursued, we hold a belief that the three factors mentioned above are assumed with varying degrees of emphasis by the various providers for INSET. The purpose of the study is to determine the extent to which some of the factors listed above impact on the classroom practices of teachers when INSET is provided.

2.3 Research Questions

The research was done at the Grade 1 level in which will Curriculum 2005 was implemented in 1998.

The principal research questions for this study are:

- 1) How does the provision of INSET impact on the implementation?
- 2) What progress is made by the learners toward achieving outcomes in the Numeracy Learning Area?

- 3) Does the provision of INSET inspire teachers to develop OBE related material relevant to the context in which they are teaching?
- 4) Is existing OBE material used effectively?
- 5) What range of assessment techniques is used by teachers in judging learners progress towards the attainment of selected outcomes?

3.0 RESEARCH DESIGN

Two areas were chosen for the study, the more urban Sebokeng near Van de Bijl Park and the peri-urban Lanseria/Diepsloot area. It was hoped that we shall get an urban versus peri-urban contrast in the results of the analysis. In each of the areas mentioned above two experimental schools and one control school have been chosen. The experimental schools receive INSET from COUNT whereas the control schools do not. The selection criterion for the control schools was that they should not be receiving INSET of any kind bar the compulsory INSET from the Department of Education. The experimental as well as the control schools receive the same amount of INSET from the Gauteng Department Education (GDE) in support of the

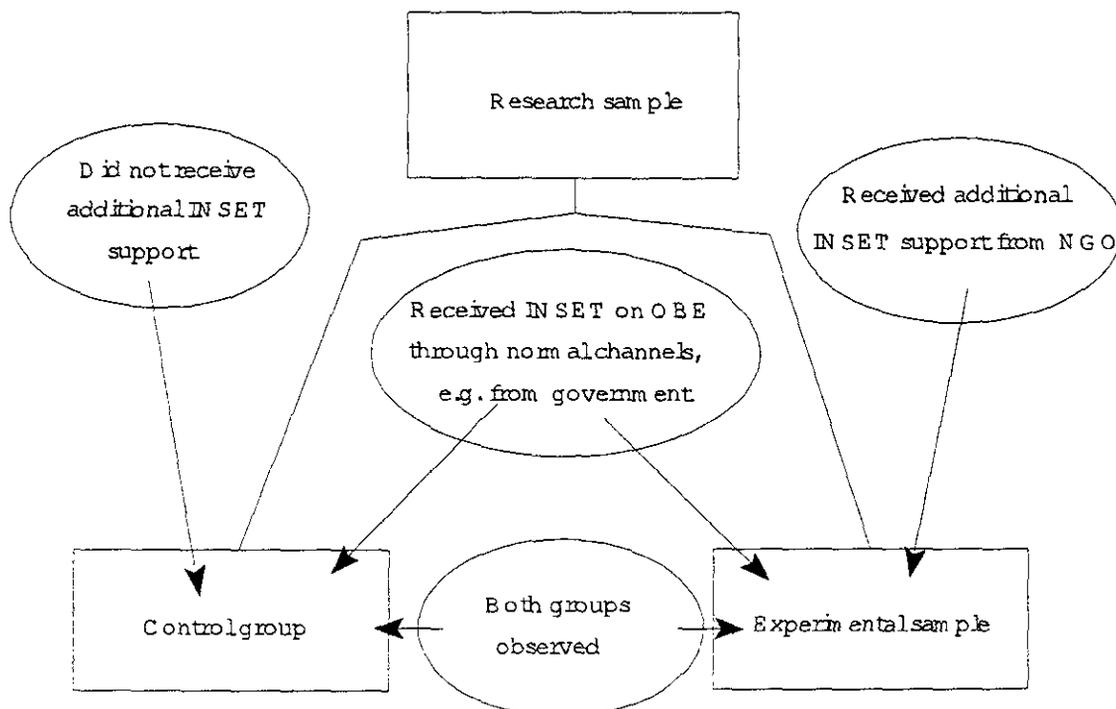


Figure 1: The research design.

implementation of OBE. The data was collected using questionnaires, classroom observation, post observation semi-structured interviews, and attendance at COUNT workshops. Some of the lessons were captured on tape for later re-evaluation. The semi-structured interviews were used after each lesson to reflect on the practices of the teacher during the lesson.

A diagrammatic representation of the experimental design is represented in Figure 1.

4.0 DEVELOPING A GLOBAL CONTEXT FOR THE STUDY: Lessons For SA

The implementation of OBE in South Africa is happening somewhat later than in other countries around the world. What is notable however is that these countries tend to be at a higher level of development in their economy, infrastructure and educational provision compared to SA. It is our view that we will be enriched by contrasting our experiences with OBE with what has already been learnt in these countries. It is for this reason that we provide a survey of OBE as an international phenomenon so that we have a background against which to interpret our data.

4.1 The Advent of OBE in South Africa

Up to the time that an official announcement was made in South Africa about the intentions of the ministry of education to introduce outcome-based education (OBE) much of the educational community in South Africa (SA) - with the exception of a qualified few - were ignorant about the development of OBE in other parts of the world. In the main, educational debates about how best to change classroom practices centred around Platonistic or Absolutist philosophies favouring traditionalist views against Constructivist views on teaching and learning.

Traditionalist views on teaching have been described by Jaworski (1994) as encompassing exposition and explanation by the teacher, usually standing in front of the class. This "chalk and talk" method is usually followed by the teacher giving her charges written work of some kind. Over the years, our experiences about the practices embracing constructivism (depending on what the individual interprets to be), has been a varying mix of the following:

- An emphasis on the learners being the architects of their own learning by being responsible for all constructions (including knowledge and problem solving methods) in the classroom that have meaning to them.

- Learner centred approaches to teaching.
- Problem solving approaches to learning (using investigations).
- A de-emphasis of the view of the teacher being the repository of all knowledge to be learnt and recognising the knowledge and values learners bring with them to the classroom as being valuable.
- An emphasis on group approaches to learning.

Constructivists regard the implementation of the things listed above in South African classrooms (give or take a few according to taste) as benchmarks to take our education into next millennium. The adoption of Curriculum 2005 in this country is silently hailed by constructivists as a coming to fruition of their ideas. This is so because constructivists believe that the approaches to learning and teaching advocated by Curriculum 2005 are premised on constructivist principles. As we will show in the following sections, OBE is believed to owe its genesis to a variety of sometimes divergent theoretical paradigms. The consequence of this is that people with different theoretical orientations equally claim OBE as their own. This leads to a diverse range of classroom practises (depending on the teacher's theoretical background) that are interpreted as being within the prescriptions of OBE.

4.2 A Historical Context for OBE

The advent of OBE appears to have been a slow process arising mainly out of a dissatisfaction in educational theorists about the role teaching, instruction and teaming play in the students life. The works of Piaget and Vygotsky¹ on how the mind constructs reality were seminal in the initial questions raised about the effectiveness of traditional instructional practices in the acquisition of knowledge in a classroom context. The search for more effective bridges to span the gap between knowledge retained and internalised by learners compared to the desired learning objectives of curriculum designers was thus launched. In many senses OBE appears to be one of the possible strategies towards the resolution of the latter problem, hence, as a classroom approach OBE has a long history that is a drawn out evolutionary process. However, the theoretical origins of OBE

¹ Piaget and Vygotsky differed in fundamental respects on how the mind constructs reality but there is no place for that debate here.

are more obscure. Jansen (1997: 66), writes about the various claims about the origins of OBE:

"OBE does not have any single historical legacy. Some trace its roots to behavioural psychology associated with B.F. Skinner, others to mastery learning as espoused by Benjamin Bloom; some associate OBE with the curriculum objectives of Ralph Tyler, yet another claim is that OBE derives from competency education models associated with vocational education in the United Kingdom".

The fact that OBE should be linked to so many schools of thought perhaps explains why debates about it are not easy to resolve.

4.3 What is OBE?

Maybe because of its paradoxical history, OBE tends to mean different things to different people. As a direct consequence of this there is no one description of OBE that is satisfactory to everyone. Under the circumstances we merely survey the different versions of OBE that are practised around the world including South Africa.

4.3.1 Outcomes

Outcomes have been described as a clear set of *learning results* (outcomes) that society wants learners to *demonstrate* at the end of the learning experience (Spady 1994, Malcolm 1997a&b, Isaacman 1996). W Spady (1994) emphasises that this demonstration includes actions, performances (of tasks) and other applications that reflect learner competence in using information, ideas and tools successfully. According to Spady the achievement of outcomes cannot be judged according to purely *mental processes*. The Spadian view of outcomes (which we will link to transformational OBE in a moment) is strongly linked to action verbs (doing). Without the action verb the intended outcome becomes, according to Spady, a learning goal or objective.

The proponents of OBE have strived to give individual districts and schools more autonomy in deciding what outcomes are relevant to their context or situation. Yet these considerations have to be moderated with a strive toward national uniformity for the sake of access (Malcolm 1997b). This often leads to tension between national and regional

requirements as aptly summed up in this comment by O'Neil (1994 . 9):

'The drafting of common outcomes for an OBE system requires enormous time and care. Even then outcomes will appear too vague for some or too specific for others. If outcomes are too `global' , McTighe notes, critics ask `where is the beef?' But if a state specifies dozens or hundreds of outcomes, it is attacked for `prescribing the curriculum' and treading on local initiative.'

This then is a brief look at what outcomes are and the issues that have to be considered when talking about outcomes.

4.3.2 Models of OBE and Its Management

On the one hand OBE has been described as a management system for curriculum and assessment, i.e. decisions about curriculum, instruction and assessment should be driven by outcomes. Hence OBE, rather than being a fixed syllabus, is a process of ascertaining what learning opportunities are available to students and assuring that students achieve the stated outcomes at the end of all instructional practices. Because the manner of attaining the outcomes framed might differ from context to context, we expect that the type of OBE implemented will necessarily differ because it depends on the original learning programmes framed to attain the outcomes. The different types of outcomes are grouped broadly into three categories of OBE, as debated in some of the writings of some of the some of the leading proponents of OBE (Spady, 1994; Malcolm 1997a, Ron Brand 1994). We give a description of these levels in order of complexity:

Traditional OBE: The outcomes at this level are rooted and derived from the subject matter content and are thus constrained by being content specific. Outcomes at this level can thus be seen as a replacement of content laden syllabus aims.

Transitional OBE: The outcomes at this level are tied to competencies that go beyond content syllabus specifications. The specifications for the competencies required at this level includes, among others, a cross section of problem solving techniques that are interdisciplinary in nature and generalisable to real life.

Transformational OBE: At this level the outcomes are tied to competencies and role performances that are responsive to the range of complexity of the real life context. This requires a high degree of ownership, insight and a vision of the elements of a multi-disciplinary approach to the acquisition of knowledge. Learning programmes at this level must be responsive to the roles of the learner in society.

Even among proponents of OBE we have disagreements as to which category of outcome is most worthy. On the one extreme we have the transformationalist Spady, who advocates that anything less than transformational OBE is not the real thing. On the other hand some countries, e.g. Australia, have conservatively opted for a combination of traditional and transitional OBE (Malcolm 1997b). So even among countries that chose to implement OBE, we may find a variation of the nature in OBE implemented depending on the choice of outcomes.

In terms of implementing OBE, the problem that has previously been alluded to is who is accountable for both drafting and demonstrating that students have achieved an acceptable number of outcomes for a qualification. O'Neil (1994) reports that in the USA, the notion of giving schools more autonomy is encapsulated in the Site-based-Management model. Because final accountability for all that happens in the school in the line of instruction rests with the school, different models of implementation with varied success rates are reported. New York City schools, are reported to be implementing their so called 'Outcomes-Driven-Developmental Model' for the past two decades with a high degree of success.

OBE is also premised on three fundamental assumptions (Spady 1994):

- All students can learn and achieve, but not on the same day or in a similar way.
- Success breeds success.
- Conditions that affect effective learning are controlled in the schools.

We wish to end this section by pointing out that nowhere in the literature has OBE been associated with a particular mode of instructional delivery, whether traditional or learner centred in the literature. Teachers are free to choose their mode of delivery, so long as they ensure that learners achieve a predetermined set of outcome at the end of instruction.

4.3.3 Are There Minimum Conditions For The Success of OBE?

There are no easy solutions to the question posed in the title of this subsection, and it is not our intention to answer this question in full. Our purpose is to survey conditions where OBE has been tried. The import of this survey is laden with meaning for our study because once we begin to understand the conditions under which OBE is being tried elsewhere, we can infer from our own situation what our strengths are or what needs correction. Considering the varied contexts in which OBE is being tried, this survey can indeed be a lengthy exercise if conducted to its fullest. We plan to curtail the length of the survey by looking only at only one country where OBE is being implemented and take this as a key indicator of the conditions in which OBE is being implemented outside Africa. We choose New Zealand for the latter purpose because we have a better idea of those conditions in New Zealand than elsewhere. The conditions we assume as key indicators are:

- human resources
- learner - teacher ratios (and class sizes)
- material and physical conditions in schools and,
- management of schools

We look at each of the key indicators listed above in turn. We shall rely heavily on the statistics provided in the work of Brand (1998) in comparing the situation in New Zealand to that in South African schools.

Human Resources

Brand (1998) writes that it is nearly impossible to teach senior school chemistry without a degree. Importantly, the last assertion seems to be generalisable to other subject areas like mathematics and physics as confirmed in conversations the writer of this report have had with visiting scholars from Canada, the USA and England. Brand (1998 : 80) believes that even teachers over the age of 50 are graduates and provided with INSET aimed at their development:

"Thirty years ago, all New Zealand teachers received (post-graduate) professional training at either Auckland or Christ Church colleges of education."

Contrast this with the situation in South Africa where many teachers, especially in rural areas tend to be unqualified. An unpublished survey of the qualifications of teachers in Kwa-Zulu-Natal (Aspoas H; 1992) identified many teachers over the age of 40 years in KwaZulu-Natal as being underqualified with only a standard eight and a Primary Teachers Certificate (PTC). The latter finding has recently been confirmed by the National Teacher Audit by Hofmeyer and Hall (1997).

Teacher: learner Ratios

As regards class sizes, the following abridged version of a table of statistics first published in full by Brand (1998) compares aspects of Gauteng school statistics to those of New Zealand. Gauteng is SAs richest province and it can therefore be assumed that its schools will be better provided for than in other provinces.

