

WCED LITERACY AND NUMERACY STRATEGY 2006 – 2016

A strengthened, co-ordinated and sustainable approach



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EXECUTIVE SUMMARY

1. THE CONTEXT AND THE DECISION TO SET A NEW STRATEGY IN PLACE

This strategy flows from the Human Capital Development Strategy of the Western Cape and is the product of a period of careful development and consultations with key interest groups in education.

The situational analysis within the Human Capital Strategy explains clearly the various limitations and challenges the province faces in preparing our people for the globalised world. One of these challenges is the low level of literacy and numeracy of our learners which contributes to the high levels of attrition and failure.

Systemic research conducted by *inter alia* GTZ, the National Department of Education, as well as the Western Cape Education Department (WCED) has pointed to the fact that the literacy and numeracy skills of the learners in the Western Cape are far below what is required for them to learn and develop effectively. For example, in 2002 the WCED assessed the reading and numeracy results of a representative sample of the Grade 3 learners in all schools. This study found that only 36% of learners were achieving the reading and numeracy outcomes expected of a Grade 3 learner and that the vast majority of learners in Grade 3 were performing two to three years below expectation.

It was thus decided that the strategies launched in 2002/3 by the WCED should be strengthened and re-presented as a coordinated “Literacy and Numeracy” strategy.

The diagnostic testing also indicated that the performance of the learners is *inter alia* highly correlated to poverty. To address this need, the province will adopt a holistic approach to support the development of poor learners which will also include the Primary School Nutrition Programme (PSNP).

2. THEORETICAL UNDERPINNINGS

Education Departments in the post-apartheid era did not “train” teachers but “oriented” them to the National Curriculum Statement policy goals and aims. Issues relating to epistemology which provide the conceptual tools to guide teachers to navigate the new educational pedagogy were under-emphasised. This has hindered the growth of knowledge about conceptual developments, innovation, creative thinking and imagination. Whilst the need exists to teach our learners to read, write and calculate the assumption that there is only a single theory on how learning occurs, and that this could be applied in all classrooms at all times, is fallacious.



2.1 Constructivism as an approach¹

This strategy employs constructivism as an example of a progressive learning theory that will provide the conceptual tools for teachers to deal with diverse learning contexts.

2.2 Approach to Literacy

The WCED's strategy with regard to literacy rests on the assumption that explicit teaching of phonics will take place nested in a "whole language" approach in which the making of meaning is stressed. The constructivist approach is applied, and both reading and writing are considered critical co-components of development.

2.3 Approach to Numeracy

In the teaching and learning of numeracy the construction of knowledge in a way that is meaningful for learners is particularly important. However, the construction of knowledge in numeracy is both an empirical activity and an abstract reflection. It is recognised by the WCED that both understanding and practice are essential to develop a deep understanding of numerical and mathematical concepts. Teaching numeracy therefore means teaching through numerical activities. Mental skill and competency are a critical aspect of becoming numerate. There is therefore also a place for drill and practice with regards to mental mathematics. An iterative approach to the teaching of conceptual understanding and the practice of skills would allow learners to actively construct knowledge and skills in numeracy.

3. THE DOMAINS FOR INTERVENTION

In arriving at the key goals of the strategy it was necessary to take cognisance of what is required and what our education system currently delivers. A clear set of responses to address the need to improve the literacy and numeracy achievement levels of our learners includes the following interventions:

- 3.1 A pre-school programme
- 3.2 Teacher Development
- 3.3 Changes to classroom practice
- 3.4 Learning and teaching support material
- 3.5 Research
- 3.6 Monitoring and support
- 3.7 Co-ordination and sustainability, and
- 3.8 Advocacy, Family and Community Literacy



¹ Naicker, S.M. & Moll I (2001) How to Teach in an Outcome Based Education System. Edumedia. Cape Town

4. CRITICAL IMPACT FEATURES

The strategy identifies three critical aspects which will offer the greatest impact:

Teacher development and support
The Language-in-Education Transformation Plan
A whole-school/whole community and family literacy approach

Teacher development and support will be the priority intervention area. The Language-in-education Transformation Plan will be a “systems” intervention with an impact across classrooms. The whole-school/whole community and family literacy approach will be the dominant holistic modality for bringing about fundamental change.

PROGRAMMES	CO-DEPENDENT FEATURES
Teacher support and development	Support for school-based teaching and learning. Attention to the Language of teaching and learning.
Changes to classroom practice	
Pre-school/ECD strategy	Support for home-based/foundational teaching and learning. Family literacy.
Advocacy, Family and Community Literacy	
Research	Attention to critical success factors
Monitoring and Support	
Co-ordination and Sustainability	

4.1 Teacher Development and Support

The teacher support and development programme is intended to improve the competency of teachers to ensure successful teaching and learning of language and mathematics and the development of high-level literacy and numeracy skills. The teacher development offered will be determined by perceived needs, needs identified via research and needs identified by teachers themselves.

Short afternoon sessions cannot be enough to alter fundamental teaching styles and traditional patterns especially when teachers are also under motivated and struggling to teach in adverse conditions.



The teacher development model will thus have two distinct legs:

- First leg: the training and support will be provided, according to a careful schedule and based on research and monitoring, by WCED officials, in association and consultation with external volunteer or funded alternative or supplementary providers e.g. NGOs where relevant or possible.
- Second leg: As funds and permissions come through, the model will be for such teachers - on a staggered, funding-linked and needs-basis - to receive full certificated training courses via a Memorandum of Understanding (MOU) with the tertiaries. These courses will be tailored Advanced Certificate of Education (ACE) or Further Diploma in Education (FDE) courses and available in a variety of modes e.g. face, distance, full or part-time.

The modules will be delivered by niche-specialists e.g. in the management of multilingual classrooms or teaching in multigrade situations. In the case of ex-DET schools the teachers will be trained as a priority in the management of mother-tongue based bilingual education (MTBBE) so that use of the mother-tongue (MT) skills is to be upgraded to a level of MT proficiency.

4.2 The Language-in-Education Transformation Plan and attention to language support in the classroom

The research context as well as the national context have given rise to a decision in the Western Cape to introduce a Language-in-education Transformation Plan which will be implemented over time.

It is envisaged that the provincial targets will conform with whatever national policy is in effect at that time but include the following two provincial elaborations:

- 4.2.1 A learner's mother tongue should be actively supported in the classroom, wherever practicable, at least until the end of Grade 6. This refers to the use of mother tongue as the language of learning and teaching (LoLT), in class groups of 40.
- 4.2.2 In addition to the study of 2 official languages as a subject, learners in the Western Cape should receive a minimum of three years' tuition in the third language of the province. In order for learners to receive the maximum benefit from adding a communicative language, this Third Language of the Western Cape Course will run from Grades 7 – 9.



4.3 Advocacy, Family and Community Literacy

The WCED must mobilise and train where needed: role models/icons; volunteer readers, volunteer teachers, community development workers, local government education agents, clinics (i.e. health, social welfare, arts and culture, local government), NGO, NPOs, Libraries and schools to twin with others. If the research indicates success and it is decided to retain teaching assistants for further years, the contracts for the teaching assistants should be revised so that they are required to adopt say 30 families and visit them to offer them support. The possibility of employing a greater number of Community Development Workers with special literacy/numeracy training as an EPWP project should be urgently pursued. Also important are the media: print and radio. What is envisaged is a developing model of a learning family within a learning street and a learning community (this will be supported by our "Community School" initiative in 2006). At the core what will be promoted is the idea of a learning turnaround in our schools and that it's only via an active engagement of the whole community that this will happen (in addition to the solid school-based interventions).

5. THE DOMAINS FOR INTERVENTION AND SUPPORT: A SHORT DISCUSSION

5.1 Pre-school/ECD

Research in many countries demonstrates that learners entering Grade 1 do not have the necessary knowledge, skills and attitude to engage effectively in formal schooling. This situation can be attributed to factors such as poverty, TV, lack of movement/motor development, lack of opportunities to play, poor language use by role-models, substance abuse by pregnant women, malnutrition, single-parent families, illiterate parents, lack of parent involvement in children's lives, lack of engagement with books before school entrance, etc.

The result of the above is that most of our learners are not ready for formal schooling when they enter Grade 1. A clear, comprehensive strategy that will contribute to our learners' receiving proper pre-school education is therefore imperative. In the short to medium term the overwhelming majority of learners entering Grade 1 should have the necessary knowledge, skills and attitude to engage in formal education. In order to achieve this goal the strategy will focus on the development of a manual and an associated supportive training programme for parents to prepare their children for formal education.

A strategy to augment the above aims, has already been developed between the WCED, the Department of Community Development and Social Services and the Department of Health which will address the learning needs of children up to the age of four years. In addition a National Strategy to roll out the provisioning of education to all Grade R learners by 2010 has already commenced.



5.2 Changes to classroom practice

This programme will focus on the further analysis of the curriculum standards for each grade to provide a definition of baseline performance levels to be used by teachers for lesson planning, classroom management and progress monitoring; support and mentoring/coaching in terms of the specifics of lesson planning with particular reference to the management of the teaching of numeracy and literacy; use of resources to enhance teaching and learning; management of diversity in the classroom; management of assessment practices, and the support of learners with special learning needs will also receive attention.

This programme relating to classroom practice will focus on the way in which teaching and learning happens in the classroom. The outcome of this programme is to ensure that teachers receive all support necessary to ensure that each teacher is able to address the critical aspects of class teaching.

A pilot project was introduced in 2006 in which teaching assistants have been employed to provide greater support to learners. The teaching assistant's role is to assist the teacher to support learners to reach their full potential. Teaching assistants perform a variety of tasks, under the leadership or direction of the class teacher, such as supervising class/group activities and working individually with learners or a small group of learners to consolidate or reinforce learning. The teaching assistants do not substitute for teachers in any way. teaching assistants are being given ongoing, in-service training to capacitate them to fulfil their functions. The project will be evaluated to determine the success of each aspect of the project and to make recommendations regarding the use of teaching assistants in the future.



6. CRITICAL SUCCESS FACTORS

6.1 Research

As noted, research indicates that learners' lack of numeracy and literacy skills is an international phenomenon. However, South Africa is amongst the lowest performers in developing countries, and even in sub-Saharan Africa, with respect to its mathematics and science results at secondary levels. Sound research is therefore needed to determine the reasons why our learners are not performing as they should; and to make recommendations on how to rectify this situation.

In addition this very strategy needs to be managed as "action-research" underpinned by formal research. This is a strategic and targeted intervention. Results need to be tracked and successes multiplied and mainstreamed.

6.2 Monitoring and Support

It is internationally recognised that monitoring and support of any strategy are essential elements to ensure effective service delivery. Relevant and proper support cannot take place if monitoring of progress and performance is not done. Monitoring, quality assurance and intervention are required and will include *inter alia* the establishment of monitoring and support committees at school, district and provincial levels. The development of reporting forms, collection thereof and feedback to schools is an important part of the process. This includes support to schools to enable them to interpret results and to develop strategies to address a diverse range of issues that confront them.

A proper support and monitoring system needs:

- A support and monitoring policy
- Effective support programmes
- Effective support and monitoring staff
- Effective monitoring instruments
- Responsibility and accountability amongst all role-players
- Buy-in from all the role-players.

6.3 Coordination and sustainability

There will be several tiers to ensure and manage this

- A Provincial Coordinating Task Team
- A Provincial Working Group
- EMDC Literacy and Numeracy Committee (DIRECTOR, CCA, Head SLES)
- EMDC Circuit Managers
- School level (Principal, Curriculum Coordinator, HOD, FP, IP, SP)



6.4 Learning and teaching support material (LTSM)

Learning and teaching support material must be selected in conjunction with the teacher's strategy and methodology for teaching literacy or numeracy to support the teacher's work in the classroom. LTSM should be at an appropriate level for each individual learner and address the particular learning style and needs of the learner. The WCED will mobilise what it can from e.g. magazine donations, private donations etc. It is envisaged to contract a "Reading Laboratory" project - graded pieces provided on reading cards for learners to read with some questions to develop skills. These will not replace books but will supplement them cheaply and be part of a drive to build up supplies of Xhosa reading materials.

