

EDO 295
**IMPLEMENTING EDUCATION WHITE PAPER 6 ON INCLUSIVE
EDUCATION**

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Implementing Education White Paper 6 on Inclusive Education – Final Report

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Acronyms

DANIDA	Danish International Development Agency
DBST	District Based Support Team
DoE	Department of Education
DPO	Disabled People's Organisation
EC	Eastern Cape province
ECD	Early Childhood Development
FET	Further Education and Training
FS	Free State province
FSS	Full Service School
GA	Gauteng province
HEI	Higher Education Institution
HPCSA	Health Professions Council of South Africa
HRD	Human Resource Development
IE	Inclusive Education
ILP	Inclusive Learning Programmes
ILST	Institutional Level Support Team
ISP	Individual Support Plan
JET	Joint Education Trust Education Services
KZN	KwaZulu-Natal province
LOLT	Language of Learning and Teaching
LP	Limpopo province
MP	Mpumalanga province
NC	Northern Cape province
NCS	National Curriculum Statement
NGO	Non-Governmental Organisation
NW	North West province
OBE	Outcomes Based Education
SA	South Africa
SETA	Sector Education and Training Authority
SCOPE	The South African Finnish Cooperation Programme in the Education sector
SGB	School Governing Body
SIAS	Screening, Identification, Assessment and Support
SMT	School Management Team
SSRC	Special School as Resource Centre
TOT	Training of Trainers
WC	Western Cape province
WP6	White Paper 6

1 Executive summary and key recommendations

Introduction

The roll-out of Inclusive Education is an enormous undertaking for the Department of Education, and has the potential to change the whole education system. The responsibility for its oversight lies with the Inclusive Education Directorate. This field test project, the framework of which is laid out in Education White Paper 6 on Inclusive Education marks the first stage of the process. It was funded through donor funding from Finland and Sweden, and implemented by a number of service providers. One of these was the CSIR, which undertook a project management role. The field test project highlights the challenges that have been experienced and the immensity of the task of putting in place a system that works, and is sustainable. It is important that the Department takes stock of the findings of the field test project and uses these to inform planning for the next phases.

The executive summary provides key findings. It includes recommendations for the up-scaling of the project as a whole (systemic issues) as well as more specific recommendations for the different components of the project; human resources, physical resources, material resources and advocacy. Detailed findings and recommendations can be found in the main body of the report.

1.1 Systemic key findings and recommendations

The implementation of the field test project has revealed a wealth of information on systemic planning that should be carefully analysed by the national and provincial Inclusive Education Directorates before progressing to the next stage. They reflect on the project in terms of the goals of White Paper 6, and the goals of the field test project in order to propose aspects that could be improved. Systemic aspects of the field test that can be used to inform the next phase of the project are summarised below.

- **Development of provincially implemented plans:** the provinces, supported by the national department should review their progress against the goals of the first phase of White Paper 6, using the indicators developed by the CSIR. Once this process is complete a revised implementation plan can be devised. The implementation plan should retain the elements of Human Resources, Physical Resources, Material Resources and Advocacy.
- **Monitoring and evaluation:** a monitoring and evaluation plan, which forms part of the provincially developed implementation plan, should be developed. This should include indicators and targets discussed, and agreed, between the national and provincial departments. The indicators developed by the CSIR as part of the field test project can be used, and adapted where appropriate. The monitoring and evaluation plan should retain the elements of Human Resources, Physical Resources, Material Resources and Advocacy.
- **Financing:** the financing of the future phases of the roll-out of White Paper 6 should be guided by the provincial implementation plans, and the amount of money made available through Treasury. Information from the studies undertaken as part of the field test can be used in projecting costs; however, additional work will need to ensure that these are up-to-date.

1.2 Human Resources key findings and recommendations

The human resources component was extremely complex. After some initial problems, it ran according to plan and in general delivered most of the expected outputs. However, the strategy, which was the ultimate goal of the project, cannot be used without further research. The training element of the project was a major focus. The training of educators and district based support teams in all provinces on the Screening Identification and Assessment (SIAS) and Integrated Learning Programmes (ILP) was achieved. The level of understanding of inclusive education throughout the country was lower than expected, and courses had to be adjusted accordingly. The systems through which inclusive education should be delivered (DBST's and ILST's) were not always in place and were difficult to establish. A number of recommendations related to up-scaling the project for this component can be made. These can be summarised as follows:

- **Decentralisation and integration:** The human resource development components of inclusive education should be integrated into provincial HR development programmes. Inclusive education teaching and learning should be formalised into courses made available through provincial programmes or teaching institutions.
- **Responsibility:** Responsibilities for implementation should be clearly allocated to Department of Education personnel and School Governing Bodies, who need to drive the process. There should not be an over reliance on District Based Support Teams (DBSTs) as implementers. DBSTs appear to be best suited to an oversight and support role.
- **Educators:** Educators have a critical role in supporting inclusive education. They need to understand the thinking behind inclusion and be confident in applying, and practising, inclusive education. They also need to feel able to ask for help and advice from experienced district and provincial resources. Education and support systems should ensure that these factors are in place.
- **Inclusive education training:** There should be a clear correlation between becoming a more able educator and being able to teach in an inclusive way. Gaining skills and knowledge in inclusion improves educators' ability to teach overall and supports career progression. Educators should therefore be encouraged to attend training and recognition should be forthcoming. Formal certification should be provided. Training should be aligned with unit standards, enabling credits to be accumulated towards specific qualifications.
- **Ongoing support:** a national and provincial plan for the provision of on-going support should be devised, which provides clarity in the roles of different institutions and personnel of the inclusive education system. This overlaps with the advocacy role below. A website with information on SIAS and ILP may be appropriate.

1.3 Physical Resources key findings and recommendations

The plan for this component changed from a nationally run project with service providers and contractors contracted to the national DoE to implementation through the provinces. Each province had different existing structures into which a system had to be put in place. This included the establishment of project teams and the appointment of professional teams (architects, engineers and quantity surveyors) and contractors. The number of schools to be upgraded had to be revised since the co-ordination between physical planning and inclusive education directorates took a significant amount of time to put in place and left a number of unresolved cost issues.

A critical problem experienced was the lack of accountability and contractual leverage that existed in the new arrangement. Because the DoE and the CSIR had no direct contractual link with professional teams they had little leverage to ensure that programme and quality standards were maintained and had to rely on provinces to carry out this role. In many cases provinces were ill-equipped, and had limited capacity to manage professional teams and

construction projects effectively. The contractual links meant that the CSIR and the DoE were not able to intervene directly with professional teams or contractors but always had to work through provincial Departments of Education and Public Works. In order to address the issues outlined above the following recommendations are made for future implementation:

- **National and provincial planning on infrastructure upgrading:** Upgrading infrastructure in schools requires forethought and advanced planning to co-ordinate different provincial demands on available financial resources. The physical planning directorates at national and provincial level should be closely involved in the discussion on which schools should become full service schools. In particular they should be asked to advise on their structural soundness and level of maintenance. The Inclusive Education Directorates cannot make these decisions in isolation. This aspect should also apply to decisions relating to the upgrading of special schools. New ordinary schools should be developed to comply with the Full Service School Specification to avoid the costly process of upgrading them at a later stage.
- **Planning for suitable school facilities:** Certain facilities fell between the provision of physical and material resources, and a budget for them had to be sought from the provinces rather than from donor funding. These included the provision of suitable and secure computer accommodation and storage for material resources, classroom chairs and tables, blinds on the windows to control daylight and the provision of universal items for teaching and learning; white boards, black boards, printers, TVs, DVD's Tape/CD players etc. The provision of material resources specifically for learners with disabilities cannot take place without the provision of these other items.
- **National guidelines:** the development of a specification for full service schools provided the project with a national standard for environmental access upgrading. Although resisted by some architects, it provided them with a reliable source of information, and significantly reduced the amount of time it took to develop compliant designs in cases where professional teams attended the briefing session. The Full Service School Specification should be reviewed following the completion of the physical upgrading, and formally adopted by the DoE. Similar national guidelines should be developed for Resource Centres.
- **Capacity development CPD course:** The briefing on the Full Service School Specification should be formalised into a recognised course with associated unit standards. The experience of this project has shown that careful quality control is required in the completion of the physical upgrading (see below). It is therefore it is vital that those responsible for quality control in the provinces are fully conversant with the standards required.
- **Quality control:** The process of achieving a successful standard of environmental access includes briefing architects and project managers, appraising designs and providing advice in the design stage, making site inspections and providing advice during the construction stage, and undertaking an access audit before handover. The experience of the field test project has confirmed that input from an access consultant and supervision from the project manager is a fundamental part of achieving the standard of environmental access described in the Full Service School Specification.
- **Contractual arrangements:** The provincial Department of Education should contract directly with service providers and construction contractors on projects; and be responsible for the allocation of funds. The approach developed in this field test project should be avoided as the national Department of Education had obligations to donors in terms of quality and deadlines but limited contractual means to ensure these were achieved.