Table 1: A comparison of selected statistics between Gauteng and New Zealand

	New Zealand	Gauteng
Approximate population	<i>3,7 million</i>	<i>8 million</i>
Primary schools	2 406 444 761	<i>X</i> 863 657
Teacher : learner ratios	1 : 20,68	1 : 35,1 (national norm is 40)

Key: The numbers in bold represent actual number of learners and the numbers in italics represent the number of schools. The sign *X* indicates a detail that is unknown to the authors at the time of writing.

Though the average South African teacher pupil ratio in Gauteng is reported as about 1 : 35 (the recently suspended teacher retrenchment and re-deployment programme aimed to increase this to 1 : 40), the variations from the mean can be large, e.g., individual class sizes above the national norm are not uncommon as will be shown later. There are several causes for these variations, chief among these being an aversion by South African professionals to work in rural areas. The relevance of the latter observation to this study is that, as the reader shall soon discover, *teacher:learner* ratios in peri-urban areas tend to be above the national norm.

Material and Physical Conditions

As regards material and physical conditions at schools, Brand reports on the following information taken from the Gauteng Progress Report 1995-1997:

Table 2: Material and physical conditions in Gauteng schools

Physical condition	Number of schools	% of schools
without electricity	365	17,41
without fencing	690	32,90
without water	194	9,25
without toilet at all	183	8,70
with one or two toilets	53	2,54
without school hall	1 303	62,14
without staff rooms	533	25,42

Facilities in the schools are sometimes not maintained as well as they should, or for that matter used for the intended purpose. Brand (1998) gives the example of a 1994 FRD study which showed that in an East Rand cluster of five schools with 19 laboratories between them, only four of the laboratories could be described as functional and the rest being vandalised or used for other purposes. These problems are enormous and require the requisite skills from teachers in particular in order to be ameliorated successfully. In the schools chosen for the research, the problems of *provisioning* for learning purposes tend to be exacerbated by poor communities who are unable to support schools even with the most basic of requirements (pencils, crayons, etc.) as will be revealed in the main body of the research.

School Management

In Section 6. of this report a picture emerges of schools that are barely able to function due to administrative problems. The lack of phones, faxes, duplication facilities etc., all mitigate against smooth functioning in the schools. Crucially, coupled to the latter set of problems, is the apparent lack of management structures in some schools. These problems leave schools unable to plan further into the future (as is demanded by Curriculum 2005) since school administrators are tied down battling daily problems.

4.4 Implementing OBE: The International Experience

Whatever OBE may mean to the individual, it seems to have raised conflicting passions almost everywhere implementation has been tried. As reported elsewhere in this report one of the problems about OBE is that it is criticised as too open or too prescriptive, depending on where the critic is coming from. The other problem seems to be that statements about the outcomes we desire to achieve at one time, say very little about how these outcomes are to be addressed and/or assessed. It is now almost common knowledge that in South Africa at least, instructional practises tend to be strongly influenced by the nature of the assessment used. In some countries plans for implementing OBE assessment practises have tended not to be well developed. O'Neil (1994 : 8) enlightens us:

"Few schools appear to have actually reorganized their curriculum and overhauled their assessment and reporting schemes to reflect new higher order outcomes."

The lack of clarity on the assessment practises to be followed has only strengthened the hand of the opponents of OBE. Moreover in places where there was an assessment scheme in place teachers appeared to be unable to cope with it (Brand, 1998). The voices that opine that OBE in New Zealand or Australia has failed are paradoxically juxtaposed with the opposite view (Malcolm; 1997b). These stories have not helped to advance the cause of what is good about OBE a step further. Brand, investigating where the debate about OBE is leading to had this to say about the United States:

"Recent disputes over plans to launch outcome-based education (OBE) have left reformers baffled, discouraged and defensive. Some think the movement is dead; in some places they avoid the word outcome and they deny that their school's programme has anything to do with OBE."

Ron Brand (1994: 5)

More locally, Jansen added a critical voice meant to warn us about the reasons why OBE, because of some uniquely South African problems, will fail here. The debate about the import OBE has for education in the South African context proved so emotive that voices from unexpected quarters joined the fray. Stephen Mulholland², an economist who occasionally takes it upon himself to write about educational matters in his Sunday Times column, roots his rejection to

² For convenience we shall take his voice to represent that of the average South African parent.

OBE on "common sense". He thinks that the move toward outcomes based education is arbitrary and more importantly the present system is working properly, i.e., it produces engineers, doctors, teachers, etc., who are on equal terms with the best the world has to offer. Though the questioning voice of Mullolland may be un-informed and lack insight on educational matters in general, it cannot be dismissed as it probably captures the feelings of many South Africans. Given the contexts that OBE has never been a qualified success in any of the countries it has been tried, proponents of OBE do not have much ammunition with which to fend off these criticisms (New Zealand has recently decided not to proceed with implementation). The problem, Jansen (1997) argues, is that OBE in South Africa is being pushed too fast too soon by people who choose to ignore the fundamental processes of educational change.

4.5 The South African Model of OBE

OBE in the South African context relates to the establishment of the National Qualification Framework (NQF). The NQF is described in official documents as an approach to education and training that will provide opportunities for the individual to learn regardless of age, previous level of education and personal circumstances. The NQF calls for learning to be an ongoing process throughout the life of the individual and this requires learning to be modularised in portable units which accrue to the individual and eventually lead to a qualification. At school level, the NQF is embedded in Curriculum 2005, a vision for the education of all South Africans, that plans to integrate education and training by doing away with the barriers between the various academic disciplines, knowledge in academia and applied knowledge as well as skills training. In the words of the Minister of Education, the aims of Curriculum 2005, compared to what has been before, are described as follows:

"Essentially, the new curriculum will effect a shift from one which has been content-based to one which is based on outcomes. This aims at equipping all learners with the knowledge, competencies and orientations needed for success after leaving school or having completed their training. Its guiding vision is that of a thinking, competent future citizen." (NDOE : 1997)

The latter definition of what education and training should entail closely parallels the description

of transformational OBE given above. The fact South Africa has indeed chosen transformational OBE is again echoed in another official document on OBE Philosophy and Implementation (Pahad & Cohen : 1997). The kinds of competencies and outcomes the South African model of OBE requires have been outlined in eight learning areas and cross field critical outcomes.

With respect to learner centred approaches to teaching we note that OBE is not equivalent to learner centred approaches to teaching. We recognise that it is possible to implement OBE while using traditional teaching approaches or a combination of traditional and learner centred approaches. In the schools we found that teachers tended to think that OBE meant using learner centred approaches to teaching. This confusion is not surprising in the light of official South African documents on Curriculum 2005 encouraging teachers to use learner centred approaches to teaching (at about the same time that OBE is introduced). NGOs in South Africa, COUNT included, also encourage learner centred approaches to teaching. Hence we see it as part of this study to enlighten the reader on the extent of the use of learner centred approaches versus traditional approaches in Grade 1 classrooms.

5.0 DATA COLLECTION AND FIELD WORK 5.1 Enlisting Schools in The Research

The reasons of selecting the schools for the study has already been described. All the schools chosen for the study happened to be³ combined primary schools, i.e., admitting learners from Grade 1 to grade seven. Of the six schools chosen four were headed by males and two by females. Three of the schools were located in an urban area and the other three in a peri urban area. This selection was intended to provide an urban/peri-urban contrast. Formal letters enlisting and explaining the research and its aims were sent to all schools. This was followed up by a personal meeting of the researchers with the principal and the Grade 1 staff in each school. During these meetings, it was explained to the Grade 1 staff especially that participation in the project was entirely voluntary. All agreed to participation in the project.

The four schools which were involved in COUNTS' INSET programme are hereafter referred to as the experimental schools and the schools which did not receive COUNT INSET will be

³This was not an intended selection criterion.

referred to as the control schools.

As incentive for getting the control schools to participate in the study, an *offer* was made that COUNT will start providing INSET at the schools as soon as the data collection was over. The control schools agreed to the plan.

5.2 The Nature of INSET Provided in The Experimental Schools

The experimental schools belonged to a cluster of about six schools in the Diepsloot/Lanseria and Sebokeng areas. Different personnel who work for the NGO are responsible for schools in each cluster. The personnel operating from different areas meet every Friday to exchange information and synchronise their training programmes.

5.2.1 The Skills Which COUNT Emphasises In Workshops

COUNT teacher training programmes emphasise three main teacher development strategies:

- 1) workshops,
- 2) classroom support,
- 3) the use of materials.

Workshops During workshops skills related to learner centred approaches to teaching and learning, such as using investigations to develop mathematical concepts, and problem solving, are developed. The do, talk and record model is used. This model takes teachers through a process of using manipulatives (in investigations) as aids to problem solving, talking about what they are doing, and recording the process they undergo through the doing and talking stages. Teachers are also introduced to the teaching and learning cycle where the focus is on planning the lesson, implementation of the plans, observation, reflection on the plan and assessing the learning process as well as re-planning if necessary.

Another component of the workshop is to demystify the terminology and meaning of OBE by discussing the official OBE documentation with teachers. Teachers are

also provided with a set comprising appropriate foundation phase learning material. The material is presented in such a manner as to demonstrate the integration of teaching across the Numeracy, Literacy and Life Skills learning programmes.

Classroom Support

This component involves working with teachers in the classroom. The emphasis turns to classroom organisation (arrangement of learners in class - when and why), the facilitation of teaching and the learning process (approach to content, questioning skills, time management, classroom management, encouraging learners to express themselves, observation skills and the differentiation of learners with special needs for possible referral).

Teachers are also encouraged to compile the worksheets they have developed into a booklet. They are also sensitized to the need to use information from learners in designing worksheets. Issues relating to mathematical language are also highlighted.

The Use of Materials

Teachers are trained in using materials efficiently (how to select it, when to use it, and how to use different kinds of materials). Teachers are also given materials developed by COUNT for use in their classrooms (after being given workshops on their use.

5.2.2 Schedule of Workshops and Classroom Support Visits

Each COUNT facilitator in the different areas works in four schools. In areas where transport is not a problem (e.g., Sebokeng), teachers from different schools come to one afternoon workshop once a week at a central venue. In areas where transport is a problem (e.g., Lanseria/Diepsloot) the workshop becomes school-based with each school getting its own afternoon workshop. once a week. This routine is repeated with another school getting classroom support the

Table 3: A typical facilitators schedule.

Week 1			
Morning classroom support		Afternoon in Diepsloot/Lanseria	Afternoon in Sebokeng
Mon	school 1	ws school 1	One joint ws per week for all
Tue	school 1	ws school 2	
Wed	school 1	ws school 3	
Thu	school 1	ws school 4	
Fri	Back in office		

Week 2			
Morning classroom support		Afternoon in Diepsloot/Lanseria	Afternoon in Sebokeng
Mon	school 2	ws school 1	One joint ws per week for all
Tue	school 2	ws school 2	
Wed	school 2	ws school 3	
Thu	school 2	ws school 4	
Fri	Back in office		

Week 3			
Morning classroom support		Afternoon in Diepsloot/Lanseria	Afternoon in Sebokeng
Mon	school 3	ws school 1	One joint ws per week for all
Tue	school 3	ws school 2	
Wed	school 3	ws school 3	
Thu	school 3	ws school 4	
Fri	Back in office		

Week 4			
Morning classroom support		Afternoon in Diepsloot/Lanseria	Afternoon in Sebokeng
Mon	school 4	ws school 1	One joint ws per week for all
Tue	school 4	ws school 2	
Wed	school 4	ws school 3	
Thu	school 4	ws school 4	
Fri	Back in office		

following week and so on. All teachers in the school are encouraged to attend the workshops as they are seldom grade specific and mostly deal with general teaching and learning issues with an OBE framework. The workshops are followed by classroom support visits where work is undertaken in conjunction with the teacher in ensuring that ideas discussed in the workshops are implemented. Classroom support takes place for foundation phase teachers only. The classroom support visits take place in a cycle of four days of the week per school. Part of the training provided for teachers includes the use of teaching support material developed for teachers. Teachers are also trained to develop their material on an ongoing basis.

5.3 Data Collection

5.3.1 School Visits For Observation

All schools in the sample were combined Junior and Senior Primary schools.

The co-researcher from COUNT acted as INSET facilitator for the experimental schools in the Lanseria area. When we worked in the Lanseria area, my co-researcher would work closely with me in data collection.

My co-researcher was free to go with me to the Sebokeng area only on Fridays (which we built into our rosters) so I went mostly alone when data had to be collected in Sebokeng. We drew up a roster for visiting schools. There was no fixed pattern to the roster except the guiding principle that each teacher had to be visited for observation at least three times. At least one of these lessons is on tape and the others are on paper based observation schedules. One more visit had to be added at the end after I pointed out to the teachers that almost all of the lessons observed did not include assessment (the answer to that was that they were inclined not to do any assessment when I was not in the classroom as they believed I was not looking at that aspect). Because of this one more visit had to be added at the end where issues related to assessment were included in the lessons. The reason for wanting to fit in more than one visit per teacher was an attempt to offset the effects of the Hawthorne effect, i.e, to get both teachers and learners alike used to having someone looking on. In all there were (a breakdown per school is provided in the analysis) 2(School A) + 3(School B) + 3(School C) + 1 (School D) + 2(School E) + 1(School F) = 13 teachers who participated. Not all teachers in School F participated to the end and we remained with only one teacher from this school at the end. Taking into account all the aborted visits that had to be rescheduled, this translates to approximately sixty days out in the field.

5.3.2 Research Instruments

The data was collected in the form of questionnaires, a classroom observation schedule, and video tapes of lessons. There was a range of questionnaires developed for probing teachers attitudes to and participation in *INSET*, as well getting basic information about highest school standard passed, their teaching qualification, their sex and their ages. The classroom observation schedule was aimed at timing the teacher as they did different things during a lesson. The latter instrument did not work as intended⁴ and is thus not included in the appendices. The recording of lessons on video tapes was meant to keep a record of at least one lesson from each teacher participating in the research so that we review the teaching technique as well helping us decide whether the teacher was teaching

⁴The was no time to pilot research instruments prior to data collection.

toward the attainment of outcomes as well as deciding whether the teacher was traditional or learner centred in their approach. The lessons were followed by semi-structured interviews which were aimed at giving teachers an opportunity to explain to us some of the things that happened during a lesson. For example we might observe the teacher (and learners) being involved in a game (or some other activity) during the lesson. At the end of the lesson the teacher would be asked questions including the outcomes they thought were being achieved through the game (or activity), which learning programmes (Numeracy, Life Skills or Literacy) they thought were straddled by the game and/or to explain a particular aspect of the game which was not clear to us. The range of the questions used in the semi-structured interviews is given in appendix 3 (page 102-103).