7. INTERVENTION PRIORITIES

Whilst the intentions of this strategy encompass all learners and all teachers in all schools it is recognised that the goals of the strategy cannot be achieved in the short term. The strategy implementation team will therefore initially focus intensively on the foundation phase and primary schools which have scored at "very weak" and "weak" levels in the WCED and national systemic evaluation processes. Only once there is evidence of significant improvement in this category will the process be extended to the other schools – on a sliding scale of needs.



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WCED LITERACY AND NUMERACY STRATEGY 2006 – 2016

1. SYSTEMIC AND SOCIAL CONTEXT

The Western Cape Education Department (WCED) developed the Human Capital Strategy after consultation with various stakeholders. The major thrust of the strategy is to ensure that we possess the requisite knowledge, skills and values to compete in a rapidly globalising environment. The Human Capital strategy as the lead strategy of the WCED is one of eight strategies that contribute to achieving the aims and goals of iKapa eLihlumayo. The iKapa eLihlumayo emphasis is to grow the Cape and is specifically aimed at ameliorating poverty.

Systemic research conducted by *inter alia* GTZ and the National Department of Education, as well as other indicators including the assessments of Grade 3 learners' competencies in literacy and numeracy as early as 2002, pointed to the fact that the literacy and numeracy skills of the learners in the Western Cape are far below what is required from them to learn and develop effectively.

In 2002/3 the WCED developed, launched and implemented discrete Numeracy and Literacy Strategies. However, subsequent systemic evaluation and other test results have indicated that results remain far from satisfactory. It was thus decided that the strategies should be strengthened and re-presented as a co-ordinated "Literacy and Numeracy" strategy within the framework of the Human Capital and Development Strategy.

A number of factors continue to influence learners' performance and achievements. These include differing levels of social capital, intellectual capital, funding, facilities, fee-structures of schools, all categories of resources, learner-teacher ratios, qualifications and competencies of teachers, teaching spaces, sports fields, Learning and Teaching Support Material (LTSM), access to libraries, computers etc. The child coming from an impoverished, linguistically-limited and print-empty home is at a huge disadvantage when compared to the child from a print-rich, vocabulary-rich home in which the child is well-nourished, exposed to a generally stimulating environment and whose natural learning is well supported by informed parents.

The National Department of Education conducts Systemic Evaluations at Grade 3 and Grade 6 levels across South Africa in alternate years. These evaluations are intended to assess the extent to which the education system has managed to achieve social, economic and transformation goals by measuring the performance of learners, taking into consideration the context in which they experience learning and teaching programmes. The outcomes of these assessments are used to inform interventions.



The Grade 3 National Systemic Evaluation Report (2002) expressed concern at the numeracy and literacy skills of learners and the number of barriers in accessing educational services for disadvantaged learners. In general there was a need to improve the poor achievement in relation to equity goals. The overall quality of education in relation to the quality of teaching, overcrowded classrooms, ineffective use of contact time in the classroom and unsafe conditions at schools remains a major concern.

Studies conducted in the Western Cape in the last four years indicate that learner achievement in Literacy and Numeracy is below what is expected in Grades 1 - 6. This is true both in relation to other countries (including other developing countries) and in relation to the outcome expectations of the South African curriculum. For example, in 2002, the WCED assessed the reading and numeracy results of a representative sample of the Grade 3 learners in all schools. This study found that only 36% of learners are achieving the reading and numeracy outcomes expected of a Grade 3 learner. The study found that the vast majority of learners in Grade 3 were performing two to three years below expectation.

The diagnostic testing conducted by the WCED in 2002 to 2005 has indicated that the performance of the learners is *inter alia* highly correlated to poverty. To address this need, the province will adopt a holistic approach to support the development of poor learners. This holistic approach also includes the Primary School Nutrition Programme (PSNP).

(The administration of the PSNP, which is part of the National School Nutrition Programme Conditional Grant, was shifted from the Department of Health to the WCED during 2004).

A report² which is slightly adapted and abbreviated from summary comments by Minister Naledi Pandor on Grade 6 national systemic evaluation results (published in the "Cape Times" of 14 December 2005) reads as follows:



² See full report in Annexure A

“Although schools are now part of a non-racial system with new curricula and learning materials, the evaluation reveals that five out of 10 school children are not achieving the expected learning outcomes in natural sciences, six out of 10 are not achieving in the language of learning, and eight out of 10 are not achieving in mathematics (“achieving” means scoring 50% or better in a Grade 6 assessment task).

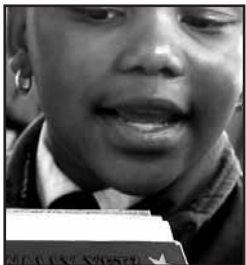
The survey gives us an overview of the condition of schooling in the Intermediate Phase (Grades 5-6) in South Africa. Although it was not designed to indicate how specific factors cause children to learn, the survey does provide an indication of the major barriers to learning. The following include some of the key findings:

- Learners scored best in town schools and (in descending order) less well in township, farm schools, rural and remote rural schools.
- Learners' home circumstances seem to have strongly influenced their performance in all three learning areas.
- "Learner participation" was the in-school factor most strongly associated with better performance in language, mathematics and science.
- Grade 6 children performed better in all three learning areas when they learnt in their home language whereas children who had learnt in a language other than their own tended to score less well.

In general, more resourced learning environments create the necessary conditions for children to perform in schools. The following recommendations are made concerning creating the necessary conditions for improvement:

- effect system-wide improvement
- improve access to schools
- promote specific quality issues, and
- the focus on equity has to be continued.”

The intention behind this strategy is to align all development so that identified good practices are used to counter identified weaknesses. A large number of NGOs are presently working in the system as partners in education. It is essential to align their activities and strategies with those of the WCED and to develop a joint process of expanding best practice to cover all schools.



2. THEORETICAL UNDERPINNINGS

2.1 Epistemology

Epistemology is the branch of philosophy that studies knowledge. The first theories of knowledge stressed its absolute, permanent character, whereas the later theories put the emphasis on its relativity or situation dependence, its continuous development or evolution, and its active interference with the world and its subjects and objects. The whole trend moves from a static, passive view of knowledge towards a more adaptive and active one. For educationists at all levels to be more adaptive and active, understandings about epistemology or theories of knowledge must surface.

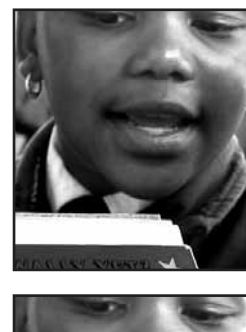
It is therefore extremely important that if one wishes to train or orientate others one must possess sound understandings of epistemological issues and how they impact on thinking, practices and transformation in general

Education departments in the post apartheid era did not “train” teachers but “oriented” them to National Curriculum Statement policy goals and aims. Issues relating to epistemology which provide the conceptual tools to guide teachers to navigate the new educational pedagogy have been under-emphasised. This has hindered the growth of knowledge about knowledge and conceptual developments, innovation, creative thinking and imagination.

The Human Capital Strategy emphasises that teachers are our major asset and whilst teachers must take a lot more responsibility for their own development, we must review the current programme for teacher development.

Therefore, the training that we envisage within the numeracy and literacy strategy will be of a medium and long-term nature. The training must take cognisance of theories of knowledge that provide teachers with the critical tools to work in challenging and difficult environments and address the alarmingly poor literacy and numeracy levels. Therefore the major focus of this strategy is adequate teacher training. Whilst the need for orientation on particular issues will be addressed in the short-term, there will be a major concentration on longer-term teacher training.

To help provide the conceptual basis for the process which lies ahead this document devotes some space to constructivism as a significant learning theory.



2.2 Constructivism as a Learning Theory

In terms of learning theory, constructivist theory substantially underpins Outcomes Based Education. There are several other examples of progressive theory. This strategy will use constructivism as an example which could provide the conceptual tools to deal with diverse learning environments and the complexity of teaching and learning.

The notion that **constructivist** theories of learning present us with a more dynamic alternative to traditional conceptions of teaching and learning is not new. In many schools in the Western Cape, there has for some time now been a movement in mathematics teaching informed by constructivist thought. There have also been strong initiatives in language teaching and early primary education that have employed **social constructivist** ideas about learning.

The main focus of the next section will be “what does constructivism mean to us?”, and “why do we need such a theory to inform us in our classrooms?”

What is Constructivism?

By the 1970s, a significant transformation had taken root in mainstream ideas about teaching and learning around the world. Its essence was a shift away from the idea that **knowledge is given to the passive learner**, to the idea that **active learners invent knowledge** as they encounter and engage with it. One of the earliest voices in the debate that brought about this shift was that of Jean Piaget, who in 1948 in his capacity as head of the International Bureau of Education described it as follows:

“the basic principle of active education methods ... may be expressed as follows: to understand is to discover, or reconstruct by discovery, and such conditions must be complied with if in the future individuals are to be formed who are capable of production and creativity and not simply repetition.”³



³ Jean Piaget, *To Understand is to Invent*. New York: Grossman, 1978, p. 20

The theoretical shift in question came to be known as the "constructivist revolution" in psychology. No longer were developing children or learners to be thought of as passive recipients of knowledge, but rather as *active constructors* of their own knowledge in interaction with the world and society around them. Constructivism as a theory of learning emphasised two important dimensions:

- Learners actively acquire existing human knowledge (language, cultural wisdom, technical skills, school disciplines, etc.) as their own systems of knowing.
- Learners actively construct their own novel ways of knowing in the face of unfamiliar problems.

The learner therefore constructs and re-constructs knowledge⁴

The "learner-centered" education movement took its cue from the emphasis on the way that the learner constructs his or her own knowledge. The old, passive concepts of learning which behaviourism and innatism had pursued in the past were replaced by questions about how learners actively construct knowledge in relation to both environmental and internal events. In the school context, **constructivist** theories came to emphasise the activity of both learners and teachers in the school as they constructed and re-constructed knowledge.

Constructivism challenges teachers to think about knowledge, or more specifically about knowledge-making, as the defining activity of a classroom. Obviously, knowledge as it has developed in human history is constructed, in the sense that people engaged in understanding, explaining and working in the real world. From the point of view of a learner (and particularly from the point of view of the child as a learner), to acquire knowledge is to go through a process where human knowledge is actively invented and re-invented as one's own knowledge. If there is a core meaning that the term "constructivism" intends to convey, then it is this sense of the active learner constructing human knowledge as his/her own knowledge. The implication for teaching is obvious: knowledge cannot be transmitted from the teacher to the learner, it is re-constructed by the learner engaged in a culture of learning at school.



⁴ See G Winkler. et al., *Learning about Learning for Teaching. Study of Education Series.* SAIDE/Oxford University Press (in press) for more extended discussion of these ideas.

What are the implications of Constructivism in general for the classroom?

It is well known that there are different emphases within constructivist thought. For example, its key theorists, Jean Piaget and Lev Vygotsky, are often referred to in discussions about classroom learning. Much is made of tensions between them. However, before looking at these different strands in more detail, it is worth considering overall what a constructivist classroom might be.⁵

The bottom line is that the constructivists are concerned with the processes and development of thinking (or cognition, to use the term that psychologists prefer). To learn is to think about life, culture and work in increasingly complex ways, and thus to be able to act more competently. And for the constructivists, schooling is a particularly important learning environment because of the systematic learning that it makes possible. The following general principles apply in constructivist learning environments:

Knowledge develops. Knowledge is not a fixed body of facts and inflexible principles. It is a body of information, ideas and practices, which changes and develops over time. It is constantly open to debate. The knowledge that a learner has also develops along similar pathways, although it is necessarily an engagement with the "bigger picture" of human knowledge. Constructivist learning environments thus seek to provide multiple representations of reality. This avoids oversimplification and represents the complexity of the real world and of the disciplines by which learners come to know it.