1.4 Material Resources key findings and recommendations

The final results of this element of the project cannot be evaluated due to the late appointment of a national service provider. There were various reasons for the length of time it took to

appoint a service provider. This included the fact that it took a very long time to develop a specification of the material resources that should be available to a full service school as this had never been attempted before. Through developing this specification, it became apparent that the supply of items could not be the sole responsibility of the Department of Education and that some responsibility would have to be taken by the Department of Health. Another finding was that some equipment could be supplied by general government suppliers rather than specialists in the field of disability. In addition, the Inclusive Education Directorate wished to ensure that the delivery of material resources was accompanied by suitable training, to avoid schools being left with equipment that they were could not use. Too much emphasis on the training element was included in the bid by the consortium that bid for the first tender, and it failed. The tender therefore had to be re-run. There are various aspects of this project that can be used to inform up-scaling of the project. These can be summarised as follows:

Specification: Continued refinement is required of the specification to examine which items should be available in a Full Service School setting and which in a Resource School setting. This work cannot be completed until the field test has finished. The items most likely to be needed and most frequently used should be identified and separated from those less likely to be needed and less frequently used. The management of this should be undertaken by a Provincial Project Manager. (See below)

Provincial supply: The responsibilities for the supply of material resources will in future rest with the provinces. The supply of assistive devices will lie with the Department of Health, and the supply of computer-related equipment will lie within another directorate of the Department of Education. The supply lines in each province need to be clear and carefully co-ordinated, so that learners get the full package of material resources they require at the same time.

Assessment systems: The assessment of the learner in relation to the SIAS and ILP processes must link directly with the supply of the material resources. In some cases resources are used up and a continual supply will be required.

Provincial project manager: each province should devise a system for loaning and co-ordinating material resources, and it is likely that a provincial project manager will be needed to ensure that the right resources are available at the right time. Other considerations are, the transport required to make resources available between institutions, ensuring their maintenance, and that staff involved know how to support learners in using them.

Monitoring: The DoE is developing computer systems for school administration (SA-SAMS: School Administration Management System) and tracking of learners (Learner Unit Record and Information Tracking System (LURITS)). The relevance of the systems to inclusive education should be discussed with EMIS and the provision of material resources to learners should be included in these systems where appropriate.

1.5 Advocacy key findings and recommendations

The advocacy component of the project was implemented by the Inclusive Education Directorate with support from the CSIR. An initial campaign was carried out in 2006 throughout the country, to all district staff, SSRC's and full service schools. This distributed the Conceptual and Operational Guidelines for full service schools, special schools as resource centres and district-based support teams. Limited work on advocacy was undertaken following this as it was felt that the further progress should be made on other components in order to be able to share and disseminate information from these more widely.

Conceptualising the role of advocacy: the provincial and national Inclusive Education Directorates should use the findings of this field test to assess need. Through this they should develop an advocacy strategy. It was initially envisaged that the advocacy campaign would provide general orientation in inclusive education to educators, managers and school governing bodies (*Framework and Management Plan, Section 2, page 13*). However, given that the outcomes of the human resource training indicated that the training was used to provide orientation rather than in depth capacity building; the relationship between human

resource training and advocacy orientation should be reviewed and redefined.

Media campaign: Further work should be undertaken on providing on-going awareness and support to the public at large, and to develop a media strategy. This should be developed between the provincial and national Inclusive Education Directorates, with assistance from the DoE communication directorate.

Using good practice: the inclusive education directorate should ascertain where full service schools, resource centres and district-based support teams have been able to consolidate their roles successfully through the field test project. These institutions can then be used as examples of good practice. Given that there is a certain amount of confusion over the roles of the institutions, and in some cases, an unwillingness to adopt the new system; using good practice examples in advocacy could help to create awareness of how the system can potentially operate throughout the country.