6.0 DATA ANALYSIS AND DISCUSSION

6.1 Politico-Socio Economic Dimensions of Doing Research in South African Schools

It is generally accepted that learning and research of any kind and educational innovation are more likely to thrive in peaceful and organised environments. It is our belief that research data need to be situated in the context of the environment in which the data were collected. The environment in the majority of South African schools is probably influenced by socio-economic and political factors. We briefly turn our attention to the socio-economic and political factors which have to be reckoned with, as far as doing research in South African schools goes. We start by looking at the political factors.

6.1.1 The Politics of Doing Research in Schools

Due to a combination of factors, South African schools are perhaps among some of the most politicised in the world. Inevitably this often leads to unpredictable climates developing in the schools. Vithal (1998: 475) laments the state of affairs:

"If you talk to any educational researcher in South Africa who is collecting data, you will find he or she has consistent stories of arriving at a school after careful and extensive discussion only to find the school completely

empty or having new management, disrupted by protests or some other unanticipated situation. Disruptions to carefully conceived plans are the norm rather than the exception. Thus *disruptions experienced in research designs produce disruptions in the data*. Such disruptions may or may not be severe but their impact on a researcher's intent to continue with the same research focus or question, may indeed be crucial."

We will give some detail on the nature of the disruptions experienced as we explore the data in the following sections. The reason for doing this is to raise awareness on the part of the reader about the conditions under which the data was collected. At worst, depending on your own theoretical perspective, a substantial amount of data can be declared irregular and thus barred from analysis (particularly with regard to School F). On the other hand we sympathise with Vithal's views that these are the conditions prevailing in the majority of South African schools at the moment, and seem likely to persist for a few more years at least. Barring data collected from such schools is, in a way, denying the existence of the schools from which the data was collected. The latter proposal is untenable for us particularly in view of the fact that there is a substantial number of such schools.

6.1.2 Socio-Economic Factors

Socio-economic factors come into play in these schools because all the schools involved in the research have varying numbers of children living in poverty as for example, in squatter communities. The problems this causes for the schools tend, to a larger or lesser extent, to be a mixture of the following:

- children often travel long distances to get to the school
- children are often under-dressed for winter conditions, and classrooms are not well insulated and do not have heating
- some children receive their only meal of the day at school (a feeding scheme is operational in the schools).

The school most affected by these problems is school D. To give the reader a peek into the severity of problems teachers have to face, we give the example of the demolition of

shack settlements described as illegal by local municipality officials. These demolitions took place just when the first cold spell of winter arrived. Some children in School D who had lived in the shacks, some in only Grade 1, described to their teachers how they had slept out in the open on the winter night with only make shift plastic shelters.

The socio-economic and political factors mentioned above, to a large extent, are the daily "lived" experiences of the subjects we targeted for our research and thus provide an inescapable context in which to view and interpret the findings of this research.

6.2 Background of Schools In Sebokeng

Sebokeng is a township near Vanderbijlpark, an industrial town about 60 km to the South of Johannesburg whose economy is dominated by the steel manufacturing factories of ISCOR. Like many South African townships, Sebokeng has its own fair mix of urban problems, the most prominent being unemployment, inadequate infrastructure and squatter communities. All schools involved in the research had brick structures with running water and electricity. The degree of upkeep of the schools differs (broken windows, sagging ceilings or pot holed floors here and there) but is within reasonable bounds given the budgets with which these schools operate. Of the three schools in Sebokeng two were without office phones. None of the schools had a fax machine. All schools complained of lack of basic equipment such as photocopying machines, cleaning equipment, books, and classroom heating. In two of the schools the Grade 1 teachers complained of overcrowding in their classrooms.

The object of our study, as well as our research instruments were not geared toward analysing the management style in school. What we say hereunder regarding management are perceptions gained from interacting with the school and the Grade I teachers. The latter, taken with the fact that we were only in each school for less than six working days out of a total of about one hundred and ninety six school days gives an extremely narrow window on what happens at the school on a day to day basis, but nonetheless we feel these perceptions are sufficient to give a general notion of what management in the school is like.

6.2.1 Control School A

Gaining Access To The School

Working with COUNT staff active in Sebokeng, we had a meeting with the principal and Grade 1 teachers in which we discussed the school's cooperation in the research. The school agreed to participate in the research subject to getting assistance with the implementation of OBE at the end of the study. Dates for the first and subsequent visits to the school were agreed upon. An arriving at the school for the first visit, the principal indicated that we could not go ahead as planned as teacher union representatives in the school were suspicious of our presence in the school, in spite of the Grade I teacher having told them that they did not feel threatened by our presence. Another date had to be set to clear the matter with the union representatives in the school. It emerged during the discussions that the unions were guarded against what they called 'agents of the department' who were apparently monitoring the implementation of OBE in the schools. We were apparently assumed to be one of the "agents of the department"⁵ by other staff members. We learnt that educational unions had exerted pressure for the Teaching and Learning Support Services staff to be withdrawn from schools. Though this matter was cleared in the meeting we later gathered from the Grade I teachers, that they constantly had to fight a rear-guard battle on our behalf that the other teachers were never entirely satisfied about our presence.

From this we surmised that management in the school is continually buffeted by opposing political forces.

Staff

The total number of teachers in the school is twenty five and twenty teachers filled in questionnaires. Of the twenty teachers who filled in the questionnaire, 35%

⁵ We were informed that a notice to be on the lookout for departmental monitors was in force.

were male and 65% female, 75% of these teacher were in the 40-49 age range. In terms of qualifications, 90% had a grade twelve certificate and 80% had passed mathematics⁶ at grade 8. A breakdown of teaching qualifications is 45% PTC; 15% HPTC; 10% PTD; 15% PTD and 5% for each of SPTC, STD and other qualification. What stands out from this is that the majority of teachers from this school still hold teaching qualifications that are based on the old system of a pass at a Junior Certificate (JC) plus two years teacher training.

Learners

The principal estimates that the learners who live furthest from the school have to walk a distance of about two kilometres. The total number of learners in the school is seven hundred and thirty two giving an average *teacher: learner* ratio in the school of 1 : 31 (for Grade 1 learners this is 1 : 41)

At the Grade 1 level, the number of boys and girls divide according to age as follows:

Table 4: Statistics reflecting how the learners in Grade 1 divide according to age (and sex) at School A

Age group	4-5 yrs	6 yrs	7 yrs	8 - 9 yrs	10-11 yrs	12 yrs
Girls	4	25	14	1		
Boys	4	20	13	1		
Totals	8	45	27	2		

The official age at which learners are expected to start school is seven years or when the learner turns seven in the first six months of the year in which they register for the first time. Of the learners in Grade 1 at least eight are under the officially declared age of starting school. The principal responded to this by saying that parents presented fake birth certificates at registration.

Teacher Attitudes To INSET

With regard to the completion of questionnaires, we tried to get all teachers in the school to complete the questionnaires before the commencement of the first classroom observation. This usually took place toward the end of the school day in the staffroom (or a spare room if a staffroom was not available).

⁶Most teachers at this school qualified at the time when "arithmetic" was taught in schools.

Seventeen teachers in the school completed the attitudinal questionnaires. Each of the items in the questionnaire provided for a five point response scale. The responses were such that they reflected a range starting from a strong disapproval of INSET related activities in the school (responses 1 and 2) neutral in the middle (response 3) and a strong agreement to INSET (responses 4 and 5).

Table 5: The five point response scale used in the attitude questionnaire.

Very strong Disapproval	Strong Disapproval	Neutral	Strong Approval	Very Strong Approval
1	2	3	4	5

Table 6 below reflects how the teachers responded to the individual questions of the attitudinal questionnaire.

Table 6: Attitudes to INSET at School A. The specific response items, 1 to 5 are given in the appendices (84-85)

	1	2	3	4	5	0
Feelings about having to do INSET		(1)	(2)	(1)	2 (8)	(3)
Relevance of skills and knowledge from INSET to teaching			(2)	(2)	2 (8)	(3)
INSET develops teachers to be independent thinkers				(2)	2(10)	(3)
INSET prepares teachers to develop and manage resources			(1)		2(11)	(3)
INSET develops teachers to be reflective practitioners			(1)	1(1)	1(11)	(2)
INSET helps teachers maintain professional standards	(1)	(1)		2(5)	(4)	(4)

Key: The brackets indicate the responses of teachers other than Grade 1 teachers in the school. 0 indicates a none response.

Across all items, a consistently high percentage of about 59% to 82% of the teachers in the school tended to be positive about the value of doing INSET. We take this as a positive indication of the teacher's willingness to participate in INSET related activities. A sizeable number of teachers in this school (65% of respondents), indicated that they are presently registered for further studies.

Buildings and Grounds

The school yard is unpaved and is kept reasonably clean and the fence is still undamaged. All classroom doors have iron security gates fitted. The classrooms floors are polished, and a few panes are missing, ceilings have holes and sag in places. The school is electrified, but the Grade 1 classrooms had problems with

tripping wall plugs. The electrical wiring is exposed in places and some switches and wall plugs are not in working order. Teachers indicated that as a consequence of the faulty wall plugs they could not use heaters in cold weather. This was a problem as some kids came to school under-dressed. The classroom lights did not work.

Student Resources

At the Grade 1 level, each learner has a chair and a desk to write on. The desks are arranged in clusters of four to allow for group teaching. Each child has a tin or two on the desk used as a container in which they place their crayons, pencils, rulers and counters. The teachers indicated that they struggled to get parents to buy learners these resources. In many instances children did not have these resources and other things like scissors, erasers etc.. In terms of writing material the Grade I teachers indicated that they did order the text books they needed but their budget fell short of their requirements. The books were kept in cupboards at the back of the class. When asked why they did not use these the teachers indicated that learners could not yet write properly and they will be given the workbooks as soon as they learnt to write properly. Meantime the learners did all their work on exercise books kept from previous years.

Classroom Resources

The Grade 1 classrooms tended to be overcrowded. There is no carpet or vinyl tiles on the floors, polish is however applied to the cement. Each classroom had a teacher table and a chair as well as a cupboard. The classroom walls are adorned with appropriate posters which the teacher sometimes uses in their lessons.

Teaching Resources

Teaching resources available at the school include numeracy textbooks which are written in English and not every learner in the school has a textbook. The textbook shortage was apparently caused by a combination of a "small budget" as the teachers put it, and a lack of experience in, e.g., purchasing more expensive books. The shortage of numeracy books seemed to be a problem experienced by the all the schools participating in the research. Another general problem was that

the textbooks were written in English. The textbooks were generally kept in the teacher's cupboards.

There was also a shortage of Numeracy workbooks and the ones that are there are kept in the cupboard. Besides there being a shortage of workbooks, teachers also thought that learners could not write properly and so would spoil the books. They were waiting for learners to start writing properly before they would allow them to write on the workbooks. The school did not have any material in the Literacy and Life skills learning areas. There was no overhead projector in either of the classrooms.

Duplicating Facilities

Teachers complained that a lack of photocopying facilities stymied their work. Some of the worksheets they had originally, had to be prepared on a stencil before they could be duplicated. They considered that this was a cumbersome process.

Administration Building

The administration building of the school consists of three rooms only, the principal's office, the secretaries' room and a resource room in which one ink duplicating machine, paper etc. is kept. This is the only school in Sebokeng with a functional telephone, there is no fax machine. The office was also equipped with assets like, desks, chairs, filing cabinets etc..

Community and Parental Involvement in School Activities

An elected school governing body exists. However the principal indicated that the attendance by parents at school governing body meetings was weak. As a consequence the school was not receiving a lot of support from parents and the community at large in fundraising activities. For all we could make out, it can be argued that the principal and his management staff remained virtually the sole decision makers in the school.

Schools' Involvement with INSET Activities

There were no overt concerted activities involving INSET that the teachers in the school were involved with. Up to the time we completed our research in the school the teachers claimed they have not had follow up OBE workshops. This was the same in all Sebokeng schools. With regard to school visits for the

purpose of supporting them with the implementation of OBE, teachers indicated that they have not had anybody come the school whether this was from the provincial department of education or not. Grade 1 teachers in the school indicated that they had received instructions from teacher union representatives not to allow anybody associated with the department of education access to the classrooms. The apparent reason for the blockade is that departmental officials were perceived as 'inspectors'. This situation was general to all Sebokeng schools.

The schools in Lanseria did not know why somebody from the department did not come for classroom visits.

Seating and Teaching Strategies

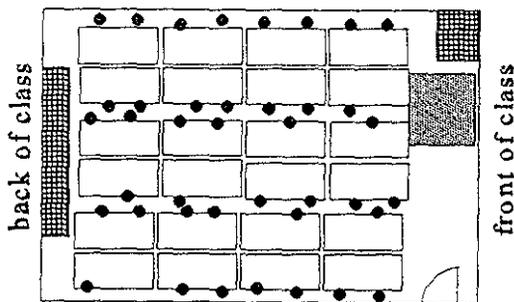


Figure 2: Grade 1 seating arrangements at School A

Seating arrangements in the Grade 1 classes in the school were as indicated in the diagram alongside (not drawn to scale). The main purpose of including this diagram is to give an impression of severely restricted movement around the classroom. The chequered rectangles indicate the approximate position of the

teacher's table. The classroom is crowded and movement between different points in the classroom is difficult. On a subsequent visit we noticed that one of the Grade 1 teachers had reverted to using a seating arrangement with children facing the front of the class and not seated in groups. On the occasions that we visited the classrooms the Grade 1 teachers used varied teaching strategies which included the following:

- The teacher leading the learners (usually from the front) by using drama and body movements.
- Teacher directed activities that involved counting and recognition of words and numbers signs.
- Learners working on teacher designed worksheets in their groups.