Learning is the construction of knowledge. Its most important features are therefore the activities associated with the activities within a classroom namely:

- Reasoning and critical thinking
- Problem-solving
- Retrieval, understanding and use of information
- Relating learning to one's existing knowledge, belief and attitudes
- Thoughtful reflection on experience

Learners are persons actively engaged in constructing knowledge, both individually and collectively. The most important qualities of learners, therefore, are those that all learners share, and **not** whether the learner is "bright" or "stupid", abled or disabled, "gifted" or "handicapped", etc. Learners have a cognitive disposition to select and transform, to construct hypotheses and make choices. Learners are naturally curious and purposive. It follows that a person not enabled to engage actively in learning cannot be a learner.

⁵ There is a specific literature on "the constructivist classroom" which has emerged in recent years. See, for example, G Brooks & MG Brooks *The Case for Constructivist Classrooms*. Alexandria: Association for Supervision and Curriculum Development, 1993; and BA Marlowe & ML Page, *Creating and Sustaining the Constructivist Classroom*. New Delhi: Sage Publications, 1998.



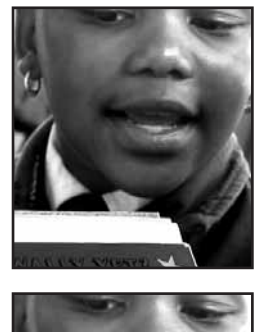
Teachers encourage knowledge construction instead of knowledge reproduction. They emphasise authentic tasks in a meaningful context. This entails the presentation of real-world settings and the actual problems and debates encountered in disciplinary inquiry - constructivist learning environments “enable context- and content-dependent knowledge construction”. It also entails the facilitation of case-based learning instead of predetermined sequences of instruction without any engagement with context.

Learning is a social, and hence language-based, activity. Constructivist learning environments support “collaborative construction of knowledge through social negotiation, not competition among learners for recognition”. Learning and development depend on dialogue between learner and educator, and between learners themselves. Language is thus given particular attention in the constructivist classroom. It is understood to be the meaning system that embodies the conceptual frameworks within which new knowledge grows and learning takes place.

Adopting a constructivist approach would therefore lead us as teachers to think about learning and teaching in a particular way. There are certainly different strands within constructivism, but as you think about them, bear in mind that there is a great deal of agreement amongst them about how learning should take place.

What are the different trends within Constructivism?

There are many different theoretical tendencies within constructivism. They all share the same basic assumption about learning, namely that it is constructed by learners in the course of both individually-motivated and socially-motivated activity. But different constructivists explain this in different ways. There are two main theoretical tendencies, which for purposes of this document will be referred to as **individual constructivism** and **social constructivism**. Teachers have often found it useful to consider the different theoretical emphases in order to make sense of their classroom practices.

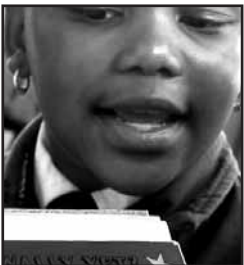


INDIVIDUAL CONSTRUCTIVISM

Jean Piaget, a Swiss psychologist, is considered to be the architect of the detailed study of cognitive development. His research is best known for its painstaking observation of children, and for its concern with how children invent and re-invent knowledge. In many ways, Piaget's theories became the central principles of the constructivist revolution.

Piaget's main question was: how does a child come to know something new? His answer was an explicit rejection of both innatist and behaviourist views of learning, and a very clear formulation of the importance of **action** in the learning process. He argued that knowledge is not determined strictly by the learner, nor by the objects in the world that come to be known, but by the exchanges or interactions between them. The learner must act on objects and it is this action which provides knowledge of those objects.

In this sense, Piaget thinks about learning as a natural process that is internally driven, hence the notion of individual construction. For example, he speaks at one point of learning as "the spontaneous research of the child or adolescent"⁶. A child is constantly engaged in seeking a state of balance or equilibrium between previous knowledge and new things encountered in the world. Piaget identified two mental processes that enable us to perform this balancing act: **assimilation** and **accommodation**⁷. On the one hand, the knower assimilates objects to the existing structures of his/her actions (Interprets them, or attaches meaning to them, in the light of their existing knowledge.). On the other hand, the learner accommodates these structures (changes and develops them) to the unforeseen aspects of the reality which he/she encounters. And importantly, these acts of assimilation and accommodation occur simultaneously, in an overall process which Piaget termed **equilibration**. This act of seeking equilibrium is what produces learning. New knowledge derives from the learner's internalisation of her/his own actions.



⁶ Jean Piaget, *To Understand is to Invent*. op cit. 15.

⁷ See Winkler, G et al. op cit., Section 2, on this "balancing act" between the known and the unknown.

Piaget studied children to test his theories. One thing that he came to realise very quickly was that young children act cognitively on the world in a very different way to what adults do. The kind of **equilibration** that we encounter in children is less complex and much more concrete than it is in adults. One way of putting this is to say that the child is not simply a scaled-down version of an adult. This led Piaget to put forward the notion of specific stages in which cognitive structures become progressively more complex:

- the **sensorimotor** stage (infants & toddlers) in which acts of equilibration take place in sensory experience and movement.
- the **pre-operational** stage (generally, young children up to compulsory school-going age) in which equilibration is characterised by the use of symbols such as pictures and words to represent ideas and objects.
- equilibration in the **concrete operational** stage (generally, the primary school years) are for the first time characterised by complex logical operations, but at a concrete level. Direct objects are required to which the logic can be applied.
- In formal **operations** (generally, the last year-or-so of primary school onwards), thinking is characterised by formal, abstract logic for the first time. This allows analytical thought without requiring direct operations in concrete situations. It becomes increasingly complex.

It is important to bear in mind here that Piaget put forward these stages to help understand the limits or constraints in children's thinking as they grow and develop. They are all too often portrayed as static boxes into which to classify children. From the point of view of a teacher, it is worth bearing in mind that equilibration - the constant, ongoing development of knowledge that results from learners engaging with the world - is the core of Piaget's theory.



What are the implications of Piaget's theory for the classroom?

As we saw earlier, Piaget advocates the use of what he calls **active methods** in education. Learners must be presented with and engage real problems that have been encountered in the history of human knowledge. Such problems might be presented in the form of experiments, real life simulations or (of particular significance in the formal operational stage) actual philosophical or theoretical dilemmas. The important point is that learners must be given the opportunity to engage the problems themselves. They must be given an opportunity to do their own research, and in so doing to reconstruct knowledge for themselves. This means that teachers must have the necessary expertise in the subjects that they teach: they must understand the history of the discipline, and they must be able to replicate that history in the classroom as a series of learning tasks for learners to encounter.

There is a common misunderstanding of these views with regard to the role of the teacher. As Piaget himself puts it, there is

*"the fear (and sometimes hope) that the teacher would have no role to play in these experiments and that their success would depend on leaving the students entirely free to work or play as they will. It is obvious that the teacher as organiser remains indispensable in order to create the situations and construct the initial devices which present useful problems to the child. Secondly, he is needed to provide counter-examples that compel reflection and reconsideration of over-hasty solutions. What is desired is that the teacher cease being a lecturer, satisfied with transmitting ready made solutions; his role should rather be that of a mentor stimulating initiative and research."*⁸

This is the sense in which Piaget is sometimes described as seeing teachers as **facilitators** of knowledge, although he himself never used the term. It is not true that Piaget's theory entails that teachers have no role to play in learning, as the common misconception would have it. Teachers are charged with the very difficult and responsible task of presenting learners with materials, situations and experiences that allow them to discover new learning.



⁸ Jean Piaget, *To Understand is to Invent*. op cit. pp 15 – 16.

SOCIAL CONSTRUCTIVISM

Lev Vygotsky, a Russian psychologist, put forward an important theory of the cultural and social construction of mind. His theory is best known for its study of the diversity of cognitive growth (both with regard to individual disabilities and different socio-cultural contexts) and for its core concern with the importance of schooling and literacy in cognitive development.

Vygotsky is interested in how we acquire the "higher processes of mental life", those ways of knowing and thinking that make us distinctly human. He argues that learners acquire such knowledge in the course of social relationships. When they engage for the first time with an unfamiliar task, they tend to do so in relationship with other, more knowledgeable, people who themselves are engaged with such tasks. Learners thus take part in collective **activity** in which new knowledge is mediated to them. For Vygotsky, cognitive development is the active internalisation of a set of relationships that are to be found originally in real cultural activity, hence the term "social constructivism". The learner does not construct her own mental complexes independently, but finds them already constructed in the process of coming to understand others' speech.

How do these notions allow us to understand learning? In Vygotsky's view, there are two levels of development that exist simultaneously in the developing learner:

- Firstly, there is the actual level of development, which manifests itself in what the learner can do on her own.
- Secondly, there is the potential level of development, which is manifested in a learner's capabilities with optimal help and guidance from a more knowledgeable other.

Vygotsky termed the gap, between these two levels of development, the **zone of proximal development** (ZPD). This concept tells us about the mental possibilities and constraints of a learner at any point in time. But most importantly, it illustrates the crucial significance of the mediation of the social world to learners by parents, teachers or more capable peers. The most sensitive indicator of the success of a learner lies in her greater or lesser ability to transfer from what she can do on her own to what she can do with help. A more experienced partner is able to provide "scaffolding" of the subject matter to support the learner's evolving understanding.



There is a great deal of overlap between individual constructivism and Vygotsky's social constructivist theory. Both emphasise the active role of the learner, but for Vygotsky the structures of new knowledge are not generated internally, as they are for Piaget:

*"the **active** part is played by the organism which masters the means of cultural behaviour supplied by the environment.... [but this] is a condition rather than a motive power of the process of cultural development, since the structure of that process is defined by outward influences⁹.*

Vygotsky's theory rests on the fundamental premise that learning occurs on the social level, within the cultural context.

What are the implications of Vygotsky's theory for the classroom?

From a social constructivist perspective, teaching is understood to be the **mediation** to learners of the cultural means of thought. In general terms, all social activity that conveys meaning and is subsequently internalised by learners can be described as "teaching". But the most deliberate teaching is that which takes place in schools and other formal learning contexts. From a Vygotskian point of view, a teacher organises the frameworks of knowledge of a learner and consciously seeks to mediate cultural knowledge systems and practices. Any discipline or content area of school learning is a crucial example of such a system. It is a cultural knowledge practice with its own rules, assumptions and modes of enquiry. Teachers have expertise in such practices, and they must seek to mediate that expertise to learners in joint activities with them.

Social constructivist teachers consider themselves to be active participants with learners in constructing their learning. They design and set up an appropriate context in which learners will become engaged in interesting activities that encourage and facilitate learning. In substance, this is a classroom context of problems and dilemmas in knowledge, exactly as described above in relation to Piaget's view of teaching. However, in this view, the teacher should not stand by and simply facilitate the research engaged in by learners. Instead, they actively engage in it with them, and respond to their dilemmas and questions in the context of joint activity. The teacher may guide learners as they approach problems, may encourage them to work in groups to think about issues and questions and usually supports them with encouragement and criticism as they tackle real issues and projects. Opportunities to work with more experienced peers are especially important to help the learner develop a higher level of cognitive functioning.

⁹ Lev Vygotsky, "The problem of the cultural development of the child." *Journal of Genetic Psychology*. 6. (1929. p. 423.)