1.6 Implications for the future phases of White Paper 6

It is suggested that some changes are made in the future conceptualisation of implementation plans for the future phases of White Paper 6:

Expanding the project focus areas/pillars: The four project areas or pillars should be clearly defined in order to ensure that no gaps are left in the provision of support in inclusive education institutions; it is suggested that these become:

Current	Change to
Human Resources	Human Resources, teaching and classroom support
Physical Resources	Physical resources, infrastructure maintenance and transport
Material Resources	Material resources and infrastructure, systems of sourcing and supplying
Advocacy	Advocacy, learner and peer relationships

Provision of guidance: It will take some time to implement White Paper 6 in total; a twenty year time frame is currently projected, eight years of which will have transpired by the end of 2008. Whilst White Paper 6 suggests an order for its implementation, beginning with the conversion of primary schools, it is unrealistic to expect other institutions not to begin to tackle their duties as they become concerned about their learners with disabilities. The national Department of Education has no means of controlling this, and it would seem sensible to provide guidance for other institutions. The experience of the field test has shown that where institutions take their own initiative in an unguided way, the results are not necessarily in line with the desired outcome. The guidance provided could be in the form of basic guides that can be used by any educational institution, whether at a general, further or tertiary level. These guides could cover each of the four pillars of the programme.

The relationship between ordinary schools, the resource centre, the full service school and the district-based support team: Careful consideration should be made of the concerns of educators, school governing bodies and parents. Currently, special schools generally accommodate learners with a specific type of disability, for example, deaf learners. A school such as this may not have the capacity, or storage space, to accommodate learners in electric wheelchairs. Although resource centres are meant to support the local full service schools, there may be concern that the learners with other disabilities at the full service school will not receive comprehensive support from staff, that there are limited resources and that the environment is not accessible. The province may already be aware of some of these concerns; however, these concerns need to be channelled into plans so that the structure that is implemented is robust, and able to deal with these issues.

Capacity: It is unrealistic to expect that there will not be concerns from parents and from educators over the level of staffing available. The White Paper indicates that provincial restructuring of staff posts should lead to suitable levels of staffing being made available where required. Provinces need to test this based on current need and projected need. If Eastern Cape starts to accommodate its own learners with disabilities rather than sending them to special schools elsewhere, this will have staffing implications in the Eastern Cape, and obviously similar implications for provinces not receiving other province's learners. In addition, strategies for enabling therapy staff to become more mobile will need careful thought out. Existing models for this may be found such as the use of qualified psychologists over a large area, with less qualified support staff providing assistance at an institutional level.

Relationship between the national and provincial Education departments and inclusive education directorates: The roles of the different directorates in the national and provincial departments should be identified and discussed. Inclusive education affects a number of different directorates and interaction needs to be coordinated. In particular aspects of physical provision need to be coordinated with physical planners at national level and provincial level. Similarly, in order to implement an advocacy campaign, communications directorates at national and provincial level need to be briefed. The Inclusive Education Directorate at national level will in future take the role of evaluating the success of the implementation of White Paper 6, and will be able to assist the provincial Directorates by providing policy guidance where it is needed. Provincial directorates will be concerned with implementation, and will need to closely monitor progress and provide information to the national Directorate to create a national picture. Both the national and provincial directorates should discuss their roles, agree on how to work together, and identify mechanisms to ensure projects are delivered smoothly.

Inter-departmental collaboration: Collaboration is required with the Departments of Public Works (physical infrastructure) and Health (provision of material resources). Current relationships at provincial level may, or may not, work successfully. The findings from this field test should be studied by the Inclusive Education Directorates at provincial and national level to examine where additional interventions may be useful in overcome previous problems in education service delivery.

Institutional level support structures: Most institutions were able to establish an Institutional Level Support Team (ILST) and most districts established a District Based Support Team. Where these were not established, provinces may need to intervene, with support from the national Inclusive Education Directorate, to ensure that these are in place. Where problems of funding exist, discussions should take place with the provincial finance department. The roll-out of inclusive education relies on these structures being in place to work successfully.

On-going support and embedding practice: The field test phase of the roll-out of White Paper 6 has raised expectations amongst the institutions involved who are in most cases, keen to show how they can implement inclusive education. They require on-going support from the provincial inclusive education directorates, and the designated DBST's. They need forums where problems and new initiatives can be discussed, and successes and failures, shared. A programme of training and knowledge-sharing could be agreed at provincial level. This could be based on suggestions from the institutions that are part of programme.

2 Introduction

This report is a summary of the learning developed during the first phase of the Implementation of White Paper 6 (WP6) on Inclusive Education. It provides a description of the context within which the project was initiated. It also outlines the approach taken by the project and it reviews this in order to develop recommendations for the future phases of the implementation of WP6.

The future phases of White Paper 6 will see development in the following areas; capacity building in all education departments and advisory bodies, the establishment and development of district based support teams and special schools/resource centres, designating full service schools, public adult learning centres, further and higher education institutions, and establishing institutional level support teams.