In one taped lesson the teacher asked learners to identify by name the body parts of a human on a picture. Then children count (using counters if necessary) the

number of the identified part(s) and write a symbol on the board. Later the teacher gives each learner a picture to colour and write in the number of heads, toes etc. that they see in the picture. She then starts going around from group to group making ticks (right or wrong) and discussing with learners who have problems doing the task. In the lesson discussed above, the teacher tried to integrate learning across three learning areas namely, Numeracy, Life Skills and Literacy learning programmes. The teacher tended to use traditional approaches most of the time, but her class was arranged in groups and she did indicate to us she had undertaken further studies in the past in which she did a full course on learner centred teaching. What inhibited her using explicit learner centred approaches is not clear, but we have to remember that it was not easy to move around this classroom because it was full. The other Grade 1 teacher in the school tended to do the same kinds of things because they prepared lessons together. These teachers raised a concern about implementing OBE in classes of the sizes they had. They felt it would be better for them to have smaller classes. They also expressed their concern about having to teach learners with special needs.

In terms of linking the lessons teachers in this school gave to learner centredness we observe the following:

The responses that came from learners usually involved any of these

- Chorused one word answers.
- Individual one word answers.
- Pointing out an object (or part of an object) on the charts adorning the walls of the classroom. Sometimes learners were expected to draw or colour in objects in the worksheets.

In all instances that we observed teachers we specifically asked them what outcomes (in terms of learning experience) they thought they had achieved at the end of the lesson they usually indicated the following

- learners being able to count to a certain number (usually one hundred).
- children being able to write any of the number signs from one to six.
- learners being able to recognise or draw shapes.

What emerges from all this is that teachers in this school associated outcomes strongly with curriculum objectives statements. Surprisingly, it emerged over time that they had a sense of what traditional, transitional and transformational OBE were. They felt that they were unable to implement transformational OBE. They thought they needed more skills to implement OBE and the workshops they had on OBE (from the GDE) needed to be followed by an extended course lasting six weeks or more perhaps. They also indicated that they needed support with learner centred approaches to teaching, e.g., group teaching.

Language

The teachers sometimes gave Grade 1 learners *instructions* or addressed them in English for prolonged periods of time. Questioned on the desirability of this the teachers pointed out that this was a form of getting learners to use the English they had learnt as well as preparing learners to be conversant in English as was general school policy.

The workbooks and textbooks in the Numeracy learning area were in English. Teachers indicated that they would only let learners start using the books later in the year when they started reading English sentences.

Teachers' Comprehension of Terminology Associated With OBE

When Grade 1 teachers in this school were specifically asked about the meaning of OBE associated terms, e.g., range statement, etc., they could not respond immediately, though they had a notion of the meaning of the terminology. They also indicated that OBE terminology was complicated and expected that it will take them time to get to know it fluently. They indicated that they constantly had to refer to official manuals to remind themselves of the of the meaning of OBE terminology.

Teaching Experience The Management and Facilitation of Learning

The average teaching years of experience of the two Grade 1 teachers involved in the research is about eleven years. The teachers had relatively well organised classrooms, i.e., teaching material was always accessible to the learners and they prepared their lesson plans together (which meant we observed the same lesson twice if we went in to see one classroom after the other on the same school day).

One of the teachers had a university course on group work in her upgrading studies. She and her colleague who has no formal training in group work, decided to start with it this year partly because they were interested and partly because of OBE. Both teachers give an impression that they have not mastered the finer points of co-ordinating group work in their classrooms. They admitted as much after we asked them about their use of group work. Other than their skills with group work these teachers communicated well with their classes and, overall, we can characterise both teachers in the school as good traditional teachers.

They indicated that official GDE documents recommended that they divide their time in the ratio of 25% Numeracy, 25% Life Skills, 25% Literacy and the remainder of the time devoted to integration. They used this suggested scheme as a format for their time-tabling.

Learner Projects and Assessments

We requested teachers to make examples of assessment tasks or projects available if they had these. We even tried to encourage teachers to try out some form of assessment while we were actually in the classroom. The only form of assessment we witnessed was the teacher going around the classroom making ticks and crosses on learners' books. The teachers generally desisted from scoring (weighting) what they were doing in numerical terms. The teachers were aware that they were expected to use a range of assessment techniques but they did not actually volunteer actual examples of individual or group projects etc.. However they did tell us that they gave learners projects involving the cutting out and pasting of words, numbers or pictures. These projects usually required other members of the learners' family to help, which often did not happen. Teachers also indicated that they kept portfolios for each student. They complained about having no guideline on how to keep a portfolio. They were working on developing their own format for a portfolio.

One example of a project given involves giving learners a list of words that they misspelt and were required to practise these under the supervision of an adult at home. However teachers indicated that a few parents participated in these projects.

Teachers' Perception of OBE

The teachers heard of the three types of OBE in workshops run by the GDE but they appear to have no comprehension of what transformational OBE in particular is all about. Their notion of OBE can be characterised as transitional in the sense that they simply substitute curriculum objectives statements for outcomes.

6.2.2 Experimental School B

There were in total four Grade 1 teachers in this school but we ended up working only with two because of persistent problems getting access to the classrooms of the other two. The two Grade 1 teachers we worked with in this school, independently of one another, told my co-researcher and me that at first, they could not accept our presence in the school. They were persuaded to be patient by the principal. Both mentioned the monitoring agents sent to the schools by the departments as contributing to their apprehension about us.

Gaining Access To The School

The principal and her deputy gave approval for doing research in the school. Judged by its operation, its grounds and especially learning environment when the principal is present this school appears to be well run. At any one time, when the principal is present, learners and children are in class and appear busy. I thrice had the misfortune of arriving at the school when the principal was absent. On the first occasion, I was informed the school was preparing for a funeral of one of the school children the next day. On the second occasion, when I arrived at 08:30 the teachers were outside their classrooms and claimed to be cleaning and preparing for a farewell function. The farewell function was to take place in the afternoon and was for a colleague who was retiring. On the third occasion, on a Friday month end, again the principal was away and the teachers and children were outside their classes. One of the Grade 1 teachers we work with convened her class and a lesson took place especially for the co-researcher and me. All these days were Fridays but the school was in an unusual state of upheaval anyway.

Staff

The school has twenty three teachers and thirteen of these responded to the questionnaire. The composition of the teaching staff was 15% were male and 85% female, 54% of these teacher were in the 30-39 age range and 46% in the 40-49 age range.

In terms of qualifications, all teachers had a matriculation certificate and 69% passed mathematics at grade 10 (some of these include the old arithmetic). A breakdown of teaching qualifications is 38% FTC, 46% PTD(J), 8% PTD (S) and STD 8%.

Learners

In the completed written questionnaire the principal estimates that the learners who live furthest from the school have to ride (by taxi or bus) a distance of about twenty four kilometres. The total number of learners in the school is six hundred and seventeen yielding an average *teacher : learner* ratio of 1 : 28 (for Grade 1 learners this is 1 : 27)

Table 7: Statistics reflecting how the learners in Grade 1 divide according to age (and sex) at School B.

Age group	4-5 yrs	6 yrs	7 yrs	8 - 9 yrs	10-11 yrs	12 yrs
Girls		18	22	1		
Boys		25	22	1		
Totals		43	44	2		

Teacher Attitudes To INSET

Fourteen teachers in this school returned the questionnaires on their INSET activity. The scale in the table below must be interpreted in the same way as in Table 6 above (page 28).

Table 8 overleaf reflects how the teachers responded to the individual

Table 8: Attitudes to INSET at School B. The specific response items, 1 to 5 are in appendices (see Table 6).

	1	2	3	4	5	X
Feelings about having to do INSET	(1)			1(2)	3(7)	
Relevance of skills and knowledge from INSET to teaching	(1)		(1)		4(8)	
INSET develops teachers to be independent thinkers			1(1)	(1)	3(8)	
INSET prepares teachers to develop and manage resources			(2)		4(8)	
INSET develops teachers to be reflective practitioners			(2)		4(8)	
INSET helps teachers maintain professional standards		(1)	(1)	1(2)	3(6)	

Key: 1. The brackets indicate the responses of teachers other than grade 1 teachers in the school.
 2. X indicates a none response.

Across all items, a consistently high percentage of between 86% to 93% of the teachers in the school tended to be positive about the value of doing INSET. We take this as a positive indication of the teacher's willingness to participate in INSET related activities.

Teachers Involvement in Further Studies

About seven (50%) teachers from the fourteen teachers indicated that they are presently registered for further studies. The degrees/diplomas/courses most often registered for are the following; Educational Guidance 3, BA (Hons) 1, FDE 1.

Buildings and Grounds

The school consists of a twenty four classroomed double storey building formerly meant as a high school but eventually used as a primary school. The school yard has a paved parking lot and there is a garden and a playing ground with a lawn. The fences are still intact. All classrooms are well kept with wooden doors. A few window panes are missing. The school has electricity, but the Grade I classrooms did not have heaters in winter. There is adequate running water and a number of toilets. In general the school is the best of the schools cooperating in the study.

The school struggles with the maintenance of these facilities and is barely managing on the little funds it can raise.

Learner Resources

Each Grade 1 learner has a chair and a desk to write on. Teachers indicated that they struggled to get parents to buy the learners other equipment needed in the

classroom e.g., crayons, scissors, erasers etc.. The teachers indicated that they stopped asking learners who could bring these things because these ended up being shared by everybody, minimising the benefits to the ones who brought them. Other learner resources included counters, number cards, etc.. Each child has their name and the number 1 to 10 pasted on their side of the desk.

Teaching Resources

Learners have an adequate number of numeracy workbooks and textbooks. However these are kept in teacher cupboards probably because these are in English and also probably because learners cannot yet write properly. Teachers indicated that they had a shortage of material in other learning programmes, i.e., Literacy and did not have material in the Life Skills learning programme at all. Other resources included posters, strings and material learners brought from home.

Duplicating Facilities

The situation with regard to duplicating facilities is exactly as discussed in page 30. However the principal indicated the department keeps sending the school boxes of photocopying quality paper.

Grade 1 teachers indicated that got an idea to use jelly pads to alleviate this difficulty from ongoing workshops.

Administration Building

The administration building has a principal's office (with a separate secretary's room), deputy principal's office, staff room, storeroom, kitchen and latrines. All the afore mentioned rooms are sparsely furnished though the school makes an effort of keeping up appearances. The school has no phone or fax machine and has to use public phones installed in the foyer of the administration building. These phones are frequently used by members of the public.

The principal's office was otherwise equipped with assets like, desks, chairs, filing cabinets etc.. The secretary had a computer.

Library and Laboratories

The school has rooms designated from conception as a library and laboratories but these lie unused. In the case of the library teachers allege that it was vandalised

and the school plans on re-stocking and starting with the library facility all over again as soon as the planned installation of appropriate security measures is completed.

Community and Parental Involvement in School Activities

An elected school governing body exists. However the principal indicated that though not perfect the support the school got from parents and participation in the school governing body meetings was adequate. The principal also indicated that the majority of parents and the community around the school could not support them financially because of their economic status.

Schools' Involvement with INSET Activities

The school has in the years gone by worked with the TOPS programme and blue trunks, which now stand empty at a corner of each Grade I classroom are a silent reminder of that past INSET activity in the school. There was no other previous INSET activity teachers recollected. The other INSET activities happening in the school are the INSET programmes offered by the GDE (especially with regard to OBE) and the COUNT activities detailed elsewhere.

As reported earlier by the time we got to the schools to do this research departmental officials had already been barred from the classrooms.

Classroom Arrangement and Teaching

Grade I classrooms have a size of approximately 49m². The teacher: learner ratio of 1 : 27 made for ideal teaching conditions. Included in the teaching equipment at the back of the each class are paraphernalia like empty bottles and other containers probably brought to school by learners.

For the first series of visits to the school, the desks were arranged in clusters of four to allow for group teaching. As the visits to the school progressed the teachers started using groups of two.

The teaching strategies used by teachers were very similar to the strategies used by the teachers at School A except that in this case the teachers had more skill, and critically, were able to support learning in group interactions although this happens for brief periods only (after which they fell back to traditional methods). At most times the classroom was teacher controlled and learners mostly had to

provide one word responses to questions (the questions did not require learners the space to think independently).

In one taped lesson the teacher chants and claps her hands a number of times and the learners, standing around her, identify how many claps she had made. Subsequently she tells learners about the story of Goldi Locks and The Three Bears and links this to relationships within a family. She produced and pasted on the board pictures of three bears of increasing size, three bowls of increasing size, and finally three beds of increasing size. She then asked learners to associate the correspondences between the bears, bowls, and beds. Learners were then asked to count a selection of objects and write the number symbol on the board.

It is apparent that a fair amount of planning went into lesson preparations in this school (which teachers indicated that they did together).

Teachers were concerned about the requirement that they adapt teaching to accommodate learners of all ability ranges, especially learners with special needs. They felt that learners who coped well were left alone for long periods while they attended to somebody who was slow. They felt that they really did not have the skills to teach learners with special needs.

OBE in The Classroom

Again the responses to questions from learners involved a range of the things already mentioned previously and took mainly the form of one word sentences. Again when asked about the outcomes around which their topics were based teachers indicated curriculum specific outcomes. One teacher went to the extent of pointing out that they were aware they were supposed to teach learners more application in context but were restricted since they first had to teach learners to write and comprehend numbers.

These teachers had also heard about transformational OBE but felt that they could not implement it.

Language

The preferred language of instruction teachers used was the mother tongue of the majority of learners in the classroom, i.e., South Sotho. However not all Grade 1 learners spoke South Sotho as their home language but could hear and speak

it as it was used as a common language. The teachers in this particular school would sometimes switch instruction between English and South Sotho and seemed to be always conscious of their use of English. Again the teachers cited the episodes they lapsed into English instruction as way of preparing learners for later grades in their school careers.

In one instance the teachers complained about the English workbooks expecting them to teach the letters of the alphabet from a to z by the middle of the second term. They thought that this was both impossible and not consistent with the "old" syllabus.

Teachers' Comprehension of Terminology Associated With OBE

The Grade 1 teachers in this school showed an understanding of the meaning of OBE associated terms like range statement, specific outcome, assessment criterion etc.. The teachers did admit to grappling a lot with OBE terminology and indicated that they received ongoing assistance from workshops in unpacking OBE terminology.

Teaching Experience The Management and Facilitation of Teaching

The average teaching experience of the three Grade 1 teachers in the school was about seven years. The *teacher : learner* ratio of 1 : 27 made classroom organisation easy and gave teachers the freedom to do things with learners that they wanted to do, e.g., children play acting in stories. The teachers again maintained they prepared lesson together and this was confirmed by the same theme going through the lessons as we moved from teacher to teacher. Through their work with COUNT teachers in this school had some formal training in group work. The teaching practices of teachers in this school varied from learner centred (but still teacher dominated), to traditional teaching practices.