The quality of classroom language is also a particular concern for a Vygotskian teacher. All constructivists agree that logical thought is expressed by language, and therefore, that language practices are an important part of classroom activity. But Vygotsky goes further: the language that a learner encounters is the source of more complex social structures and ways of knowing, and turns into new forms for the organisation of psychological processes in the developing individual. So social constructivists tend to regard active language practices - critical dialogue, discussion and literacy - as the crucial formative activities of a school learning context. Learners must be encouraged to ask questions, to argue and to speak their minds on all issues under study.

What are the principles of Constructivism?

Constructivism is a rich and fruitful perspective on learning. In the preceding sections some of its key ideas were outlined, and an indication given as to how it might amount to a new perspective in South African schools. The purpose of this document, however, is to start a debate amongst teachers on how they might change or improve their classroom practices. Some of the principles of constructivism can be very contentious, and the following can be proposed in the hope of sparking some lively staffroom debates.

- Learning is an active process in which the learner interprets and uses sensory input and constructs meaning out of it. The more usual formulation of this idea stresses **the active learner**. Learning is not the acceptance of knowledge which exists "out there", but it entails that learners engage with the world.
- People learn to learn as they learn: learning consists of both constructing meaning and constructing systems of meaning. For example, if we learn the chronology of dates of a series of historical events, we are simultaneously learning the meaning of a chronology. Each meaning we construct makes us better able to give meaning to other sensations that fit a similar pattern.
- The crucial action of constructing meaning is mental: it happens in the mind. Physical actions and hands-on experience may be necessary for learning, especially for children, but are not sufficient. We need to provide activities that engage the mind as well as the hands.
- We learn by making mistakes. Understanding does not precede acting on the world, but arises from such actions. We can learn from getting things right and reflecting on that. However, more often than not, we learn from the mistakes we make. Learners should not be discouraged from making mistakes.
- Learning involves language. The quality and accessibility of the language we use influences learning. On the empirical level, researchers have noted that people talk to themselves as they learn. There is also a growing recognition that language and learning are inextricably linked, and that optimum learning depends on critical language practices.



- Learning is a social activity. Our learning is part of our connection to other human beings, our teachers, our peers, our family as well as casual acquaintances. We are more likely to be successful in our efforts to educate if we recognise this principle rather than try to avoid it. Much of traditional education, as Dewey pointed out, is directed towards isolating the learner from all social interaction, and towards seeing education as a one-on-one relationship between the learner and the objective material to be learned. In contrast, progressive education (to continue to use Dewey's formulation) recognises the social aspect of learning and uses conversation, interaction with others, and the application of knowledge as an integral aspect of learning.¹⁰
- Learning is contextual: we do not learn isolated facts and theories independently of the practices in which they arise. These practices may be work processes, experiments, arguments about theories or principles and the like. We do not learn about those practices without being engaged in them.
- We learn in relationship to what else we know, what we believe, our prejudices and our fears. On reflection, it becomes clear that this point is actually a corollary of the idea that learning is active and social. We cannot divorce our learning from our lives and the life of our community.
- One needs knowledge to learn. It is not possible to assimilate new knowledge without having some structure, developed from previous knowledge, to build on. The more we know, the more we can learn. Therefore any effort to teach must be connected to the state of the learner must provide a path into the subject for the learner based on that learner's previous knowledge.
- It takes time to learn. Learning is not instantaneous. For significant learning to occur, we need to revisit ideas, ponder them, try them out, play with them and use them. This cannot happen in the 5-10 minutes usually spent in a gallery (and certainly not in the few seconds usually spent contemplating a single museum object). If you reflect on anything you have learned, you soon realise that it is the product of repeated exposure and thought. Even, or especially, moments of profound insight can be traced back to longer periods of preparation.
- Motivation is a key component in learning. Not only is it the case that motivation helps learning, it is essential for learning. This idea of motivation as described here is broadly conceived to include an understanding of ways in which the knowledge can be used. Unless we know "the reasons why", we may not be very involved in using the knowledge that may be instilled in us even by the most severe and direct teaching.



¹⁰ John Dewey, *Experience and Education*, New York: Macmillan, 1938.

2.3 Barriers to learning/development

Learning and teaching is influenced by a multiplicity of factors. Therefore, Education White Paper 6 introduced the notion of barriers to learning. Different learning needs may therefore arise because of:

- Negative attitudes to, and stereotyping of, difference.
- An inflexible curriculum.
- Inappropriate languages or language of learning and teaching.
- Inappropriate communication.
- Inaccessible and unsafe built environments.
- Inappropriate and inadequate support services.
- Inadequate policies and legislation.
- The non-recognition and non-involvement of parents, and
- Inadequately and inappropriately trained education managers and educators.

One of the key barriers that has been ignored relates to language. A learner's mother tongue should be actively supported in the classroom, wherever practicable. This refers to the use of mother-tongue as the language of learning and teaching (LoLT).

It is envisaged that the training of officials to assist teachers in the management of multilingual classrooms and in helping teachers maintain mother-tongue as the language of learning and teaching for up to a minimum of 6 years where practicable, will be incorporated into the overall literacy strategy.

The specific "language-in-education Transformation Plan" will be seamlessly integrated into the main process.

Retraining of teachers within the literacy and numeracy strategy will ensure that training is of a medium and long-term nature. Any short-term strategy will be counter-productive given the challenges related to the backgrounds and educational experiences of many of the current cohort of teachers.



2.4 Learning to read, write and calculate

The WCED's strategy with regard to literacy rests on the assumption that explicit teaching of phonics will take place nested in a "whole language" approach in which the making of meaning is stressed, and the constructivist approach is applied, in which both reading and writing are considered critical co-components of development.

In "The Role of Phonics in Reading Instruction", the International Reading Association (IRA) maintains that:

- *"The teaching of phonics is an important aspect of beginning reading instruction.*
- *Classroom teachers in the primary grades do value and do teach phonics as a part of their reading programs.*
- *Phonics instruction, to be effective in promoting independence in reading, must be embedded in the context of a total reading/language arts program."*

"Early, systematic, explicit phonics instruction is an essential part, but only part of a balanced, comprehensive reading program," maintains John J. Pikulski, IRA President. The organisation's position is that no one approach to teaching reading and writing is best for every child."

Writing in Principal, Marie Carbo (article cited in (Whole Language and Phonics: Can They Work Together? on http://www.education-world.com/a_curr/curr029.shtml) asserts that *"Children who do well in whole-language programs tend to have visual, tactile, and global reading styles."* Global learners such as these, she maintains, tend to enjoy and learn from the popular literature, hands-on learning and peer interactions prominent in the whole language approach.

To analytic learners, as opposed to global learners, the whole language approach can feel disorganised, Carbo says. If the systematic teaching of phonics doesn't take place, analytic learners can fall behind and fail to develop the tools they need for decoding words.

Using a single approach to reading generally doesn't work, Carbo concludes. Many combinations and permutations are necessary to provide an optimal learning environment for an entire class of readers. She cites an extensive body of research that backs *"the global approach of whole language as a framework for teaching young children and poor readers - but only as a framework"*. Within that framework, *"strategies from different approaches need to be used"*.



The reciprocity of reading and writing is an essential connection that all learners need to develop. When a learner reads, he/she is decoding the message of the writer. When a learner writes, the learner's thinking needs to be organised to encode the message. The ability to read or decode a word does not guarantee that a student will be able to write or encode the same word. Writing happens at many different levels of understanding and thinking. The writer needs to understand the basic principles of letter-sound correspondence, letter formation, and use systematic patterns in words and word clusters to spell words. The WCED therefore emphasises the importance of requiring learners to construct sentences and to engage in extended writing from Grade 1 onwards as an integral part of the process of developing literacy skills.

Construction of knowledge in a way that is meaningful for learners is particularly important in the teaching and learning of numeracy. However, the construction of knowledge in numeracy is both an empirical activity and abstract reflection. Although currently drill and practice is, in many instances, not regarded in a favourable light as the focus is on understanding, it is recognised by the WCED that both understanding and practice are essential to develop a deep understanding of numerical and mathematical concepts. Teaching numeracy therefore means teaching through numerical activities. Furthermore numerical objects are mental objects, thus making mental skill and competency a critical aspect of becoming numerate. There is therefore also a place for drill and practice with regard to mental mathematics. An iterative approach to the teaching of conceptual understanding and the practice of skills would allow learners to actively construct knowledge and skills in numeracy.



2.5 Language of learning and teaching

Taken from "Optimising Learning and Education in Africa – the Language Factor A Stocktaking Research on Mother-tongue and Bilingual Education in Sub-Saharan Africa by ADEA/GTZ/Commonwealth Secretariat/UIE (Draft version)

"Summarising Language Learning/Acquisition Theory

"Children come into school proficient in at least one and often several languages used in their immediate community. They have learnt to use these languages for effective communication in mainly informal contexts.

What is expected in the school setting, in most parts of the world, is that:

- Learners' language skills and expertise in their home language will be further developed for use in formal academic contexts. This includes reading and writing for creative and cognitively challenging purposes.*
- Learners' thinking (cognitive) skills will be enhanced through the range of challenges across the curriculum.*
- As the curriculum becomes progressively challenging through the school system, so too do the linguistic requirements. Students continue to develop their language expertise in order to meet the ever-increasing challenges of the formal curriculum.*
- Language learning does not only take place in the language subject class, it takes place in every lesson and every subject of the day.*

"In African countries, we have come to believe that we should expect our children to do all of this, through a language they do not understand.

"Although many people believe that the sooner a child is exposed to a new language in the classroom, the better s/he will learn the language, we now know from comprehensive research that this is not necessary and it will usually have the opposite effect. If a child needs to learn a new language, such as the official language/international language of wider communication (ILWC), he/she will normally need 6-8 years of learning this language as a subject before it can be used as a medium of instruction. One cannot expect a child to begin learning a new language as a subject and also to use this as a medium of instruction at the same time. If one tries to hurry the process, the child will neither learn the new language well-enough nor the other important subjects. We now know that most children, who have to try to learn about mathematics and science through a language they do not know, will not succeed.



“We also know that there are two ways in which children will learn an additional language successfully in formal education:

- Where they have mother-tongue medium throughout and good provision of the additional language taught by expert teachers. (L1 speakers of Afrikaans in South Africa have become highly proficient in English, where English is taught only as a subject for one lesson per day).*
- Where there is mother-tongue medium for at least 6-8 years, plus good provision of the additional language taught by expert teachers for these 6-8 years; followed by dual medium education (some subjects mother-tongue medium; some subjects in the additional language in years 8-12).*

The research context as well as the national context has given rise to a decision in the Western Cape to introduce a Language-in-education Transformation Plan which will be implemented over time.

It is envisaged that the provincial targets will conform with whatever national policy is in effect at that time but include the following two provincial elaborations:

1. A learner's mother tongue should be actively supported in the classroom, wherever practicable, at least until the end of Grade 6. This refers to the use of mother tongue as the language of learning and teaching (LoLT) in class groups of 40.
2. In addition to the study of 2 official languages as a subject, learners in the Western Cape should receive a minimum of three years' tuition in the third language of the province. In order for learners to receive the maximum benefit from adding a communicative language, this Third Language of the Western Cape Course will run from Grades 7 – 9.”