It will see the establishment of mechanisms at community level for the early identification of learners with severe learning difficulties and the development of the professional capacity of all educators in curriculum development and assessment. It will include the promotion of quality assurance, mobilisation of public support and the development of programmes on HIV/AIDS.

This project was initiated by the Department of Education as a field test for the implementation of White Paper 6 on Inclusive Education and designed with three main components, namely:

- Conversion of 30 Primary Schools into Full Service Schools (FSS).
- Strengthening of 30 Special Schools to become Resource Centres (SSRCs).
- Establishment of 30 District Based Support Team (DBSTs).

Within these three components specific interventions to address human resources, physical resources, material resources and advocacy were developed at selected sites.

The project involved a coordinated effort between the Inclusive Education Directorate within the National Department of Education, structures within Provincial Departments of Education responsible for Inclusive Education, Provincial Department of Education Physical Planners, Education District offices, Schools, School Governing Bodies, Service providers as well as interested and affected parties such as parents, community organisations and NGOs. Other government departments such as Health, Social Development and Public Works also contributed to the project's completion. Funding for the project was provided through Swedish and Finish donor funding. Both donors also provided technical support and organised visits for members of the team to see Swedish and Finnish examples of inclusive education.

This report is based on reports and material developed over the course of the project. It aims to summarise and capture key learning on the project and does not seek to provide a comprehensive report on the project. Further detail on any aspect of the project can be found in the project reports and in the project database, references to which are contained at the end of this report. The report has the following structure:

- **Systemic findings:** This provides an analysis of the development of the systems which are necessary for the future phases of the implementation of White Paper 6 and considers the achievements of the field test project in this light.
- **Human Resource Development:** This provides a description of the human resource development interventions carried out and summarises key learning developed during the project.
- **Physical Resources:** This describes interventions carried out that aimed to ensure that

the physical resources at selected schools were improved to a Full Service School Standard and summarises the lessons learnt from this.

- **Material Resources:** This describes the project developed that aimed to ensure there is access at full services schools to appropriate material resources. Lessons learnt from the project are also summarised.
- **Advocacy:** Due to the changes in the approach to running the advocacy section of the project directly through the DoE, no section has been completed. A brief report is included in the Executive Summary.
- **References:** Reference material used in the development of this report is listed.

3 Systemic findings

3.1 Introduction

Some of the most important findings of the field test project are the systemic issues. They highlight the need for the key relationships to work successfully so that White Paper 6 can be implemented. The role of the national Department of Education is to develop policy. The role of the provincial departments is to implement policy, including White Paper 6. However, key areas that the national and provincial Department of Education should address together are:

- How should the national and provincial departments work together to monitor the implementation of White Paper 6, review progress and plan for the future?
- What guide and standards should be developed?
- How should examples of good practice be shared?
- How should feedback from new institutions and their staff, parents and care givers be received; how can national and provincial Directorates provide them with information and help them adjust to their roles?

3.2 Goals of White Paper 6

White Paper 6 identifies 6 strategies/levers (*White Paper 6, Chapter 1 1.5.6, p20 – 23*) through which a successful model of inclusive education will be developed.

1. The improvement of special schools and their settings for the learners that they serve. Their conversion into resource centres that are integrated into district-based support teams.
2. The mobilization of children with disabilities and youth who are outside of the school system
3. The conversion of ordinary primary schools to full service schools in 30 school districts, expanding to 500 schools. A similar process to be taken in adult basic, further and higher education.
4. The orientation and introduction of management, governing bodies and professional staff to the inclusion model and the early identification of and intervention for learners with disabilities in the foundation phase.
5. The establishment of district-based support teams, beginning with the same 30 schools districts in (3) above.
6. The implementation of a national advocacy and information programme focusing on the roles and responsibilities of the different learning institutions, educators, parents and local communities. This will include highlighting the focal programme and reporting on their progress.

The field test project on the roll-out of White Paper 6 was initially conceived as a nationally run project, with minimal implementation by the provinces. During project implementation the DoE decided to change this; and run some elements nationally and others provincially. Their decision to drive certain elements of the project through the provinces was taken as it was recognised that the provinces receive funding for all programme implementation, and would be responsible for the project in the long run. Whilst this is true, it was unfortunate for the field test project as a whole that this decision was not taken before the project started as it complicated the field test.