Learner Projects and Assessments

We requested teachers to make examples of assessment tasks or projects available if they had these. They indicated they used a range of assessment techniques and gave a verbal description of the assessment projects they handed the learners but actual examples of tasks planned or completed by learners were not available. The only form of assessment we witnessed was of the teacher going around the

classroom making ticks and crosses on learners' books. Teachers desisted from scoring their marking in numerical terms. Teachers indicated that most assessment projects they assigned learners, were dependent on help from other family members (as learners did not have the independence to do anything on their own) and this did not happen. Teachers also indicated that they kept portfolios for each student and used a style guide sent to them by the GDE. They complained about having difficulty following the style guide. They indicated they hoped COUNT will assist them in this regard in subsequent workshops.

Teachers' Perception of OBE

Teachers were aware of the three characteristic types of OBE. Again we can say that like School A they seemed to have no comprehension of what transformational OBE is about. Again we characterise the practice of OBE in this school as typically transitional.

6.2.3 Experimental School C

Gaining Access To The School

Gaining access to this school proceeded smoothly. Judged by its operation, its grounds and especially learning environment this school appears to be well run. At any one time, learners and children are in class and appear busy. A disruption (when we got to the school and could not collect the data planned for the day), in this school took place only once, at the beginning due to the principal double booking a date. I found that the principal in this school wanted to be informed at all times as to what I was doing with his staff

Staff

The questionnaire about school demographics was not returned so information about the total number of teachers in the school is not available. Sixteen teachers filled in the questionnaire and of these, 12,5% were male and 87,5% female, 12,5% of these teacher were in the 30-39 age range and 62,5% in the 40-49 age range.

One teacher was less than thirty years old and the rest of the teachers were over

50. In terms of qualifications, 94% of the teachers had a matriculation certificate 69% had passed mathematics at grade ten (the majority of these include the old arithmetic). A breakdown of teaching qualifications is 12,5% LPTC; 25% PTC; 37,5% PTD(J); 1 teacher had a PTD (S) and another an STD. The rest (25%) held university qualifications.

Learners

The questionnaire on the statistical information on learners was not returned, so we cannot provide the reader with an age breakdown of learners in Grade 1. As this school neighbours (they share a fence) School A, we conclude that the schools are in the same catchment area and we infer thus that the learner profiles for these two schools should be about the same. We also infer from our field notes, that the *teacher: learner* ratio in the school at Grade 1 is about 1 : 40.

Teacher Attitudes To INSET

Eighteen teachers in this school returned the questionnaires on their INSET activity.

The tables must be interpreted in the same way as in previous sections. Table 9

Table 9: Attitudes to INSET at School C. The specific response items, 1 to 5 are given in the appendices.

	1	2	3	4	5	0
Feelings about having to do INSET		(1)	(1)	(3)	2(9)	1(1)
Relevance of skills and knowledge from INSET to teaching	(1)			(3)	3(6)	(5)
INSET develops teachers to be independent thinkers				(3)	3(10)	(2)
INSET prepares teachers to develop and manage resources				(3)	2(10)	1(2)
INSET develops teachers to be reflective practitioners			(1)	(4)	2(9)	1(1)
INSET helps teachers maintain professional standards		(1)		(8)	1(4)	1(2)

Key: 1. The brackets indicate the responses of teachers other than grade 1 teachers in the school.

2. 0 indicates a no response.

The trend established earlier of teachers in this area having positive attitudes to INSET is again confirmed (67% to 89% of teachers polled were positive on all items).

Teachers Involvement in Further Studies

Seven teachers indicated that they were involved in further studies. The

degrees/diplomas/courses most often registered for are the following; BA and post graduate 3; School Management 1; FDE or HDE 2; SPTD 1.

The response that indicated that they are upgrading to an SPTD is unclear as this is a pre-service course.

Buildings and Grounds

The school consists of twenty classrooms and an administration block consisting of only three rooms, the principal's office, a secretary's room and a store room. One of the classrooms is used as a staffroom. The school struggles with maintenance and the school's phone has been disconnected. The school yard is not paved. The school's fence is still intact. A lawn is kept in front of the classrooms. The classrooms are well kept with wooden doors and are protected by metal grills from possible vandalism. Some Grade 1 classrooms have a number of window panes missing, potholes on the floor and holed ceilings. The school is electrified, but the Grade 1 classrooms did not have heaters in winter. There is adequate running water and number of toilets.

Learner Resources

This school is largely similar to the neighbouring School A in terms of learner resources.

Classroom and Resources

We estimate the *teacher: learner* ratio at Grade 1 level in the school to be about 1 : 40. We found the desks arranged in clusters of two to allow for group teaching. When we enquired why this was so teachers indicated that this was required by the new curriculum and COUNT encouraged it. Each child has their name and the number 1 to 10 pasted on their side of the desk. There were colourful posters all over the walls of the classrooms.

The cement floors in the classrooms lie exposed and the Grade 1 classrooms already have potholes in various stages of advance.

Teaching Resources

Numeracy workbooks and textbooks are in short supply and are kept in cupboards. Teachers thought their budget for purchasing material was small. They admitted to erring when they purchased more expensive books leading to an

earlier exhaustion of their allocation.

Duplicating Facilities

The school had no photocopier. Teachers thought that they needed a photocopying machine urgently as it will help them design worksheets and other teacher prepared material for their classrooms.

Administration Building

The administration building has a principal's office, secretary's room, and storeroom. One of the classes is used as a staffroom. There are public phones installed in the staffroom. The staffroom is also used as a point to prepare and distribute feeding scheme food parcels, Teachers indicated that the staffroom was originally meant as domestic science room as the disused stoves lying inside indicate. The staffroom is also used to store a few garden implements. The principal's office has no phone or fax machine and there is a card public phone in the staff room. Exactly how much the school suffers from lack of an office phone is unclear as the principal and number of teachers walk around with cellular phones.

Library and Laboratories

There was no library or laboratory in this school.

Community and Parental Involvement in School Activities

An elected school governing body exists. The principal indicated that the support the school received from parents was not satisfactory. He owed this to the fact that most parents have little education and simply sent their children to school with the hope that teachers will do a good job.

School's Involvement with INSET Activities

The school had also in the past worked with the TOPS programme. There was no other previous INSET activity teachers could recollect. The other INSET activities happening in the school are the INSET programmes offered by the GDE (especially with regard to OBE) and the COUNT activities detailed elsewhere.

As reported earlier by the time we got to the schools to do this research departmental officials had already been barred from the classrooms in Gauteng.

Classroom Arrangement and Teaching

Grade 1 classroom sizes in this school have sizes of approximately 49m². Though crowded compared to School B there is space for the teacher to move among, the groups during lessons.

Included in the teaching equipment at the back of the class are paraphernalia probably brought to school by learners.

In one taped lesson the teacher uses a poster of various kinds of shelter (huts, modern house, a block of flats, a bird nest etc.) pasted to the wall. She first asked learners about the kinds of shelter they see and who lives in those shelters. The lesson progressed to various kinds of shapes (and names) that learners could identify in parts of the diagrams. The teacher moved between the groups all the while but control for learning rested firmly with her. The interaction between the learners could be characterised as mainly individual though from time to time learners would turn to talk to somebody next to them. The interaction seemed mainly casual.

This style of teaching (as well the line of questioning) did not allow learners independence to explore the ideas presented among themselves.

Language

Again the preferred language of instruction teachers used was South Sotho. Again not all Grade 1 learners spoke South Sotho as their home language but could hear and speak it as it was used as a common language in the area. In this school teachers used South Sotho extensively in their instruction and would rarely use English.

Teachers' Comprehension Terminology Associated With OBE

During the first few visits the teachers could really not answer questions about the meaning of specific OBE related terms. As our visits progressed we found their understanding of OBE terminology increasing as well. Again teachers alluded to grappling a lot with OBE terminology and the assistance they received from COUNT on this.

Again the responses to questions from learners involved a range of the things already mentioned previously and took mainly the form of one word sentences.

Again when asked about the outcomes around which their topics were based teachers indicated curriculum specific outcomes. One teacher went to the extent of pointing out that they were aware they were supposed to teach learners more application in context but were restricted since they first had to teach learners to write and comprehend numbers.

These teachers had also heard about transformational OBE but felt that they could not implement it.

Teaching Experience The Management and Facilitation of Teaching

The average teaching experience of the three Grade 1 teachers in the school was about 15 years. The *teacher : learner* ratio of Grade 1 classes is about 1 : 40. These teachers seemed more willing to try out group teaching than teachers in the control School A and from what we could make out, they struggled to keep all learners focussed on the task as other groups became noisy the minute they lingered too long with one group. They would often want to re-establish control of the classroom by using threatening language (I discovered that they did use the stick to enforce discipline but hid this from me). Once control was re-established they often fell back to traditional teaching.

Learner Projects and Assessments

The situation with regard to assessment and projects is exactly as in School A, this time however teachers did provide a specific example of an assessment project they tried and it failed because learners did not get assistance with the task from family members. That involved giving a list of words that learners misspelt and were required to practise these under the supervision of an adult at home. Few learners returned with a completed task but teachers kept trying. The teachers indicated that they decide to change their strategy to inviting individual learners' parent to class to see their child performing certain activities or tasks. Parents often responded positively to this call. This offered teachers the chance to talk to parents about where their child's strengths or weaknesses were and discuss ways that the parent could assist the child especially with tasks that needed drilling e.g. practising to write numbers or certain words or letters of the alphabet. We did witness two class visits by parents on separate occasions.

Teachers' Perception of OBE

Teachers were aware of the three characteristic types of OBE. Again we can say that like in School A they seemed to have no comprehension of what transformational OBE is about. Again we characterise the practice of OBE in this school as typically transitional.

6.3 Background of Schools In Lanseria/Diepsloot

The main economic activity in this area is farming related. The schools admit mostly children from neighbouring farming communities and children have to be bussed in to school because of the distances involved. All schools here lack classroom and playground space. Two of the schools are built on privately owned farm land and this makes it difficult to make additions to available classroom space. One school has no office phones and the principal and staff have to rely on public cordless phones installed in the school yard for communication.

With the new settlements sprouting recently in the area, e.g., the Diepsloot informal settlement, this led to a rapid increase in the number of learners in the schools found there. This meant schools had to rapidly increase staff complements as the statistics (discussed later) confirm that the majority of teachers in this area tend to be young and inexperienced. Most of these teachers (if not all) tend not to live in this area and travel daily to school from as far afield as Soweto or Soshanguve near Pretoria. Far more serious to the schools is the fact that most young teachers are employed on a temporary basis leading to instability in the school, especially if there is a large number of temporary staff.

6.3.1 Control School D

This is built on privately owned farmland. It also consists of a scattering of buildings but to a lesser extent than School E. From conversations with staff, we concluded that this school is used extensively by various people for research projects.

Gaining Access To The School

The school is located inside a Johannesburg City owned farm about 40 km to the North East of Johannesburg. When we approached the school to do research, the

principal and staff raised a concern that they do not benefit from research often conducted in the school. They agreed to the research plan provided we promise to assist the school in some way especially with support in the implementation of OBE in Grade 1 after collecting the data.

There was only one disruption at this school that happened when the data collection was drawing to a close. Turning up on an appointed day at the school we were denied access to the Grade I class. Teachers cited an instance of research team (not us) coming to the school to collect data and there after stayed away without offering the school help or referral advice about the problem they researched. They felt research was exploitative and refused to co-operate further. They finally relented after protracted negotiations and we had to rework our schedule and resume data collection.

Staff

There are seven teachers in the school and six filled in the questionnaire. Of the six teachers who filled in the questionnaire, 33% were male and 67% female, 33% of the teachers were in the 20-29 age range, 17% in the 30-39 age range and the remaining 50% in the 40-49 age range.

All teachers indicated they had passed matric, 83% indicated they had grade 10 mathematics and 17 indicated that they passed mathematics at matriculation level. A breakdown of teaching qualifications is 33% PTC; 33% PTD(J); 17% PTD(S); 17% STD. Only one teacher in the school held a diploma and a university qualification.

Learners

The principal thought that learners who stayed furthest from school had to travel a return distance of 36 kilometres by bus. The total number of learners in the school is two hundred and eighty two sharing six classrooms (this translates into an average *class : learner* ratio of 1 : 47). The number of teaching staff in the school is 6 giving a similar average *teacher : learner* ratio as the *class : teacher* ratio.

At the Grade 1 level, the number of boys and girls according to age is as follows:

Table 10: Statistics reflecting how the learners in Grade 1 divide according to age (and sex) at School A

Age group	4-5 yrs	6 yrs	7 yrs	8 - 9 yrs	10-11 yrs	12 yrs
Girls		13	8	1		1
Boys		13	5	4		1
Totals		26	13	5		2

There is only one Grade I class (and one Grade I teacher) in the school.

Teacher Attitudes To INSET

Six teachers returned the questionnaires on their INSET activity. Table 11

Table 11: Attitudes to INSET at School D. The specific response items, 1 to 5 are given in the appendices.

	1	2	3	4	5	0
Feelings about having to do INSET			(1)		1(4)	
Relevance of skills and knowledge from INSET to teaching			1(3)	(1)	(1)	
INSET develops teachers to be independent thinkers			(2)	1(2)	(1)	
INSET prepares teachers to develop and manage resources			(1)		1(4)	
INSET develops teachers to be reflective practitioners			(2)		1(3)	
INSET helps teachers maintain professional standards			(1)	(1)	1(2)	(1)

Key: 1. The brackets indicate the responses of teachers other than grade 1 teachers in the school.

2. 0 indicates a none response.

below effects how the teachers responded to the individual questions of the attitude questionnaire.

From this we see that the opinions of teachers in this school tend to vary from neutral to a strong approval of INSET.

Teachers Involvement in Further Studies

Two teachers reported involvement with further studies in this school. One of these teachers indicated they were pursuing an FDE and the other teacher a SPTD.

Buildings and Grounds

This school of six classrooms is situated on a privately owned farm. It can be considered a temporary structure consisting essentially of five separate buildings enclosed in a small unpaved and uneven yard. The first building is the administration block which consists of the principal's office, a single

toilet/bathroom which is shared by male and female staff, and a storeroom. Secondly there is block of two classrooms which houses the grades sixes and sevens. Third is another block accommodating grades two to five, fourth is the elongated Grade 1 classroom made of iron sheets and finally there a toilet for children. With the exception of the administration block the school is not electrified. The school has raised funds (parents also contributed to this) to build another block of two classrooms. The principal reports that the school has few prospects of expanding (in terms of size) as the landowners resist adding on to the land the school stands on. The landowners also oppose attempts to add more buildings to the existing ones. A number of window panes are missing. The school's fence is still undamaged.