3. GROWTH TARGETS

This strategy has the following growth targets:

3.1 Grow a pool of teachers who can

- Teach learners to read and write and be at least functionally numerate according to international norms in terms of pace and level
- Provide top class tuition to all learners in a multilingual classroom
- Manage language transitions so that learners develop MT proficiency while adding a second language, to the point where the learner can use the additional language as medium after Grade 6, and beyond, if this is what is decided and what the school can support.
- Teach subjects across the curriculum using the right language(s) well
- Provide a learning environment which stimulates cognitive development, encourages numeracy and problem-solving skills
- Teach English well
- Teach Afrikaans well
- Teach Xhosa well

3.2 Grow a pool of officials who can

- Guide and mentor schools through language and numeracy policy planning and implementation
- Guide and mentor teachers to teach learners in all types of learning environments
- Guide and mentor teachers in setting learning programmes and maintaining these at a suitable pace and level so that learning is optimised
- Support teachers with classroom management so that language teaching and MTBBE are properly managed.

3.3 Grow a pool of parents who can

- Themselves read and write to functional levels (notion of “family literacy”) supported by a mass literacy campaign
- Make the right decisions about the medium of instruction for their children
- Provide good support at home for the child’s creative, imaginative and expressive development, emergent literacy, language, numeracy and other learning needs
- Know about and provide access to resources like libraries



3.4 Grow a pool of learners who can

- Read, write and speak at the required levels for their ages
- Have measurable numeracy skills at the required levels for their ages
- Offer MT as Primary Language in Grade 12 even when in “non-MT as LoLT” schools
- Offer MT at least at First Additional Language level in Grade 12 even when in “non-MT as LoLT” schools
- Take “under-supported” languages at any of primary, first additional or second additional language level (in terms of the current situation this predominantly means growing the number of learners taking any level of Xhosa; it could also refer to growing the pool of learners who take other languages such as e.g. French, Arabic, Mandarin e.g. towards targeting priority languages for trade and communication)
- Show enhanced results in other subjects because of improved language proficiency
- Have reduced repetition rates and better throughput rates because of improved literacy levels and language proficiency
- Complete a GET with acceptable levels of numeracy
- Enlarge the pool of those who take Maths and Science for the FETC
- Be assured of success in Mathematics or Mathematical Literacy in the FETC

4. BASELINE OPERATIONAL FOCI

The Coordinating Task Team (CTT) appointed by the WCED to develop, manage and coordinate the strategy accepted the following proposals to strengthen the strategy currently in place:

- An audit of the qualifications and experience levels of teachers in the Foundation Phase to determine if they are appropriately trained.
- The adaptation/development of a diagnostic instrument for baseline assessment of all Grade 1 learners.
- Diagnostic assessment of all Grade 1 learners.
- The development of an uniform assessment instrument/s in terms of down-designed assessment standards and developmental steps per grade so that teachers can assess the progress of their learners, develop their lesson plans accordingly and also use the information for classroom management.
- Foundation and Intermediate Phase curriculum advisors, with the assistance of the 65 Learner Support Advisors (LSAs), to train HoDs and teachers in the use of the assessment instrument/s and appropriate lesson planning according to assessment results.
- The necessary LSM for numeracy and literacy (e.g. graded class readers) to be provided/identified.
- A monitoring instrument for the FP and IP curriculum advisors, the 65 LSAs and the HoDs to be developed and used for the monitoring of classroom practice and learner progress.



- The FP and IP curriculum advisors, the 65 LSAs and the HoDs to continuously monitor classroom practice and learner progress and report to the EMDC directors according to a set protocol Amongst others they should monitor whether:
 - Teachers do proper lesson planning according to the work schedule and their own assessments
 - The 100 readers are in the classrooms and are being used
 - Maths, Science and Technology (MST) kits and Mental Maths charts are being used
 - The literacy half hour (reading for pleasure) is appropriately used
 - The necessary LTSM is available and used
 - Learners progress according to the benchmarks
 - Regular reporting takes place
 - Teachers are managing the language needs of their learners
- Review the Literacy and Numeracy Strategy from time to time.
- The CTT to analyse the following numeracy and literacy issues in depth:
 - An in-depth analysis of the available Grade 3 and Grade 6 results per school
 - An investigation of classroom practice in successful and weak schools in order to identify deficiencies and good practice
 - An analysis of the effectiveness of various literacy and numeracy projects and approaches in WCED schools
 - An investigation of best practices regarding literacy and numeracy skills development in other provinces and countries.
 - The literacy and numeracy reports received from the EMDCs.

5. PRIORITISING SUPPORT FOR SCHOOLS

While the intentions of this strategy encompass all learners and all teachers in all schools and these will continue to receive general support, the strategy implementation team will initially focus intensively on the foundation phase of primary schools which have scored at “very weak” and “weak” levels in the WCED and national systemic evaluation processes. Only once there is evidence of significant improvement in this category will the intensive work be extended to the other schools – on a sliding scale of needs.

This is a targeted intervention. The WCED will mobilise and align all its support personnel, its ICT/Khanya interventions, teaching assistant support and family literacy programmes to tackle the problem at identified schools. The approach says that every child and every school and every teacher can, must and will be supported. Every child is special. The WCED focus on redress and equity will guide decisions.



6. THE STRATEGY ITSELF

The strategy identifies three critical points which will offer the greatest impact:

1. Teacher development and support
2. The Language-in-education Transformation Plan
3. A whole-school/whole community and family literacy approach

Teacher development and support will be the priority intervention area. The Language-in-education Transformation Plan will be a “systems” intervention with an impact across classrooms. The whole-school/whole community and family literacy approach will be the dominant holistic modality for bringing about fundamental change.

PROGRAMMES	CO-DEPENDENT FEATURES
Teacher support and development	Support for school-based teaching and learning. Attention to the Language of teaching and learning.
Changes to classroom practice	
Pre-school/ECD strategy	Support for home-based/ foundational teaching and learning. Family literacy.
Advocacy, Family and Community Literacy	
Research	Attention to critical success factors
Monitoring and Support	
Co-ordination and Sustainability	
Learning and Teaching Support Material	

6.1 Support for school-based teaching and learning

Teacher development and changes to classroom practice are the two critical interventions which the WCED will harness to make an impact on the low literacy and numeracy performance levels.



6.1.1 Teacher Support and Development

The teacher support and development programme is intended to improve the competency of teachers to ensure successful teaching and learning of language and mathematics and the development of high level literacy and numeracy skills. The teacher development offered will be determined by perceived needs, needs identified via research and needs identified by teachers themselves. Development will focus on knowledge and skills as well as attitudes and values and will be offered in extended courses as well as short workshops that focus on a single aspect of the curriculum or single technique, but linked to the broader knowledge and skills of the teachers. The WCED will elicit the support of NGOs and other partners to offer training aligned to the activities and strategies of the WCED.

It is a matter of historical record that the majority of teachers currently teaching in underprivileged classrooms were themselves the victims of inferior training at both school and tertiary level. The politics of the day prevented a full understanding of the role of the mother-tongue in conceptual development and ensured that the curriculum was set up to perpetuate certain societal roles and class assumptions. In addition the UNESCO research in Africa indicates clearly that, for learning performance to turn around, the actual language skills of teachers who are teaching English as a subject but who are not MT speakers of English need to be upgraded to a level of MT proficiency, particularly when the educational model of the day requires learners to convert to non-MT as LoLT for the final years of schooling.

On the one hand teachers need to be clear on what is expected of learners and on the other they need to know precisely how to help the learners to achieve those levels and/or when to seek extra professional support (e.g. for learners with special learning needs).

Short afternoon sessions cannot be enough to alter fundamental teaching styles and traditional patterns especially when teachers are also under motivated and struggling to teach in adverse conditions.



The teacher development model will thus have two distinct legs:

- First leg: the training and support will be provided, according to a careful schedule and based on research and monitoring, by WCED officials, in association and consultation with external volunteer or funded alternative or supplementary providers e.g. NGOs where relevant or possible.
- Second leg: As funds and permissions come through, the model will be for such teachers - on a staggered, funding-linked and needs-basis - to receive full certificated training courses via a MOU with the tertiaries. These courses will be tailored ACE or FDE courses and available in a variety of modes e.g. face, distance, full or part-time.

The modules will be delivered by niche-specialists e.g. in the management of multilingual classrooms or teaching in multigrade situations. In the case of ex-DET schools the teachers will be trained as a priority in the management of MTBBE so that use of the MT may be extended to at least the first 6 years of schooling and for their own language skills to be upgraded to a level of MT proficiency.

On a sliding scale, retired teachers will be employed to run classes while teachers are freed up for full-time studies.

Literacy Development

Will focus on increasing the number of teachers able to offer effective literacy education especially in a multilingual context and will include:

- Training Foundation Phase teachers in the full range of teaching methods (especially for reading and writing and especially in the MT of the learners) so that, if they are currently experiencing difficulty helping learners to be successful, they become skilled in new techniques.
- Training Intermediate Phase teachers in a range of reading recovery strategies and writing training programmes so that they can assist learners who are still semi-literate.
- Training Senior Phase teachers in a range of reading recovery strategies and writing training programmes so that they can assist learners who are still semi-literate.
- The training of all teachers in the management of a multilingual classroom (includes: learning English without losing mother tongue; moving from mother tongue to dual medium education; early literacy and biliteracy in pre- and primary schools; dual and parallel medium education)



Numeracy Development

Will increase the number of teachers able to offer effective numeracy education especially in a multilingual context and will include:

- Training Foundation Phase teachers to be able to understand and to teach number concept, spatial relations and mental mathematics techniques and the development of a problem-solving orientation in learners
- The training of Intermediate Phase teachers to be able to understand and teach the initial conceptual framework in mathematics, basic mathematical skills of number concepts, fractions, spatial concepts and data handling as well as process and design skills.
- The training of Senior Phase teachers to understand and assess basic mathematical concepts and to teach appropriate mathematical concepts in a logical and progressive manner.
- The training of all teachers to stimulate the natural curiosity of learners, to ignite a feeling of wonder and to stretch their imaginations, and to develop problem-solving skills in learners.

Development of pedagogical skills

Development of pedagogical skills will include training in, *inter alia*:

- appropriate methodology
- lesson planning
- classroom management
- discipline
- large class/multigrade class teaching
- management of a multilingual class
- knowledge of how learning happens
- how to stimulate the natural curiosity of learners, to ignite a feeling of wonder, to stretch their imaginations, and to develop problem-solving skills in learners
- dealing with contextual and emotional issues
- designing and conducting assessment
- how to respond to the specific weaknesses of the learners as diagnosed through provincial and other testing
- diagnostic skills and the knowledge of what to do to support learners' needs.



Specific actions:

- The FP and IP CAs as well as the Learning Support staff at the EMDCs will jointly support and train school staffs in a carefully-designed training programme. In the ideal version, summarised above under “leg two” teachers will complete accredited courses after receiving direct training from tertiary institutions.
- Principals of the project schools will receive training in how to set up and manage a whole-school environment to support the new methods so that all staff are encouraged to innovate
- Heads of Department (HoDs) will be trained to assist teachers and monitor the implementation of the curriculum - the Cape Teaching Institute will offer a Head of Department course
- “Steps Towards Literacy” and “Steps Towards Numeracy” will be provided in the form of a short programme of action for teachers. The documents will contain a stipulation of the time allocation and focuses which a teacher should follow to ensure that a learner becomes competent to the levels required e.g. 10 minutes a day on “Phonics” or 150 minutes a week on reading for enjoyment or 20 minutes a day on Mental Maths
- Teachers will receive in-school support from Learning Support teachers
- Teachers in schools where learners are seriously under-performing will receive support from teaching assistants.
- Additional support will be offered via the curriculum website and via regular video-linked presentations for distance training.
- Teachers may access one of the Cape Teaching Institute courses in teaching Literacy or Numeracy/Mathematics, Reading Interventions and teaching in a multi-lingual class.
- Assessor training will be offered to enable teachers to track the learning of their learners.
- Training in the use of data, such as that obtained from the baseline assessment and Grade 3 and Grade 6 testing, will be conducted to improve teaching and learning
- Development of CDs on expected levels of performance of learners in literacy and in numeracy, barriers to achievement of these levels and guidance for teachers to deal with the barriers experienced.
- Example lessons/best practice to be presented on the website and at EMDC workshops
- Structured reading programmes will be evaluated – officials and schools will be advised of suitable programmes and/or purchased for schools in need of specific support
- Sample lesson plans plus assessment tasks and examples of learner work which has been graded will be provided to guide teachers in the detail of how to work out lessons at an appropriate level and in setting standards.
- Schools which receive ICT hardware and software will receive training in the use of these



6.1.2 Changes to classroom practice

This programme will focus on the further analysis of the curriculum standards for each grade to provide a definition of baseline performance levels to be used by teachers for lesson planning, classroom management and progress monitoring; support and mentoring/coaching in terms of the specifics of lesson planning with particular reference to the management of the teaching of numeracy and literacy; use of resources to enhance teaching and learning; management of diversity in the classroom; management of assessment practices, and the support of learners with special learning needs will also receive attention.