However this decision has also enriched the findings of the field test. It has shown that using

the provincial systems for the delivery of parts of the field test has proved complex and very slow. It has led to severe delays and meant that it is not possible to synchronise the different elements. This could be because the systems in the provinces are slow, or because the provinces did not develop their own plans, but were given plans by the national department to implement.

Since the next phases of White Paper 6 will be driven by the provinces, it is very important that they are able to digest the experience of the field test. The provinces should be part of the conceptualisation of the next phases and be able to devise operational plans that are realistic in relation to their own internal systems. Careful attention should be given to the different role players that should be involved from different provincial departments to ensure that the correct level of consultation precedes the next phase.

The national Department of Education has a forum for discussing issues on Inclusive Education with the provinces: the *National Co-ordinating Committee on Inclusive Education (NCCIE)*. This committee provides the forum through which the field test can be reviewed and decisions on its up-scaling can be made. It is suggested that some time is spent in this committee reflecting on the completion of the field test and using the discussion findings to strategically plan the next phase. The provinces have unequivocal experience of:

- Where the project has made the most impact.
- Where the DoE can best make use of limited resources.
- Monitoring which full service schools, which resource centres and which district-based support teams have best consolidated their new roles.
- Monitoring which ordinary schools have been able to accommodate learners with barriers to learning.

Once the field test phase has been thoroughly reviewed, it is suggested that each province prepares a provincial plan, which corresponds with their available budgets; supported by the national Department who would supply advice and technical support documents.

It is vitally important that in the preparation of these plans, consideration is given to the other national and provincial structures that may need to be involved. One of the key findings in the physical resources element of the project was that without the involvement of the physical planners at national level, provincial physical planners could not be engaged. Likewise in the Human Resources element, problems were experienced due to the lack of co-ordination of training between the FET section and the GET section. Further, the Inclusive Education Directorate have focussed on the delivery of material resources to full service schools and resource centres in the GET phase, whilst the FET phase is acquiring material resources for their schools without reference to the Inclusive Education Directorate.

White Paper 6 and the DoE's management plan, *Framework and Management Plan for the First Phase of Implementation of Inclusive Education: Managing the Transition Towards and Inclusive Education System 2007* both identify EMIS as having a key role in the monitoring of the success of the implementation of White Paper 6.

White Paper 6 introduces three new institutions that provide the cornerstone of a new education system. These are the full service school, the resource centre and the district-based support team. It is envisaged in the White Paper that these three institutions will work closely together.

Through the implementation of the field test, it has become apparent that the operating system between these three institutions will vary from province to province. Geographical factors have forced some provinces to select full services schools far away from their supporting resource centres (for example JD Crawford in relation to the Klien Karoo Schools of Skills in the

Western Cape). Other provinces have had difficulty in setting up district-based support teams due to lack of available staff.

Recommendations:

The Inclusive Education Directorate should develop a programme through which the different elements of this project can be reviewed with the provincial heads of inclusive education. The Directorate should focus on helping the provinces to develop systems that are realistic for each province, and are based on the realities of each province.

The monitoring and evaluation of the roll-out of White Paper 6 will happen through the provinces. The Inclusive Education Directorate should make sure that it is able to receive information from the Provincial Inclusive Education Directorates. It should pay particular attention to those Provincial Directorates that have not made the time, or have been slow to contribute to aspects of the implementation of this field test, since this provides an indication of future anticipated problems.

Both the National and Provincial Directorates should work with EMIS to review what material they have access to and evaluate whether it is sufficient for monitoring and evaluation purposes. If not, they should develop new monitoring tools. The database developed as a result of the field test project included a series of fields of information from the different project elements. These can be used as a baseline for a new information gathering system.

The provincial heads of inclusive education should be involved in reviewing the relationship between their new institutions, reporting on the success in setting them up, and evaluating how the systems will work in the future, based on the geographical location and availability of human resources in each province.

3.3 Measuring achievement in the first phase of the roll-out of White Paper 6

The Inclusive Education Directorate intended to meet the following ten goals in the achievement of the first phase of the implementation of White Paper 6, to be completed by 2009: (*Framework and Management Plan, 2007, Section 2*):

1. Norms and standards for resourcing an inclusive education system.
2. A Human Resource Development Strategy that will impact on IPET and CEPD.
3. A clear understanding of the systemic relationship between the different institutions of the inclusive education system.
4. A framework for expanding the new inclusive system to 140 districts, 500 full service schools and 387 special schools as resource centres.
5. All special schools strengthened to deliver quality services to their learners.
6. Expanded access to the education system for a significant number of vulnerable learners not accessing the education system at present: children in conflict with the law, in child labour, in need of care, and children with disabilities who are out of school
7. Guidelines for Inclusive Teaching and Learning (Inclusive Learning Programmes), and a core of teachers trained to implement these in institutions
8. National Strategy for Screening, Identification, Assessment and Support in place and ready for implementing throughout the education system
9. The advocacy campaign will have reached and orientated all educators, managers and school governing bodies in the inclusion model
10. A system-wide inter-sectoral implementation of strategies where other directorates, government departments, NGO's, DPO's and CBO's will be involved.