Grade 1 Learner Resources

There is only one Grade 1 teacher in this school. The teacher reported that the material she has is not sufficient for all in the Grade 1 class. This includes textbooks and workbooks in the Numeracy learning programme. The material also arrived late. The Grade 1 teacher also reports that she struggles getting children to buy their own resources like colouring books and so on.

The Grade 1 classroom has a teacher chair and table and a cupboard. The Grade 1 classroom is not electrified but is big enough to accommodate all children. With the exception of a few posters on the walls there is little other resources.

Teaching Resources

There was a general shortage of teaching material in this school. At the Grade 1 level there was a shortage of stationery, textbooks and workbooks. There were no counters and other basic teaching material.

Duplicating Facilities

This school had a photocopier and an ink duplicator and a scanner.

School Administration/Supporting Inputs To School

An elected school governing body exists and the principal reported that they were working hard for the school as the classes that are about to be added is mainly due to the parent body. Appearances suggest that there is a harmonious relationship between staff in this school. The principal seldom took a decision without

consulting his staff first. At present the school has a phone but no secretary.

Library and Laboratories

There is no library or laboratory in this school.

School's Involvement with INSET Activities

The school gets a lot of requests from people wanting to do research but there was no INSET happening in the school at the time of our research. The only time there is INSET in the school is when somebody from the school has to attend GDE INSET workshops. Either because of the volume of people doing research in the school or because the school never gets to see the researchers or relevant research reports thereafter (after co-operating fully with the research teams) the school's attitude to requests for research has hardened and they see research as exploitative.

Classroom Arrangement and Teaching

There are forty six learners in this class arranged in groups of four. The class is big enough to allow the teacher to do this. Though the learners are seated in groups the teacher uses traditional teaching approaches.

In one lesson the teacher brought a loaf of bread placed on the table at the front for children to cut up into parts (fractions). She would ask the class for a volunteer to come and cut the loaf in half and then other volunteers would come to further cut the halves into quarters. The activity of finding quarters and halves by actually slicing bread is outcomes based. However when we interviewed her on the outcomes she was assisting her learners to achieve she mentioned that she wanted to teach her class about fractions (a content specific description). This teacher clearly did not understand outcomes as intended in the Spadian sense (that by slicing the bread in half the learner had achieved an outcome). For this we classify this teacher's understanding of OBE as traditional.

Language

The Grade I class consists of learners from a variety of language groups. The teacher uses North Sotho to teach and rarely switched to English. When interviewed about possible difficulties children from other language groups may experience the teacher indicated that the North Sotho was widely used in the area

and children from different language groups address one another in North Sotho when playing so she found no problem using the language in class.

During one taped lesson the teacher took out mathematics textbooks and allocated one to each group (there were not sufficient books for each learner). She gave learners class work to do from the book. The book was written in English. When asked at the end of the lesson if she did not think that the language (English) could have impeded learners in the task she indicated that the learners were expected to follow the drawings in the exercise because (and she was confident they could do this) they could not read yet.

Teacher's Comprehension of Terminology Associated With OBE

The teacher's description of outcomes in the Numeracy learning programme was based on a curriculum topic like learning to count to one hundred and so on. In the Spadian sense the outcome will be doing things with the numbers one to hundred (application). She was familiar but could not spontaneously recall the meaning of other terms like "assessment criterion" or "range statement", and she had to consult her GDE files on OBE to remember the meaning of these terms. She felt she needed more workshops on OBE to help her cope with the terminology as well as the implementation.

Teaching Experience. The Management and Facilitation of Teaching

The Grade 1 teacher was the most experienced in the school with about 12 years of teaching. She brought various resources into the classroom to demonstrate what she was talking about. While she used groups, her interaction with the group tended to focus on individual members and the groups were tightly controlled.

Learner Projects and Assessments

Again the teacher indicated that learners seldom finished project they are given to do at home. Nor did they turn up at school when requested. She attributed this to the fact that most parents work in neighbouring farms could neither read nor write nor had little time to attend to their off springs' school work.

Teachers' Perception of OBE

The teacher's perception of OBE was mainly traditional.

6.3.2 Experimental School E

Gaining Access To The School

This school is just off the R511 one of the alternative main roads between Pretoria and Johannesburg.

Gaining access to this school proceeded smoothly. Again judging by the school's learning environment one gets the impression that it is well run.

Staff

Statistics about the school demographics was also not available in this school so the total number of teachers is unknown. Of eleven teachers who filled in the questionnaire, 36% were male and 64% female, 36% of these teachers were in the 20-29 age range, 46% in the 30-39 age range, and 18% in the 40-49 age range. Of the eleven teachers 91% (one did not respond) indicated they held a matric certificate, 36% indicated they had passed mathematics at grade ten, 18% passed mathematics in grade eleven and 46% passed mathematics in grade twelve.

A breakdown of teaching qualifications is 18% PTC; 18% PTD(J); 36% PTD(S); 18% STD and the rest held university qualifications.

Learners

At around the time we were collecting information on learners a personal tragedy hit the principal and we unable to collect the questionnaire handed to him about learner statistics.

Teacher Attitudes To INSET

Eleven teachers in this school returned the questionnaires on their INSET activity. The tables must be interpreted in the same way as in previous sections. Table 12 below effects how the teachers responded to the items of the attitude questionnaire.

Table 12: Attitudes to INSET at School D. The specific response items, 1 to 5 are given in the appendices.

	1	2	3	4	5	0
Feelings about having to do INSET			(4)	1(2)	(2)	(2)
Relevance of skills and knowledge from INSET to teaching		(1)	(1)	(1)	1(6)	(1)
INSET develops teachers to be independent thinkers			(2)	(2)	1(5)	(1)
INSET prepares teachers to develop and manage resources			1(1)	(1)	(7)	(1)
INSET develops teachers to be reflective practitioners			1(5)		(3)	(2)
INSET helps teachers maintain professional standards			(4)	1(2)	(2)	(2)

Key: 1. The brackets indicate the responses of teachers other than grade 1 teachers in the school.
 2. 0 indicates a none response.

For the sake of clarity, we provide an additional table reflecting the figures of Table 12 as percentages.

Table 13: The raw entries of Table 12 above converted into percentages (to emphasise a trend).

	1	2	3	4	5	X
Statement 1			37%	27%	18%	18%
Statement 2		9%	9%	9%	64%	9%
Statement 3			18%	18%	55%	9%
Statement 4			18%	9%	64%	9%
Statement 5			55%		27%	18%
Statement 6			37%	27%	18%	18%

Key: The successive statements of Table 12 are encoded as Statements 1 to 6

Here we see an erosion of the numbers of teachers with positive attitudes to INSET. We see that teachers who are not overwhelmingly positive about INSET tend to choose the neutral option or not respond to the question at all. The probable reason for the erosion of the positive attitudes to INSET in this school is related to INSET activities! To understand this we have to understand the geographical context of the school. As was explained earlier the school stands on privately owned land (and so is much of the surrounding land). Close to these farms are up market suburbs like Fourways and Sandton. The latter two facts, combined with the fact that the school is just off the R511 main (alternate) route to Pretoria makes it accessible to people who want to do something to help.

Over and above direct donations to assist with infrastructural support within the school, a great many people want to help the school deliver quality education to learners. These people include the GDE itself which frequently includes the school in its outreach projects, the most recent being a decision by the GDE to include School E in the piloting phase of Curriculum 2005 in Gauteng. Then there are a number of NGOs which are either active in the school, e.g., COUNT or have had some engagement with the school in the past, e.g, the Primary Science Project (PSP), RADMASTE, READ and others. Then there are persons who one Grade 1 teacher described as "rich, bored housewives from Sandton" who also want to help the school. This help usually takes the form of donations of some kind to the school or a request to assist with teaching duties in much the same way that NGOs do classroom support. After speaking to the Grade 1 teacher mentioned above one gets the feeling that the school is saturated. with all the in and out movement. The latter statement is not meant to suggest that the school is unwelcoming of strangers. On the contrary, without laying on the red carpet or going out of their way, there is an air of acceptance that makes strangers feel they can do their activities without feeling they are treading on people's toes. This attitude to strangers is markedly different to the one found in most schools where an outsider may feel that in spite of the school apparently accepting, they must just do and go.

Teachers Involvement in Further Studies

Five teachers indicated that they were involved in further studies. The degrees or diplomas or courses most often registered for are the following; BA 2; School Management 1; SPTD 1; STD 1.

The responses indicating that they are upgrading to an SPTD or STD is unclear as these are fulltime pre-service courses.

Buildings and Grounds

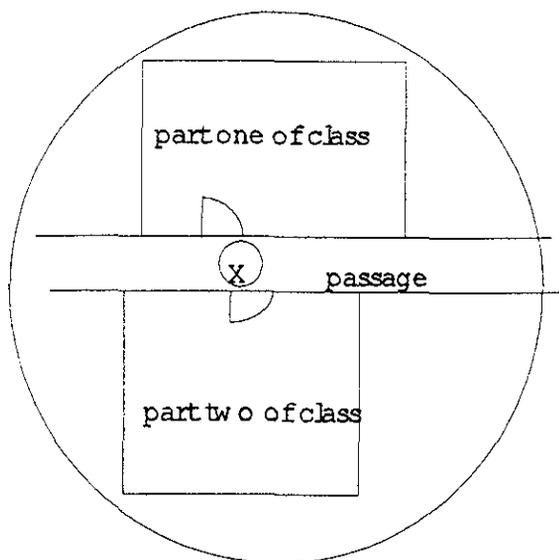
This school is built on privately owned farmland and consists of two main blocks, one older block of four classrooms, a second more recent block donated to the school includes a resourced library, a resourced computer room and two classrooms, and for the rest, there is a scattering of other buildings including a

transport container (used as a Grade 1 classroom), an office, a toilet that is now used as a Grade 1 classroom, an outbuilding whose rooms are used as classrooms and a new block of toilets (not in service yet).

Somebody donated paving and a roof for the area used as the assembly point in front of the grades six and seven classes. For the rest the school yard is largely unpaved and uneven and turns into a muddy mess in rainy weather.

The administration block is really an outbuilding consisting of two rooms, the principal's office and a secretary's room. There is no staffroom in this school. The administration block, library and adjoining computer room are fortified with electronic and mechanical anti-burglary devices as the school has had a number of burglaries in the past.

Two of the most interesting classrooms in the school are the Grade 1 classroom



of which we will hear later and a grade 3 class housed in a building that appeared to have been formerly a house. No room in the house is big enough to accommodate all the kids in class so the classroom has been divided into two rooms of the house which still remain overcrowded. Teachers shrugged off my incredulous comments about the impossibility of teaching in such a classroom and indicated that they stood strategically in the passage way (as indicated by the cross in

Figure 3: The Grade 3 class in School E. the diagram alongside). A number of window panes are missing in some classrooms. The schools fence is still undamaged. A number of window panes are missing. The school is electrified, but the Grade 1 classrooms did not have heaters in winter. There is adequate running water and the pressure on the existing toilet will be eased by a newly built toilet.

Learner Resources

Learners had no material at all coming from the GDE (in all learning programmes). The only material learners use are the counters, matchsticks,

number cards, etc., provided by COUNT.

Classroom and Resources

From our field notes we estimate the *teacher: learner* ratio at Grade 1 level in the school to be about 1 : 53. The Grade 1 learners are accommodated in two classrooms one of which was an outside toilet of dimensions approximately 26m² (3,2x8,1) accommodating 47 learners and the other a truck container of dimensions about 43m² (3,6x 12) accommodating 58 learners. The seating arrangements in the converted classroom, are as is more by force of circumstance than by choice (see Figure 4: below) . The teacher using the converted classroom indicated that she could not teach satisfactorily when it rained and when the wind was gusty because the roof was severely leaky (and squeaky) and posed physical dangers to the children.

Teaching Resources

Teachers indicated that they had an adequate supply of learner material in support of OBE teaching, some of which remains from the piloting phase. Grade 1 teachers are satisfied that there is adequate reference material in the library to support them.

Duplicating Facilities

With regard to duplicating facilities the school has a photocopier, a risograph, scanner, and ink duplicator.

Administration Building

The administration building has a principal's office and a secretary's room. There is no staffroom in the school. The office has a phone, fax and answering machine as well as an office computer and a laser printer.

Library and Laboratories

The school has a recently built well resourced library (according to them) as well as computer laboratory that is used for computer literacy training.

Community and Parental Involvement in School Activities

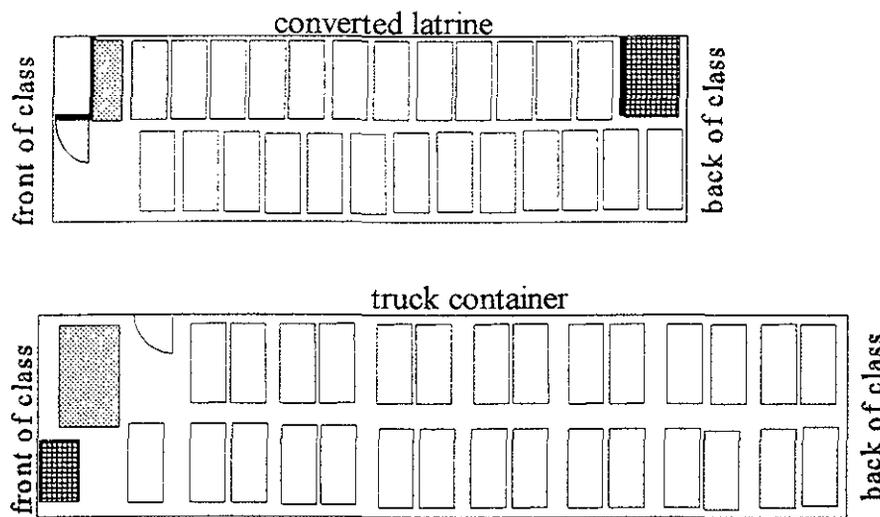
An elected school governing body exists. The principal indicated that the level of support the school received from parents was not satisfactory for the same reasons as before.