This programme relating to classroom practice will focus on the way in which teaching and learning happens in the classroom. The outcome of this programme is to ensure that teachers receive all support necessary to ensure that each teacher is able to address the critical aspects of class teaching i.e. that:

- appropriate time is spent on teaching Languages and Mathematics at the appropriate level
- learners spend appropriate time on learning Languages and Mathematics
- lessons are well-planned
- appropriate resources available and used
- learners are correctly and appropriately assessed
- full use is made of the knowledge gained from assessing the learners
- teachers focus on teaching and supporting individual learners, not just the learning area and whole-class teaching
- classroom practice promotes good discipline
- there is evidence of learner progression
- the language needs of the learners are addressed
- barriers to learning experienced by learners are addressed
- school management and school support teams, EMDC officials and parents/guardians receive regular and appropriate reports
- a love for Language and Mathematics, literacy and numeracy, is evident in teachers which engenders a spirit of excitement to learn in their learners
- teachers know and understand how learners learn
- all learning outcomes are addressed and learners attain the outcomes at the appropriate level
- all aspects of the learning areas are comprehensively taught
- the multi-lingual nature of classes is addressed
- effective teaching methodology is practised, including large class teaching methodology, where appropriate.

Several actions have been identified to support the attainment of these outcomes but, to ensure success, these have been limited in consideration of the limited time and resources available.



A pilot project was introduced in 2006 in which Teaching assistants have been employed to provide greater support to learners. The teaching Assistant's role is to assist the teacher to support learners to reach their full potential. Teaching assistants perform a variety of tasks, under the leadership or direction of the class teacher, such as supervising class/group activities and working individually with learners or a small group of learners to consolidate or reinforce learning. The teaching assistants do not substitute for teachers in any way. Teaching assistants are being given ongoing, in-service training to capacitate them to fulfill their functions. The project will be evaluated to determine the success of each aspect of the project and to make recommendations regarding the use of Teaching assistants in the future.

Support and mentoring/coaching in terms of lesson planning; use of resources to enhance teaching and learning; management of diversity in the classroom; management of assessment practices, and support for learners will also receive attention.

Exemplars of required levels of attainment in print, audio tapes and videos will be provided to guide the expected levels of performance at each grade.

Cluster meetings of teachers will be encouraged and supported. The concept of critical friends' groups amongst teachers must be promoted.

A simple handbook is to be developed for teachers to give to parents indicating how they can support the literacy and numeracy development of the learners, but leaving space for teachers to add individualised comments.



Specific actions:

Develop an intervention and support programme(s) for teachers in terms of teachers' knowledge/mastery of the following:

- the NCS
- the development of learning programmes and lesson plans – refining the understanding of pacing, selection of content, prioritisation
- the didactics of literacy and numeracy in a multilingual, monolingual and/or multigrade context
- learner assessment
- time management
- classroom management
- classroom administration
- to support learners that experience barriers to learning
- train and deploy teaching assistants to support teachers experiencing difficulties (to be accompanied by training of the relevant teachers and SMTs as well).

6.2 Support for home-based/foundational teaching and learning

This includes a pre-school and ECD strategy and a “whole-school/whole community” and/or family literacy programme.

6.2.1 Pre-school/ECD strategy

Research in many countries demonstrates that learners entering Grade 1 do not have the necessary knowledge, skills and attitude to engage effectively in formal schooling. This situation can be attributed to factors such as poverty, TV, lack of movement/motor development, lack of opportunities to play, poor language use by role-models, substance abuse by pregnant women, malnutrition, single parent families, illiterate parents, lack of parent involvement in children's lives, lack of engagement with books before school entrance, etc.

The result of the above is that most of our learners are not ready for formal schooling when they enter Grade 1. A clear, comprehensive strategy that will contribute to our learners receiving proper pre-school education is therefore imperative. In the short to medium term the overwhelming majority of learners entering Grade 1 should have the necessary knowledge, skills and attitude to engage in formal education. In order to achieve this goal the strategy will focus on the development of a manual and an associated supportive training programme for parents to prepare their children for formal education.

A strategy to augment the above aims, has already been developed between the WCED, the Department of Community Development and Social Services and the Department of Health which will address the learning needs of children up to the age of four years. A WCED ECD Task Team has been formed to ensure that critical ECD matters are aggressively and systematically addressed. In addition a National Strategy to roll out the provisioning of education to all Grade R learners by 2010 has already commenced.



Specific actions:

- Develop and print a manual for parents on the development of emergent- literacy and numeracy skills
- Arrange workshops for parents on the development of emergent-literacy and numeracy skills and utilise the media where practically possible.
- Develop a plan for the accommodation of as many Grade R learners in schools as soon as possible. Ensure that the allocation of funds, the training of teachers, the monitoring of all sites and the registration of new schools matches the development needs of the communities concerned
- Develop a screening instrument for Grade Rs to assess their developmental levels
- Develop and print a developmental programme for Grade R with specific focus on emergent-literacy and numeracy skills
- Train EMDC staff, teachers and teaching assistants for the implementation of the programme.
- HoDs and the relevant EMDC staff to monitor the implementation of the programme and take the necessary remedial steps.
- Supply clinics and other public service outlets with copies of videos on parenting and emergent literacy and numeracy

6.2.2 Advocacy, Family and Community Literacy

The WCED must mobilise and train where needed: role models/icons; volunteer readers, volunteer teachers, community development workers, local government education agents, clinics (i.e. health, social welfare, arts and culture, local government), NGO, NPOs, Libraries and schools to twin with other. If the research indicates success and it is decided to retain teaching assistants for further years then the contracts for the teaching assistants should be revised so that they are required to adopt, say, 30 families and visit them to offer them support. The possibility of employing a greater number of Community Development Workers with a special literacy/numeracy training as an EPWP project must be urgently pursued. Also important are the media: print and radio. What is envisaged is a developing model of a learning family and a learning street, within a learning community (this will be supported by our "Community School" initiative in 2006). At the core what will be promoted is the idea of a learning turnaround in our schools and that it's only via an active engagement of the whole community that this will happen (in addition to the solid school based interventions).



Specific actions:

- The development of an Advocacy strategy
- The development of a Family Literacy model within a Community/Mass Literacy context
- The development of materials
- Ongoing mobilisation and training as required
- Massive publicity to bring the strategy to the attention of all role players and enlist volunteers
- Publish results and progress
- Encouraging schools to engage parents, provide support and training and indicate clearly what parents can do to support literacy and numeracy development in the home.

7. ATTENTION TO CRITICAL SUCCESS FACTORS

7.1 Research

As noted research indicates that learners' lack of numeracy and literacy skills is an international phenomenon. However, South Africa is amongst the lowest performers in developing countries, and even in sub-Saharan Africa, with respect to its mathematics and science results at secondary levels. Sound research is therefore needed to determine the reasons why our learners are not performing as they should; and to make recommendations on how to rectify this situation.

In addition this very strategy needs to be managed as "action-research" underpinned by formal research. This is a strategic and targeted intervention. Results need to be tracked and successes multiplied and mainstreamed.

7.1.1 The following areas of research will be focused on:

- The further analysis of the performance of learners in the Grade 3 and Grade 6 literacy and numeracy tests
- The effects of language on learner performance e.g. 1) the performance of non-English home language speakers in English medium schools including code switching and its effect on the performance of learners 2) the effect on learners encouraged to maintain use of mother-tongue as LoLT for longer.
- The long term tracking of learners who wrote the Grade 3 and Grade 6 assessment tests to gauge efficiencies within the system
- Development and piloting of a test item bank
- Examining ways of reporting on tests to schools in ways to assist meaningful interpretation and intervention
- An investigation of age vs. performance
- An audit of the qualifications, training and experience of foundation phase teachers
- Investigation of lesson planning and classroom practice in successful and weak schools in order to identify good practice and deficiencies
- An analysis of high and low performing schools



- An audit of all NGOs operating in WCED schools and their activities – this should include a synthesis of the valuable research which they have conducted and reported on
- Research into the efficacy of the deployment of teaching assistants in under-performing schools
- Action research into the efficacy of the literacy and numeracy strategy as envisaged in this document i.e. the interventions themselves should be monitored and the effects of the teacher training etc. on actual learner performance needs to be checked and approaches adapted as indicated.
- Links between numeracy and literacy scores could be tracked

7.2 Monitoring and Support

It is internationally recognised that monitoring and support of any strategy are essential elements to ensure effective service delivery. Relevant and proper support cannot take place if monitoring of progress and performance is not done. Monitoring, quality assurance and intervention are required:

Regarding language policies, officials need to examine school language policies, ensure compliance to prescribed minimums and ensure that all schools are making some explicit annual progress towards full compliance to implementation of the policy, as and when their staffing and budgetary constraints allow. This should include site-visits etc. and not be confined to a bureaucratic model.

Some of the reasons why proper support and monitoring are not taking place in our schools may be attributed to the following:

Lack of accountability and lines of reporting

Lack of knowledge and skills

An inappropriate support and monitoring infrastructure and a lack of collaboration amongst the various role-players

Poor management of support and monitoring

Lack of support and monitoring instruments

Ill-informed and illiterate SGBs and parents, etc.

A proper support and monitoring system needs:

- A support and monitoring policy
- Effective support programmes
- Effective support and monitoring staff
- Effective monitoring instruments
- Responsibility and accountability amongst all role-players
- Buy-in from all the role-players.



7.2.1 General actions

- The establishment of monitoring and support committees at school, district and provincial levels.
- Guidelines to schools regarding the setting up of monitoring and support committees.
- The development of reporting forms, the collection and interpretation thereof and feedback to schools.
- Support to schools to be able to interpret results and to develop a strategy for the school to improve its results
- Encouraging teachers to form communities of practice/critical friends' groups within a school and across neighbouring schools.
- As indicated above it is the WCED itself and its literacy and numeracy support actions that also need to be monitored.

7.2.2 Actions related to Literacy and Numeracy

- An audit of current interventions in each school must be undertaken.
- A database of current interventions must be developed.
- Schools must get approval for all future interventions from their EMDC. All interventions to be considered in terms of Grade 3 and Grade 6 results.
- All new interventions must be reported for capture on the database.
- All new interventions must indicate external evaluation processes.
- Down-design the curriculum assessment standards progressively for each grade up to baseline assessment level so that they can be used for lesson planning, classroom management and the monitoring of progress.
- Print the necessary materials.
- Develop model lessons for educators that may need this measure.
- Measure efficacy of both existing and new interventions.
- Create a joint monitoring and support system consisting of SMTs, learning support staff, curriculum advisors, CMs, the EMDC management team and relevant HO staff.
- Develop the necessary training material and train staff.
- Monitor teaching by SMTs, learning support staff, curriculum advisors, CMs, the EMDC management team and relevant HO staff.