The findings of the field test indicate that these goals are very ambitious for an education system new to the concept of inclusive education. Achievement of the ten goals has been mixed and there are a variety of reasons for this. These are:

The field test project was conceived as a series of tenders run from the national DoE, and yet the provincial Directorates would be responsible for implementing future phases. The costing of the system of implementing the field test could not be translated into a system for implementing future phases since the system used was not representative.

Provincial DoE's had no systems in place, varying levels of capacity to put systems in place and, aside from the Provincial Inclusive Education Directorates, very little understanding of inclusive education. Developing the systems and capacity of the provincial departments of education was not included as goal of the first phase, and yet the absence of it has been found to create major problems.

Likewise, the lack of understanding of inclusive education and the implications of it have created problems at national level. The selection of ordinary schools to be converted to full service schools is an example of this. Schools were selected that needed a great deal of maintenance intervention to bring them up to a standard where the environmental access improvements would work successfully. No discussion with other relevant Directorates took place prior to the selection of schools. Some schools have since had to be de-selected (Alpha School in the Northern Province, which is constructed from asbestos boarding, Maboloka in Free State which is a detrimental state of repair).

The human resource development strategy conceived in the Directorate's Framework and Management Plan was not outlined clearly in the tender document scope of work. The consortium that won the tender was asked to put more emphasis on the development of the strategy once they were appointed. The HR strategy that was developed as part of this tender may need testing and refining

The provinces are at differing levels of development in terms of the systemic relationship between the different institutions of the inclusive education system. Each province has its own particular problems, and given that they will be responsible for implementation, no nationally developed plan can yet be put in place.

The Framework and Management Plan 2007 provides the recommendations that came to light from the Special School Audit Report of 2005. (*Framework and Management Plan 2007 Section 3 p 25*). These recommendations indicate that many special schools are not in a position to offer quality services to their learners and need to address problems including: serious neglect in school infrastructure, cases of physical and sexual abuse and isolation from other institutions.

Recommendations:

The success of the Inclusive Education Directorate in achieving these 10 outcomes should be reviewed at the end of 2008. Despite the fact that the goals have not been met in their entirety, progress has been made towards achieving some of them; and more progress has been made in some provinces than others.

The revision of the strategic plan for the implementation of White Paper 6 should take place based on the progress of this field test. It may be that the stages for its implementation will be reconceived as well as the timetable for achieving the various stages reviewed.

The plan for implementing inclusive education should be developed by each province, using

an assessment developed by each province, with the national Inclusive Education Directorate facilitating research and helping with the development of the plans. Each plan must be developed based on the realities of the province. These implementation plans should include the human, physical and material resource development of the new institutions and emphasise how and where collaboration is needed with other directorates, government departments, NGO's, DPO's and CBO's. Whether the framework for expanding the new inclusive system to 140 districts, 500 full service schools and 387 special schools as resource centres can be realistically achieved, can only be evaluated once research for these plans has been accomplished.

The Special School Audit Report of 2005 indicates that careful planning is required to transform special schools into resource centres, in particular with respect to innovative curriculum development, support programmes, community outreach and making scarce specialised support services available to learners in institutions other than special schools. The report suggests there should be changes to the education management, governance development, curriculum support, physical planning, provisioning, exams and assessment in special schools.

The human resource tender introduced a significant number of educators and provincial staff in inclusive learning programmes and screening identification and assessment. The Directorate should develop a clear plan so that this achievement can be taken further.

Consideration should be given on how general orientation can be provided on inclusive education. The Human Resource Service Providers found that much of their role was general awareness raising. This meant that there was less time to provide in depth training and that many of the staff at the various institutions were not ready for in depth training.

An advocacy campaign was carried out in 2006 throughout the country, to all district staff, SSRC and full service schools. Further work should be done on providing on-going awareness and support to the public at large, and to develop a media strategy. This should be developed between the provincial and national Inclusive Education Directorates, with assistance from the DoE communication directorate.