School's Involvement with INSET Activities

As indicated before the school has been and is still involved in INSET through all grade levels. The school however did indicate that they have not had INSET or classroom support from the GDE in 1998. Contrary to the general attitude of teachers in Sebokeng one got the feeling that teachers would welcome departmental support here.

Classroom Arrangement and Teaching

The seating arrangements in both Grade 1 classrooms are indicated as drawn



alongside (not to scale). The chequered rectangles indicate the approximate position of the cup-board behind the door and teaching equipment the teacher's table has a gray shading. Included in the teaching equipment at the back of the class

Figure 4: Seating arrangements in the Grade 1 classrooms at School E

are paraphernalia probably brought to school by learners.

Both classrooms are extremely crowded (and poorly ventilated) restricting the movement of teachers around the class to the front in the case of the converted classroom and along the a narrow passage between the desks in the case of the container classroom. Learners in both classrooms are pinned to their chairs and when they have to rise from their seats to move out they can only do so by clambering over other desks.

The more experienced of the two Grade 1 teachers taught in the converted classroom. Even if she could do otherwise, she had little option but adopt traditional teaching approaches. She indicated sometimes they were taken to primary schools in the neighbouring Sandton to observe teachers in the Sandton schools implement OBE. While she was appropriately impressed with the visits

she felt dampened when she got back to her school because of all the things she could not do with her class.

The other Grade 1 teacher having started to teach in 1997 is less experienced. Though she has arranged her class in groups her teaching is still very traditional but on occasions worked between groups.

Teachers used material from COUNT workshops in their teaching. In one lesson the teacher would point to a poster on the wall depicting various vehicles associated with different forms of transport. While walking along the passage she would ask the groups to identify various shapes (by pointing) on the poster. Some of the questions also included counting the number of wheels and so on. Some teachers would even ask children to tell their own little story (standing at the front!) about the pictures they see or justify their answers. Some of her activity involved integrating the Numeracy and Life Skills learning programmes. Most of the ideas teachers used in their teaching at this school had been discussed at COUNT workshops and thus the lessons tended to be the same as we moved from teacher to teacher within the school and among different schools in the area.

Language

Again the preferred language of instruction teachers used was South Sotho. Not all Grade 1 learners had South Sotho as their home language, but could listen and speak it to a small extent as it was used as a common language in the area. Teachers would encourage learners to express themselves in their mother tongue to answer some questions.

Teachers' Comprehension of Terminology Associated With OBE

When asked about the outcomes around which their topics were based teachers indicated curriculum specific outcomes. Teachers indicated that they were unable to make content evolve out of contextual problems involving application as learners first had to comprehend the mathematics involved. Our observation is that the context of their activities were built around the content, i.e., they first identified the content they wished to teach and then looked for an appropriate context to teach this.

These teachers had also heard about transformational OBE but felt that they could

not implement it. Teachers did display a knowledge of the meaning of OBE terminology. Again teachers alluded to grappling a lot with OBE terminology and the assistance they received from COUNT in this.

Teaching Experience. The Management and Facilitation of Teaching

The average teaching experience of the three Grade 1 teachers was about six years. At 1 : 53 the *teacher : learner* ratio is way beyond the official limit of 1: 40. The teacher using the converted (toilet) classroom thought that implementing OBE or attempting group work in her class was impractical. So she implemented the traditional method of teaching. The other teacher was less experienced and had about two years teaching experience. She can be described as using a mixed traditional and learner centred approach in class teaching.

Learner Projects and Assessments

Teachers talk of giving or keeping learner portfolios developed from GDE guidelines. Learners were initially given assessment projects but this was abandoned because few learners returned with completed tasks. There was again an indication that parents or family members either worked late or could not help learners suitably with their homework. Most parents either returned late from work or could not help their children at all.

Teachers' Perception of OBE

We found teachers to have an awareness and appreciation of OBE not encountered in any of the other schools involved in the study. However teachers indicated that conditions under which they worked inhibited their initiative as well as the implementation of OBE. Teachers were aware of the three characteristic types of OBE. Again we can say that like in School A they seemed to have no comprehension of what transformational OBE is about. Again we characterise the practice of OBE in this school as typically transitional.

6.3.3 Experimental School F

This school is the most turbulent and unpredictable of the schools that participated in the research. This school is run by an acting principal, who had been told by the GDE that it is looking for someone else to fill the post. All nine Foundation Phase teachers (grades one, two and three) have spent less than two years in the school and are under temporary employment. The politics of the school revolve around these facts as principal and teachers perceive themselves to be under constant threat. Doing research in the school means to an extent also means having to be aware (if not sensitive) to the pressures teachers felt they had to operate under (and this meant they responded to any threat by staying out of class) especially since the entire cohort of five Grade 1 teachers were temporary. The influence of all these forces, particularly with regards the school visits for research purposes, is that the brittle climate in the school was likely to take a turn for the worst at any day. The usual kind of reasons for disruptions in the school revolve around some kind of action or meeting in support of the acting principal or pending school trips. At the time of the last visit to the school a new principal had been appointed.

Gaining Access To The School

Diepsloot started as a squatter community. Some people there are starting to build brick structures on their stands but the settlement typically still remains shack dwelling in character. Access to this school was gained through COUNT who are active with INSET programmes in the school.

The singular distinction of this school is the number of aborted observation trips we undertook to the school. The aborted trips to the school that stand out in our memories is one in which one of the Grade 1 teacher aborted a lesson we were observing in midstream because she suddenly discovered⁷ she had to organise a sports outing for the school the next day (she politely asked us to come the following week). A few other instances where visits had to be aborted involved teachers being unexpectedly out of class because they were protesting against the intent of the authorities regarding temporary teachers.

⁷Through a call coming through the public phones in the school.

Staff

The total number of teachers in the school is twenty three and thirteen teachers responded to the questionnaire. Of the thirteen teachers who completed in the questionnaire, 15% were male and 85% female, 46% of these teachers were in the 20-29 age range and the remaining teachers (54%) fall in the 30-39 age range. All teachers indicated they had passed matric, 8% indicated they had passed mathematics at grade nine, 54% indicated they had passed mathematics at grade ten, 23% indicated they had passed mathematics at grade eleven and 8% indicated they had passed mathematics at grade twelve. The rest did not respond to the question.

A breakdown of teaching qualifications is 31% PTD(J); 31% PTD(S); 15% STD and 23% held university qualifications.

Learners

The principal had trouble estimating the distances travelled by learners who live furthest from the school. Children who live far have to use buses and taxis to get to and from school. The total number of learners in the school is nine hundred and seventy seven sharing twenty classrooms (this translates into a *class : learner* ratio of 1 : 44). Including the acting principal (who still has some teaching duties) the number of staff in the school is twenty three giving an average teacher *learner* ratio of 1 : 42.

Table 14: Statistics reflecting how the learners in Grade 1 divide according to age (and sex) at School F

Age group	4-5 yrs	6 yrs	7 yrs	8 - 9 yrs	10-11 yrs	12 yrs
Girls			42	39	4	
Boys			71	41	4	
Totals			113	70	8	

At the Grade 1 level, the number of boys and girls according to age is as follows. There are five Grade 1 teachers in the school which translates to a *teacher learner* ratio of 1 : 38.

Teacher Attitudes To INSET

Fifteen teachers returned the questionnaires on their INSET activity. Table 15 below effects how the teachers responded to the individual questions of the

attitude questionnaire.

Table 15: Attitudes to INSET at School F. The specific response items, 1 to 5 are given in the appendices.

	1	2	3	4	5	0
Feelings about having to do INSET			1(2)	(1)	3(7)	(1)
Relevance of skills and knowledge from INSET to teaching				(2)	4(9)	
INSET develops teachers to be independent thinkers				(1)	4(10)	
INSET prepares teachers to develop and manage resources					4(11)	
INSET develops teachers to be reflective practitioners				1(4)	2(7)	1
INSET helps teachers maintain professional standards	(1)		(2)	3(6)	1(2)	

Key: 1. The brackets indicate the responses of teachers other than grade 1 teachers in the school.

2. 0 indicates a none response

A large majority of the teachers tend to choose options which give an indication of positive attitudes to INSET.

Teachers Involvement in Further Studies

Only one teacher indicated that they were involved in studying further and this is for a B Com degree.

Buildings and Grounds

This school is situated the Diepsloot settlement not far from Randburg. The Diepsloot was previously an informal squatter settlement but it is now in the process of being upgraded. The school itself is a makeshift structure of truck containers and doubles up as a community hall after school and during weekends. The diagram above is a personal impression intended to give the reader a global impression of the school and should not be taken as a scale drawing depicting accurate detail. The part labelled community hall has a roof and a stage (classes at the back are on the stage). All classes open onto the quadrangle. The doors to all classes (except the office) are tough to operate as they have not been modified from the original container doors. The classroom sizes are approximately 28m² (a standard classroom has a size of 49m²). The roof of the containers is not raised leading to extremely poor ventilation.

A substantial number of window panes are missing. The school fence has been vandalised in places and the school yard is used as a thoroughfare. The school

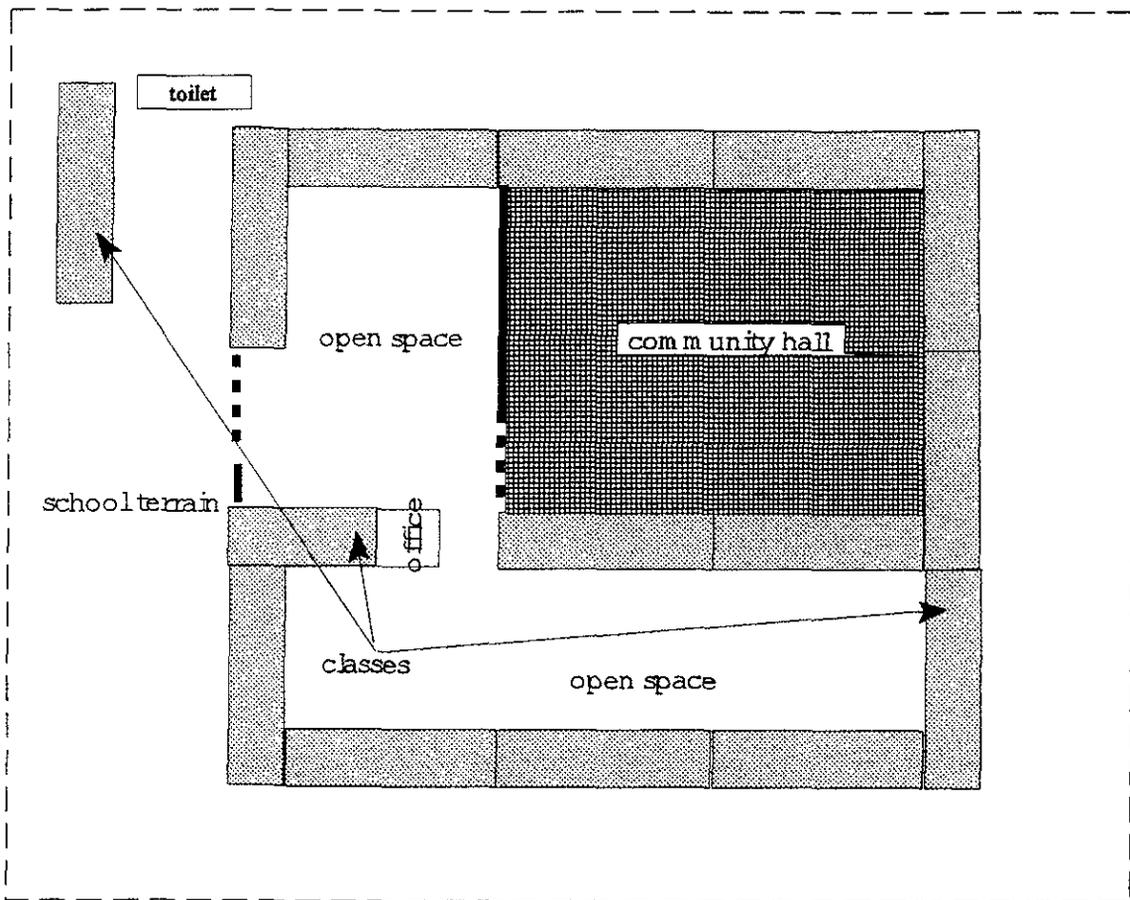


Figure 5: An impression (not to scale) of Schools' F surroundings and buildings

yard is unpaved and uneven. The school environment is dusty. The office is separated from the adjoining class with a cardboard partition that is now falling apart making the office noisy when there is a teacher in attendance in the adjacent class. In places the electrical wiring is dangerously exposed. The one tap in the school and toilets for both learners and teachers are under pressure as they have to serve the community as well.

Learner Resources

Similarly to school E, learners had no material at all coming from the GDE (in all learning programmes). The only material learners use are the counters, matchsticks, number cards, etc., provided by COUNT.

Classroom and Resources

The *teacher : learner* ratio at Grade I level in school to be about 1 : 38 (there is a discrepancy in the statistics supplied by the principal and ours collected from field notes as ours indicate 1 : 44). The Grade I learners are accommodated in five

classrooms, each with a floor area of only 28m. . These classrooms are extremely cramped and there is no freedom of movement for both learners and teachers. Each classroom has a cupboard and a teacher chair and table.

Teaching Resources

Each teacher in Grade 1 has a copy of workbooks and textbooks in the Numeracy as well as Literacy learning programmes. There is no material in the Life Skills learning programme at all. The other material teachers have are COUNT material (including posters) as well as official books on Curriculum 2005 and OBE.

Duplicating Facilities

This school has none. They rely on School E which lies about 10 km due south from them and COUNT for their duplicating requirements.

Administration Building

There is no administration building or staffroom in this school. There is no telephone or fax machine. The school depends on public phones installed in the premises. There is no secretary or administrative assistant.

Library and Laboratories

There is no library or any type of laboratory in this school.

Community and Parental Involvement in School Activities

An elected school governing body exists. The acting principal did not feel the governing body was doing enough to help her overcome a myriad of problems (including her fight to have the department appoint her permanently). She attributed this to ignorance by most parents.

School's Involvement with INSET Activities

COUNT is currently offering an INSET programme at the school. There appears to be no other kind of INSET activity happening at the school. The school also has not had anybody visit from the GDE this year. Despite the general state of chaos in the school, teachers in this school are receptive to INSET and would welcome departmental support here.