7.3 Coordination and sustainability

This should be conducted on a number of levels:

7.3.1 Provincial Coordinating Task Team

Specific actions:

- Manage the overall rollout of the approved strengthened Literacy and Numeracy Strategy
- Meet quarterly to monitor progress in each district (EMDC)
- Report to TOPCO on a quarterly basis
- Ensure that there is appropriate advocacy of the strategy.

7.3.2 Provincial Working Group

Specific actions:

- Report to the provincial coordinating task team
- Collate EMDC initiatives
- Monitor and assess monthly reports by EMDCs
- Initiate research
- Initiate specific intervention programs
- Develop a reporting format
- Promote advocacy
- Liaise with CTI regarding needs
- Facilitate the training of EMDC staff according to needs

7.3.3 EMDC Literacy and Numeracy Committee (DIRECTOR, CCA, Head SLES)

Specific actions:

- Report to Provincial Working Committee once a term
- Do a situation analysis of the literacy/numeracy needs of schools in the EMDC
- Draft an EMDC literacy/numeracy action plan in line with the provincial strategic plan and business plans
- Build capacity of educators at schools
- Monitor progress with regard to the intervention strategy in schools
- Monitor all NGO/stakeholder initiatives in schools
- Analyse EMDC results
- Share best practice with schools.
- Manage advocacy



7.3.4 EMDC Circuit Managers

Circuit managers will be required to support the literacy and numeracy strategy by ensuring that schools are well-managed and that principals create the necessary conditions to support good teaching and learning. Circuit managers must give guidance and support to principals to ensure that

- timetables are developed and adhered to
- teachers are at school regularly and timeously and any recalcitrant teachers are appropriately dealt with
- resource material is purchased and retained
- class sizes are managed
- staff receive professional development
- a positive atmosphere of attainment is engendered in the classroom

7.3.5 School level (Principal, Curriculum Coordinator, HOD, FP, IP, SP)

Specific actions:

- Ensure the school has a Literacy and Numeracy policy and monitor its implementation
- Report to EMDC Literacy and Numeracy Committee once a term
- Report to SGB once a term
- Undertake advocacy and awareness amongst parents
- Arrange training and support of staff
- Monitor reading half hour
- Arrange for parent/grandparent volunteers
- Monitor and evaluate lesson preparation, classroom management and teaching strategies of teachers
- Monitor progress of learners.

7.3.6 School Literacy and Numeracy Policy

Following the launch of the WCED revised Literacy and Numeracy Strategy, each school will be required to develop a School Literacy and Numeracy Policy. The policy must be developed by the School Governing Body in consultation with the teaching staff and parents, as well as learners, where appropriate.



The policy must:

- Be a written policy that is made available to all role-players and stakeholders
- Work seamlessly with the school language policy
- Set goals for the levels of achievement in literacy and numeracy to be obtained by learners in the school
- Require that targets for raising literacy and numeracy levels be set as part of the school development plan
- Require that ongoing staff development in the teaching of literacy and numeracy is incorporated in the school development programme
- Ensure that plans for a fully functional library/media or resource centre are included in the school development plans, if such a library/centre is not already in existence
- Designate a member of the school management team to have specific responsibility for literacy and numeracy across the curriculum
- Indicate that it is the responsibility of every teacher in the school to develop literacy and numeracy
- Determine ways in which literacy and numeracy will be promoted within the school
- Determine procedures for monitoring and evaluating learners achievement in Literacy and Numeracy
- Ensure that data obtained from assessment is effectively utilised
- Determine teacher development necessary to achieve the goals
- Give consideration to family literacy and numeracy classes, where necessary
- Indicate extra-curricular activities which support literacy and numeracy that will be implemented at the school
- Indicate ways in which parents and other members of the community will become involved in supporting literacy and numeracy

7.4 Learning and teaching support material (LTSM)

Learning and teaching support material must be selected in conjunction with the teacher's strategy and methodology for teaching literacy or numeracy to support the teacher's work in the classroom. LTSM should be at an appropriate level for each individual learner and address the particular learning style and needs of the learner. The WCED will mobilise what it can from e.g. magazine donations, private donations etc. It is envisaged to contract a "Reading Laboratory" project - graded pieces provided on reading cards for learners to read with some questions to develop skills. These will not replace books but will supplement them cheaply and be part of a drive to build up supplies of Xhosa reading materials.



7.4.1 Literacy and LTSM

This programme will provide guidance and support to the teaching of Literacy:

- Teachers should have a teaching and learning file consisting of a Learning Programme, a Work Schedule and Lesson Plans for the Language. Teachers must also have a portfolio of assessment tasks. Where teachers need further support, use must be made of one of the structured reading programs available either in hard copy with texts or using a blended approach of hard copies and digital material.
- Every classroom in the Foundation and Intermediate Phase must have a classroom library consisting of at least the 100 books supplied by the WCED. Teacher must have a number of sets of graded readers in the classroom so that learners develop their reading skills at an appropriate level. Learners must have a language textbook, writing books and pens or pencils, as appropriate
- Each school to implement a structured reading half hour every day
- Schools to use Norms and Standards funds to ensure all learners have textbooks and writing material

7.4.2 Numeracy/Mathematics and LTSM

This programme will provide guidance and support to the teaching of Numeracy/Mathematics:

- Teachers must have a teaching and learning file consisting of a Learning Programme, a Work Schedule and Lesson Plans for Numeracy/Mathematics. Teachers must also have a portfolio of assessment tasks. Teachers must also have, and use, a daily Mental Mathematics resource material as supplied by WCED or similar. Where teachers needs further support, use must be made of one of the structured numeracy/Mathematics programs available either in hard copy with texts or using a blended approach of hard copies and digital material
- Learners must also have access to appropriate equipment for the teaching of concepts in Mathematics, such as the WCED MST kit.
- Learners must have a textbook for Mathematics, an exercise book and pens or pencils, as appropriate.
- Schools to use Norms and Standards funds to ensure that all learners have textbooks and writing material.

Specific actions:

- WCED to supply exemplar Learning Programmes
- WCED to supply Foundation and Intermediate Phase teachers with Mental Mathematics resource material and support in the use of the material
- All teachers will be given assistance to develop a Learning Programme, a Work Schedule & Lesson Plans
- Monitoring and support will be provided to ensure the use of class libraries



- Khanya to supply all primary school labs with suitable IT literacy and numeracy programmes for individualised learning, and to assist teachers in the use of the software
- Procurement and use of interactive whiteboards as a mechanism for improving quality of teaching and learning to be investigated and implemented if possible
- Down-design the curriculum assessment standards progressively for each grade up to baseline assessment level so that they can be used for lesson planning, classroom management and for the monitoring of progress.
- Print the necessary materials
- Develop model lessons for educators who may need this.



8. THRUSTS

Year 1 (General orientation)

Advocacy

Help parents learn about the benefits of mother-tongue based bilingual education.

Mobilise mass media

Training of officials

Baseline testing

Monitoring and evaluation

Interpretation of test scores

Specific skills training where needs are

Language-support topics: (proportions of time spent on each topic will vary according to the needs of the target group concerned)

- How to formulate and implement (or monitor) a school language policy
- Learning English without losing mother-tongue
- Moving from mother-tongue to dual medium education
- Early literacy and biliteracy in pre- and primary schools
- Dual and parallel medium education: management and classroom issues
- How to deal with language mismatches at a school
- How to teach content subjects using multilingual approaches
- Materials development
- Assessment issues

Support

Schools must be supported through the process of:

- defining literacy and numeracy and language policies – includes canvassing parents, analysing demographics, liaising with neighbouring schools
- planning staffing and LTSM
- allocating budgets
- Individual teachers must be supported through the process of improving MT-based instruction so that learners in the Foundation Phase progress optimally
- launching the WCED three year trilingualism programme

General

Data collection, baseline testing, advocacy, training of trainers, sourcing donations, materials etc.; mobilising. Prepare and provide the “Steps to Literacy” and “Steps to Numeracy” documents; set up the ACEs etc., run pilots where this is viable, get ICT plans directed at the needy schools, set up inter-school twinning, help people get plans in place (e.g. language policies etc.), get media working.



District/Provincial macro-planning regarding language provision

In an efficient system, provisioning along the lines of language needs cannot be left to chance. Futures'-planning and insight into demography is required so that language plans for new institutions are far-sighted and so that school language policies in a district can be re-configured if needed. A formal process of examining education provision along language lines needs to be set up and the necessary interventions set in place.

Budget needs to be set aside to provide support for language medium changes and for "languages as subject" shifts – in particular where these accommodations are made in response to a request from the WCED.

Year 2 and beyond

Advocacy and support continue as above

Training and mentoring in transition management (for example managing a transition to English and/or to dual medium) continue for teachers and officials as the learners progress into Grade 4, Grade 5 and then Grade 6 and even Grade 7 (and/or beyond).

9. GENERAL REMARKS

The MEC, the Superintendent General of Education, Top and Broad Management, Chief Curriculum Advisors, designated officials, learning support teachers and the Khanya teams will unite to make an impact on the schools which need support. Edulis and the media advisers, ABET officials, CDWs, NGOs, tertiary institutions and volunteers will be part of the team. The branded campaign under the slogan *"Each One Teach One: together we can build a learning home for all"* will have an impact which is both visible and measurable.

The whole staff at any school identified for support must be part of the turnaround process. Solutions are not at the hands of individuals but in the joint efforts of an aligned workforce. Schools on the programme will be invited to pledge to commit to the programme which will have an easily identifiable 10 point list as follows:

Literacy and Numeracy Turnaround Plan

- All learners, teachers and parents commit to this turnaround plan
- The school will have a half hour of reading for pleasure every day
- The MST Kit and other mathematical discovery processes will be used daily to support the constructivist and problem-solving approach
- The teachers will follow the "Steps to Literacy" and "Steps to Numeracy" programme
- Teachers will participate in training as required and apply what they learn in the classroom
- Parents will tell or read stories, play number games, learn with their children
- Parents will help their children join a library
- Parents who can't read and write will pledge to learn



- Learners will write stories, journals, articles (original prose) at least three times a week and read one another's work
- Parents and teachers will work together to make the best plans about the language of learning and teaching for the child

The programme will be such that ordinary people know what it means to be on this programme. They need to know what they're committing to. It must capture the imagination of our province, in our towns, in the ward committees, in factories and in homes. Schools will publicly commit to building a learning home for all by concrete action. In this regard, the need for a special relationship with our unions and school governing body associations is central.



10. ANNEXURE A

A report which is slightly adapted from summary comments by Minister Naledi Pandor on Grade 6 national systemic evaluation results (published in the "Cape Times" of 14 December 2005) reads as follows:

Although schools are now part of a non-racial system with new curricula and learning materials, the evaluation reveals that five out of 10 schoolchildren are not achieving the expected learning outcomes in natural sciences, six out of 10 are not achieving in the language of learning, and eight out of 10 are not achieving in mathematics ("achieving" means scoring 50% or better in a Grade 6 assessment task).

The survey gives us an overview of the condition of schooling in the intermediate phase (Grades 5-6) in South Africa. Although it was not designed to tell us how specific factors cause children to learn better or worse, the survey does show what factors on their own and in combination are significantly associated with better or worse learner scores.

Learners scored best in town schools and (in descending order) less well in township, farm schools, rural and remote rural schools. In fact, in some tasks remote rural learners scored almost three times worse than urban learners.

Learners' home circumstances seem to have strongly influenced their performance in all three learning areas. In fact, the social and economic conditions at home have the strongest correlation with how well children learn. On average children from very poor families scored a third as well in language and mathematics and half as well in science as did children from very well off families. Poor households are unable to afford books, radios and televisions, and children who have access to these media of information and stimulation at home generally performed better on their assessment tasks. A relatively large proportion of parents in the sample reported that their children stayed home from time to time when they were unable to pay school fees, and such children scored significantly lower on the three assessment tasks.

By contrast learners whose parents or guardians are able to pay school fees and were themselves educated, took an interest in their children's schoolwork and participated in school activities, performed better.

"Learner participation" was the in-school factor most strongly associated with better performance in language, mathematics and science. Participation refers to what goes on in classrooms. Learners' scores are higher when they interact frequently with their teachers, work together and use educational materials. Since participation requires communication and communication requires language, it is not surprising that the most influential aspect of learner participation was the language in which learners were taught and learnt.



Grade 6 children performed better in all three learning areas when they learnt in their home language, whereas children who had learnt in a language other than their own tended to score less well. There is ample evidence from other research that children who learn in their mother-tongue in the early years of schooling become more competent in the skills of reading, writing and number work. However, the authors of the Grade 6 systemic evaluation report caution that other factors may also be influential, since learners who were not learning in their mother-tongue and who scored low in the assessments also tended to live in rural and remote rural areas.

The overall evidence is clear: the richer the learning environment in schools the better children perform in their assessment tasks. Teachers clearly need adequate resources to aid them and where these were absent their learners fared poorly. Where schools had a library or book collection, an internet connection or a teaching resources centre their learners tended to score significantly higher. The authors of the report say that the availability of such school resources is "a crucial dimension of school effectiveness". They regard it as a "threshold" factor that enables effective learning and teaching to develop and flourish.

What can we do to effect system-wide improvement? First we need to improve access to school. This means resolving the issue of school fees that prevent children from entering or completing their school programmes; ensuring that learners with special needs are able to enter school and are properly provided for; and supplying sufficient learning materials to all schools on time. Second, we need to promote specific quality issues. Factors to be targeted include: enabling children to learn in the most appropriate language of learning and teaching; tackling the conditions that tend to make schools in rural areas, on farms and in townships less effective sites of learning; and introducing a comprehensive policy to attract citizens into teaching as a vital and respected career, to provide high-quality initial teacher education and continuing professional development. Third our focus on equity has to be continued. This means significantly improving the professional and administrative support that provincial, district and circuit education offices provide. The last issue concerns efficiency. Here there is a need to ensure that the early childhood development programme delivers quality provision to all pre-school children, which is expected to lay a firm foundation for further learning, improve children's subsequent learning performance and retain them in school."



11. ANNEXURE B

Marcia D’Arcangelo. 2000. “The Scientist in the Crib: A Conversation with Andrew Meltzoff”. In *Educational Leadership*, November 2000, Volume 58, Number 3. pp. 8-13 writes (slightly adapted):

The current field [of brain research] is using new and rigorous experimental techniques, not clinical observation, to look at what is going on in the mind of the child in the first years of life.

Although Piaget and Vygotsky set the foundation for the field, we are going beyond their thinking. Piaget contributed the ideas that children’s minds develop in an orderly way and that they think in slightly different ways than adults do. Children have their own framework for looking at things, and they interpret the world through the filter of their cognitive structures.

Vygotsky contributed the idea that social interaction is important for learning, that children are not just independent problem solvers but learn from adults and other children. He, more than Piaget, emphasised the importance of social interaction. And he was, of course, correct about that.

... Listening to children has led us to revise our ideas about the relation between thought and language. We now realise that language is not just used to label physical objects, but also used to label significant cognitive thoughts - such as children’s beliefs about the invisible, their intentions, and their desires about their own actions and those of others. ...They also learn from others, which transforms the innate structures that they are born with.

This is where Vygotsky made his profound contribution to our understanding of human nature. He suggested that nurture, how we are changed by others, is part of our nature.

... There is no real conflict between nature and nurture, no conflict between biology and culture. What is unique about human biology is that we depend on other people for learning. We are influenced deeply by our teachers, parents, and peers. I like to say that we humans are born to learn.

... Social input is incredibly important for behavioural, cognitive, and emotional change. That is where imitation and observational learning come in. Children, even babies, are using us as role models. They watch carefully what we do and try to incorporate that into their behaviour.



... A lot of brain research and developmental research shows that very young children, and probably all of us, learn better in a stress-free environment. Teachers should want to have non-threatening classrooms that foster exploration and discovery so that children can test their cognitive and emotional limits. Also, stimulating, varied input is important for development, starting from the earliest ages all the way up through college and into adulthood. For babies, this translates into multi-sensory stimulation. For school-age children, it means sometimes giving visual examples, sometimes auditory examples, and sometimes tactile-kinaesthetic examples.

Activity in learning is very important. Children don't learn well from having information passively presented to them. Infants love to learn through active exploration – through play – where they are changing the world and manipulating it. They will hide an object and uncover it 15 times in a row, observing what happens. School-age children also like concrete manipulation and active, meaningful exploration. They need time to make predictions about whether the world confirms or does not confirm the predictions they have in mind. They need time to digest what they have learned. This applies to reading, math, the arts, and science. Children, like adult scientists and poets, need time to play, transform, and test the limits of their own perspectives. This is part of learning and development and also opens children up to formal instruction from others.

... Young children connect actions with what follows them only when the action and its consequences are close in time. You cannot respond an hour later to what an infant is doing and expect the infant to make sense of it. For school-age children, providing that timely, accurate feedback is important when they are solving problems or doing an activity. It is a joy to watch a teacher or parent who not only praises and corrects, but also provides new information and prompts the child to rethink and look at the problem or puzzle in a new way.

... Babies are born with the ability to distinguish all the speech sounds and then they lose some of that ability as they learn their own specific language. What they lose in universality, they gain in speed and depth of processing for their own specific language.

What educators and parents need to understand is that neural sculpting – the tuning-in of a child to his or her particular environment and focusing on the patterns – is a natural part of human growth and actually quite beneficial ...

The brain learns when it is trying to make sense; when it is building on what it already knows, when it recognises the significance of what it is doing; when it is working in complex, multiple perspectives.

Abbott, J. 1994. "Learning makes sense: Re-creating education for a changing future" In: Education 2000. Letchworth. p. 73.



Howard Gardner's Theory of Multiple Intelligences, first introduced in a book called Frames of Mind in 1983, influences this strategy. Gardner's theory poses many stimulating challenges for classroom teachers, especially because there seem to be strong links between his multiple intelligences, how children (and adults) learn, and different teaching approaches that can be adopted in the classroom to support learners' different forms of intelligent behaviour. Gardner explicitly focuses in his theory on the concept of intelligences and goes out of his way to describe intelligent behaviour as not necessarily only related to verbal or mathematical ability or reasoning capacity. In this way, his theory allows for the exploration and description of intelligent behaviour in different contexts, through different intellectual processes and by observing different behaviours. If individuals can have a number of different intelligences, and can demonstrate different levels of these intelligences in a number of different contexts, there is much more room for seeing the concept of intelligence as dynamic, changing over time and space, and as multi-faceted. And if there is a connection between intelligences and learning style there are many challenges for teachers to vary their teaching styles.

The theory of multiple intelligences defines intelligence as an ability to solve problems or create products that are valued in at least one culture. Gardner proposes eight different intelligences to account for a broader range of human potential in children and adults.



12. ANNEXURE C

Taken from "Optimising Learning and Education in Africa – the Language Factor A Stocktaking Research on Mother-tongue and Bilingual Education in Sub-Saharan Africa by ADEA/GTZ/Commonwealth Secretariat/UIE (Draft version)

Interpreting all the African and available research from other parts of the world, the following is a tabular representation of what we may expect of the various language education models by the end of the secondary school.

Table 1: Expected Scores for L2 (Subject) in well-resourced schools¹¹ by Grade 10-12 depending on earlier language medium choices

100							
90							
80							
70							
60							
50							
40							
30							
20							
10							
0							
%	L2 medium Mainstream plus L2 pull-out	L2 medium Mainstream plus L2 Content	L1 for 2-3 years then switch to L2	L1 for 2-3 years then L2 content	L1 for 6/7 years then L2 medium	Dual medium (L1 only 5-6 yrs; L1 +L2 MOI from 7 th yr.)	L1 medium throughout plus good provision of L2 as subject
T Y P E	1a Sub- tractive	1b Sub- tractive	2a Early-exit Tran- sitional	2b Early-exit tran- sitional	3 Late-exit tran- sitional	4a Additive	4b Additive ¹²

¹¹ In other words: specialist teachers of English, small classes, adequate classroom resources (extrapolated from Ramirez 1991, Thomas & Collier 1997, 2002; correlated with Macdonald 1990 & Heugh 2002).

¹² This model, L1 (mother tongue) throughout, plus ILWC as a subject taught by specialist teachers in this language has been used in South Africa for speakers of Afrikaans. The students who have the highest academic achievement at the end of secondary school in South Africa are students who have been in schools using this model.



What this table does is to provide planners with a framework against which to measure what the likely outcomes will be for the education system, depending on the language education model in use. In African settings the majority of models are subtractive or early-exit (2a). The best one could hope for would be scores of between 20-40% in the L2 by grade 12 if these models continue.

If one examines the early-exit models and the findings of studies which have been conducted in the large-scale studies in the USA (Ramirez et al 1991; Thomas & Collier 1997, 2002) as well as the studies conducted in African countries, for example in Niger (Halaoui 2003) one expects to find that for the first three to four years, students in early-exit models do significantly better in their literacy and numeracy levels than do students who are in the subtractive (straight-for-LWC) models.

However, by mid-way through year four (sometimes sooner), these students start to fall behind those who are, in other contexts being taught in L1/MTE. They cannot keep up with the national norms for students who have L1 education.

Across the continent, fewer than 50% of pupils remain in school to the end of primary school. Repetition and attrition (drop-out) rates are very high, thus it is not immediately apparent to education planners that if they choose early-exit models, they are effectively selecting an outcome whereby students could only score 20-40% in the language which is used as the MOI by grade 10 - 12. Without realizing the consequences, the education officials of most countries select a model which can only offer limited success, and limited access to secondary school and beyond. Students will not be able to understand or succeed in areas of the curriculum such as Science and Mathematics if they do not have a sufficient proficiency in the MOI. This is painfully obvious in South Africa where less than 1% of students who are L1 speakers of African languages are able to gain a university entrance pass in Mathematics and Science at the end of secondary school".



13. LIST OF ACRONYMS

ACE:	Advanced Certificate in Education
CA:	Curriculum Advisor
CCA:	Chief Curriculum Advisor
CMs:	Circuit Managers
CTI:	Cape Teachers' Institute
CTT:	Coordinating Task Team
DET:	Department of Education and Training
EMDC(s):	Education Management Development Centre(s)
FDE:	Further Diploma in Education
FET:	Further Education and Training
FP:	Foundation Phase
HO:	Head Office
HoDs:	Heads of Department
GET:	General Education and Training
GETC:	General Education and Training Certificate
GTZ:	German Technical Co-operation
ILWC:	International Language of Wider Communication
IP:	Intermediate Phase
IRA:	International Reading Association
IT:	Information Technology
LSAs:	Learning Support Assistants
LoLT:	Language of Learning and Teaching
LSM:	Learning Support Material
LTSM:	Learning and Teaching Support Material
MOI:	Medium of Instruction
MOU:	Memorandum of understanding
MT:	Mother tongue
MST Kit:	Maths, Science and Technology Kit
MTBBE:	Mother-tongue based Bilingual Education
NCS:	National Curriculum Statement
NGO(s):	Non-Government Organisation(s)
PSNP:	Primary School Nutritional Programme
SGBs:	School Governing Bodies
SLES:	Specialised Learner Education Support
SMTs:	Senior Management Teams
SP:	Senior Phase
TA:	Teaching Assistants
TOPCO:	Top Management of the WCED
UNESCO:	United Nations Educational, Scientific and Cultural Organization
WCED:	Western Cape Education Department