Classroom Arrangement and Teaching

Children are organised in groups of four but the classes are cramped and it is virtually impossible to move around the classroom so teachers employ traditional

teaching approaches. The methodology teachers adopt involves chanting and chorusing. Some individual responses are elicited (they almost always ask learners to justify their responses) and in some instances learners work on worksheets in groups.

In one taped lesson the teacher again used the poster about the various forms of transport mentioned in School E above. But this time she used the number of wheels to get learners started on counting in patterns. For example starting with one bicycle having two wheels learners are set the task of investigating the relationship between the number of bicycles and the number of wheels if we keep adding one bicycle at a time. This exercise was repeated with activities that yielded various patterns. Learners were asked to tell a little story about the modes of transport they see.

After the lessons when teachers were interviewed on outcomes they were hoping to achieve with their learners they quoted content specific outcomes. Because of this we classify teachers in this school as having a traditional view of OBE.

Medium of Instruction

Children are divided into two main language groups: Zulu and Tswana. Although there are children from other language groups, e.g., Tsonga, Ndebele, North Sotho etc., learners are taught in the main languages mentioned above because teaching staff do not command the other languages. Staff however did indicate that they try to accommodate learners from other groups by switching between languages when they could particularly when learners did not understand. There was limited use of English in the classroom we visited.

Teachers' Comprehension of Terminology Associated With OBE

Teachers displayed a knowledge of the meaning of OBE terminology. Again teachers alluded to grappling a lot with OBE terminology and the assistance they received from COUNT on this.

Teaching Experience. The Management and Facilitation of Teaching

The average teaching experience of the three Grade I teachers was about 4 years. Teachers tended to be limited in their repertoire probably because of their limited experience. The cramped conditions inside the classrooms made general

classroom management difficult.

Learner Projects and Assessments Again teachers indicated that learners seldom finished projects they are given to do at home. They attributed this to generally unsupportive home environments with regard to school work.

Teachers' Perception of OBE

Teachers were aware of the three characteristic types of OBE. In fact two of the Grade 1 teachers (recent graduates) indicated they had done a course in OBE as part of their teachers training. So though they knew exactly what transformational OBE was about they did not implement it in their teaching.

7.0 SUMMARY OF FINDINGS

7.1 INSET Provision and The Effectiveness of The Implementation of OBE

The situation that has arisen in black Gauteng schools, where officials sent to schools by the GDE to assist in the implementation of OBE are barred by the teachers and personnel from NGOs are welcomed seems confusing on the surface. Perhaps we can begin to get an insight about the direction in which an answer to this question lies when one looks at the following remark made by a teacher in one of the experimental schools to motivate why they needed more workshops on OBE:

“Because I need to gain knowledge into this new OBE thing which is still hidden for the teachers to understand what it really entails” Appendix 2 (page 100)

This immediately gives an impression of people threatened by change and wanting assistance with what to do. Teachers felt understandably nervous about having strangers observing them at this stage of the implementation of OBE, for they are uncertain about their implementation of OBE despite having had workshops. This is true for both the experimental and control schools. In the appendices (pages 96) one of the Grade I control teachers, referring to the workshops she attended, wrote:

“They don't do any classroom activity practically with small children. They never use

small children for demonstration"

This demonstrates that teachers still need somebody to work with them in classrooms when they start implementing OBE. From this point of view comments like "where we get good help, e.g., COUNT" from one of the experimental Grade 1 teachers writing about her motivation for attending OBE workshops can be understood.

All experimental schools felt appreciative of the workshops they got from COUNT in helping them unpack OBE terminology especially. Evidence of this lies in the fact that teachers in the experimental schools had a better understanding of OBE related terminology compared to teachers in control schools. Both sets of teachers (experimental and control) tended to give a traditional interpretation of outcomes, this despite the fact that some teachers were fully aware that outcomes were about learners doing things and applying their knowledge, as one staff member in a control schools wrote (about why they did not like OBE):

"About going outside, visiting tuckshops and clinics"

Paradoxically none of the teachers in both the experimental and control schools ever mentioned taking their learners on such excursions or a similar project. Our conclusion is that although teachers are aware, they simply do not do it either because they feel do not have the time, it is expensive or feel confident that once learners have learnt it in school, they will be able to transfer their knowledge outside school. Another complicating factor appears to be that facilitators at workshops appear not to have full grasp of OBE (or at least conflicting notions of OBE) as one Grade 2 teacher⁸, commented on the difficulties they experienced after attending official workshops:

"Sometimes (course) co-ordinators are not sure of what they deliver and fumble in front of people" (the bracket has been added by me)

Teachers in the experimental schools were more skilled compared to teachers in control schools when it came to the facilitation of group work or learner centred approaches.

⁸Grade 2 teachers frequently attend OBE workshops in anticipation of implementing in 1999.

7.2 Learners' Achievement of Outcomes in The Numeracy Learning Area

We indicate upfront that this question is one of the most difficult to answer in the light of what Grade 1 teaching has always been. The discoveries of Piaget (1896-1980) about children and learning, prompted an emphasis on the development of teaching methods based on using manipulatives. In learning to count for example, learners are taught count by means of a one-to-one association (correspondence) between a certain number and a group of objects. This form of learning is outcomes based, i.e., the learner is able to demonstrate learning by means of counting objects at the end of the instructional experience.

In order to look for the achievement of learning outcomes by learners we thus prefer to look at the intent of the teacher in teaching for the attainment of particular outcomes by learners and teacher records of the learners progress toward the attainment of the outcomes.

With regard to the intent of teachers to teach particular outcomes we found earlier that teachers in both experimental and control schools tended to use a description for outcomes that is content oriented, i.e., teachers make statements like

A: 'learners must be able to count up to one hundred' rather than make the demonstration of learning by saying

B: 'learners must be able to count groups of objects up to the number one hundred'.

With regard to statement A, we observed in several experimental and control classrooms, learners in the whole class being asked to count to a certain number, e.g., one hundred without recourse to concrete material. In some instances, when learners were some for some reason asked to count alone (without the traditional classroom chorus), if they faltered along the way the teacher would provide them with counters to practise. This demonstrated to us that for the teachers, the achievement of an outcome is when a learner can verbally express counting without recourse to concrete material as opposed to demonstrating that they can count using available concrete material.

With regard to attainment portfolios all schools (experimental and control) indicated that they kept a portfolio for each learner in which progress toward the attainment of outcomes for each learner are recorded on an ongoing basis. The portfolios were never seen by the researchers. Toward the end of the observation phase of the research we again asked schools for examples of portfolios. Two schools, both of them experimental and one in each of the two areas, produced

intended mid-term reports. The reports are included in Appendix 4 (page 104-106) without the names of the schools to protect their identity.

Our conclusion on this matter is that teachers in both experimental and control schools do not have an adequate framework about how learner portfolios should be kept. This is a critical aspect of the implementation of OBE as teachers in subsequent years will absolutely rely on these portfolios in order to develop learners further.

All teachers in this area tended to implicitly recognise an outcome as defined in the Spadian sense. This is apparent from the lessons they gave (an example of a lesson in each school is described in sections 6.2 and 6.4.. However when teachers were asked to verbalise the outcomes they were hoping to achieve in their lessons they mentioned mainly content oriented outcomes. Responding to a questionnaire about the problems they experience in the implementation of OBE one of the experimental teachers wrote:

"None. We have been using OBE style techniques in class, though OBE has its own terminologies" Appendix 2 (page 97)

From this comment, one can see that the teacher concerned does not see OBE as a fundamental reorientation of mind set about the curriculum, from her perspective OBE is something she had been doing, dressed up in a new language. Because of such comments and attitudes from teachers we classify all⁹ teachers' conception of OBE in this study as mainly traditional. This is still some distance away from Curriculum 2005 stipulations that transformational OBE be implemented. We can say with certain degree of conviction that some learners achieved some outcomes because we saw them cut loaves of bread in half and so on. Whether the rest of the class achieved the same outcome is another matter. Also the lesson plans were not designed according to individual learner's needs, as in the past they were designed for the whole class.

With regard to learner centredness we found that in the case of one experimental school the teacher could not arrange her learners in groups because the classroom space was too small and her class too large. This particular teacher thought it was impossible for her to implement OBE

⁹Those who participated in the research.

under the circumstances. The other teacher in the experimental school had her class arranged in groups. Though she was essentially traditional in her approach, some aspects of her teaching could be seen as developing toward learner centredness in the sense that she tried to engage groups in discussion but tended to control too much. In the control school the teacher had her learners arranged in groups probably because she thought that was part of OBE. But she was not learner centred in her teaching approach, and there is no way we can say learners enjoyed the benefits of group teaching.

7.3 Teaching Resources

7.3.1 Teachers Developing Their Own Material

One of the requirements Curriculum 2005 places on teachers is to make them less dependent on text books by requiring that they produce their own material. In the experimental schools teachers did on occasion use material developed by themselves, e.g., worksheets. Teachers in one of the control schools (school A) also from time to time used worksheets developed by themselves. At this stage, given the odds teachers are operating against, e.g, lack of libraries, duplicating facilities, etc., it is difficult to say for sure whether we would see more teacher developed materials if the latterly mentioned conditions were improved. We observed in classes that there was little material used that was of the teachers own design. In the experimental schools teachers still relied on COUNT to help them develop material they can use in class. COUNT trainers indicated that from their perspective it will take some time for teachers to be fully independent in terms of production of their own material. In the control school in Lanseria the teacher relied heavily on the textbook and used it even though learners could not read the language.

7.3.2 Teaching and Other Resources

All textbooks and workbooks we saw were written in English. Teachers tended to keep these mainly in the cupboards because there was inadequate material for each child. The

other reason for keeping the material away appeared to be that the material was in English and teachers thought their learners could not use them as they were still in the process of being taught the necessary language to read the books. Teachers thought they would start using the material more as learners started reading English in the third to fourth terms of the year. They thought that the language that the books was written in was not important as learners still faced the same reading difficulties in all languages.

In addition the lack of duplicating facilities or overhead projectors compounded difficulties even for teachers who wanted to develop their own material.

7.4 Effective Use of Existing OBE Material

Material sent to the schools by the GDE was not adequate and was not used at all by learners though teachers referred to it when they prepared lessons. There are a number of reasons why there is inadequate learning material in the schools. First teachers had very constrained budget which did not allow them to purchase everything they wanted. Then material arrived late or was not delivered at all, e.g., material on the Life Skills learning programme. The situation with regard to learning material in the schools was not satisfactory.

7.5 Range of Assessment Techniques Used By Teachers

The following table summarises the range of assessment techniques teachers indicated that they used in completed questionnaires. The assessment questionnaires were filled in by Grade 1 teachers only at the end of the observation. A tick is used to indicate whether a school uses a particular assessment technique. A blank would indicate that the particular technique is not used in that school.

Table 16: Range of assessment techniques used by experimental and control schools.

Assessment techniques used by schools					
	Written test	Oral discussion	By practical demonstration	individually	continuous assessment
School A		✓	✓		
School B		✓		✓	✓
School C	✓	✓		✓	✓
School D		✓	✓		
School E		✓		✓	✓
School F		✓		✓	✓

All schools indicate that they use oral discussion to assess. Both control schools indicated that used practical demonstration whereas the experimental schools did not. The experimental schools indicated that they used continuous assessment as well assess learners individually (as opposed to assessing groups).

8.0 CONCLUSION

In this conclusion, we summarise the features noted in the main body of our study that tended to inhibit the implementation of OBE.

8.1 Level of Teacher Preparedness For Implementing OBE

We saw teachers from the experimental as well as the control schools struggling with OBE associated terminology. To a degree experimental teachers tended to be conversant with OBE related terminology. Teachers in the one control school in Sebokeng were also *conversant* with OBE terminology whereas at the other control school in Lanseria the teacher tended to be very tentative with her understanding of all the OBE terms. There are three possible *explanations* for the latter observation:

- The fact that there is more than one Grade 1 teacher in the school offers professional support in the sense that teachers always have somebody to talk or to share ideas if they are willing to. This is supported by the fact that in all schools

where there was more than one teacher indicated that they shared resources and planned lessons together.

- In urban environments one can expect a degree of professional exchange between teachers from neighbouring schools. The teachers in the control school in Sebokeng were aware that COUNT was providing INSET support to the experimental school adjacent to themselves as well other schools around the township. We are not suggesting that these teachers went out and sought express help from other schools, more likely one can expect something like OBE to create a vibe which is transmitted much the same way as gossip is but probably in professional forums, e.g., sports meetings etc..

8.2 Teacher Qualifications

Whereas we have seen that in overseas countries, e.g., New Zealand teachers tend to be highly qualified with the majority (if not all) of teachers holding at least one degree, very few of our Foundation Phase teachers hold degrees and those that do have degrees that could contribute to leaving the profession, e.g., one Intermediate Phase teacher held pursued a degree in economics (see Appendix 2 - page 89) The requirement that teachers should be able to develop their own teaching materials no doubt calls for highly qualified personnel in order to achieve the independence required to start developing their own materials instead of individual worksheets.

8.3 Conditions of Learning

Earlier we indicated that in some overseas countries undertaking OBE the conditions in terms of teacher: learner ratios, resources, management, teacher qualifications etc. were more favourable than South Africa's, yet OBE still put a strain on these countries, to the extent that teachers in New Zealand went on strike and educational authorities reversed implementation plans. South Africa does not compare favourably with overseas countries in terms of resources, management in school, teacher qualifications, etc.. It should be clear therefore that South Africa operates from a considerable disadvantage and all national resources need to be harnessed to improve conditions under which the majority of schools operate. The conditions alluded to latterly include

a varying mix of the following:

- Impoverished families materially unable to provide for their children's school needs, e.g., basic equipment.
- The high illiteracy rates in SA makes the majority of families unable to support children with their school work. Teachers and educational planners need to take the latter factor into account in their plans.
- Management in the majority of our schools is unable to support changes that are taking place in our schools. It appears to us that successful change will only happen when schools are less chaotic than some of them currently are.
- Lack of (or a shortage) of basic teaching and learning materials is an area that needs to be addressed.
- Lack of proper classroom space for learners is another critical inhibiting factor. Frequently, *teacher : learner* ratios were way above the nationally stipulated ratio of 1 : 40. Judging by the relaxed and educationally inviting atmospheres in the classrooms of schools that managed to keep the *teacher : learner* ratio below 1 : 40, it would appear desirable to work toward bringing down the nationally recommended *teacher:learner* ratios.

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