3.4 The Field test Project

The field test project itself was run as a series of tenders, the Project Management Tender, Provision of Physical and Material Resources, and Human Resource Development. The goals of the field test project / Field test are given in the Framework and Management Plan (Section 1, page 9) as:

Costing of the converted institutions

- Costing of an ideal district-based support team
- Costing of the conversion of a special school to a resource centre
- Costing of an ordinary primary school to an ideal full-service school
- Costing non-personnel requirements within the integrated support system and outlining the accountability measures (physical and material resources)

Describing the processes involved in the conversion

- Process of establishing a district-based support team
- Change in management strategies for developing inclusive cultures, policies and practices in all educational institutions
- Field testing the guidelines for Inclusive Teaching and Learning (Inclusive Learning Programmes)

- Field testing the National Strategy on Screening, Identification, Assessment and Support.

Implications for Human Resource Development

- Devising a human resource development strategy which would include:
 - Advocacy strategies
 - Approaches to orientation in inclusive education
 - Implications for role functions of educators and professionals working in the systems
 - Implications for personnel provisioning
 - Implications for Initial professional educator training (IPET) and continued educator professional development (CEPD)
 - Implementation of Guidelines for inclusive teaching, learning, and assessment
 - Implementation of the National Strategy on Screening Identification, Assessment and Support.

It is clear from the goals for the first phase of the implementation of White Paper 6, and for the implementation of the field test that all activities have not been completed and that the achievement of goals has been mixed. There are a variety of reasons for this:

1. Some of the activities necessary to achieve the goals for the completion of the first phase of White Paper 6 were not included in the field test project
2. Some of the activities necessary to achieve the goals for the completion of the field test project were not included in the scopes of work for the constituent projects.
3. There are fundamental problems inherent in the current system that should be solved before the goals can be fulfilled (as described in **Measuring achievement in the first phase of the roll-out of White Paper 6**, above).

Recommendations:

The Inclusive Education Directorate should review the activities required to complete both the goals of the first phase of White Paper 6, and the field test project. In the light of the decision to implement the roll-out of White Paper 6 through the provinces; gaps should be discussed with the provincial heads of Inclusive Education and, following a the review of the field test project as a whole, included in the provincial implementation plans.

It should be recognised that some of the goals may be found to vary a great deal between different provinces; some have been able to set up District-based support teams where others have not. There are also different cost implications for both personnel and building conversion in the different provinces.

On discussion of the findings of the field test, it may also be found that different goals are required to complete the first phase of the implementation of White Paper 6, or that different activities are required to complete the goals. For example, following the audit of Special Schools, it is clear that many more activities should be completed before they become Resource Centres. The experience that all service providers have had in gathering statistics on numbers of learners with disabilities indicates that a system which reflects the Inclusive Education's classifiers should be developed. Nothing currently exists, and the service providers developed their own, all of which were different. These ranged from using projections from Statistics South Africa's classifiers, to using schools own reporting, to using categories of disability. None were complete or reliable enough.

The implementation of this field test project is still underway. The supply of material resources will be finalised at the end of 2008 and the physical upgrading of the schools will be finalised until the end of 2009; the project management service provider's contract finishes in June 2008. Therefore the monitoring and costing of some of the goals should be undertaken by the Inclusive Education Directorate.

3.5 Measuring achievement in the implementation of the field test

The CSIR developed a series of indicators to gauge the progress in achieving the goals that were part of the field test project.

Firstly, the indicators described achievement in the three key areas, human resources (HR), physical resources (PR) and material resources (MR). Secondly, for each section a series of impact indicators were developed. These are outlined in the table below:

White Paper 6 on Inclusive Education Key Indicators		
Human Resources		Impact
HR 1	Educators can apply inclusive education	<ul style="list-style-type: none"> Percentage of educators who feel they understand inclusive education Percentage of non-educators who feel they understand inclusive education Percentage of DBST who feel they understand inclusive education Percentage of District offices who feel they understand inclusive education Percentage of educators who feel they can apply inclusive education ILST in place DBST/other support body/network in place
HR 2	School has an active ILST supporting inclusive education	
HR 3	School has a DBST/other bodies supporting inclusive education	
Physical Resources		Impact
PR 1	All education spaces are accessible	<ul style="list-style-type: none"> Car parking and signage in place Percentage of classrooms fully accessible Percentage of admin areas fully accessible Percentage of WC fully accessible Adequate learner/WC ratio Percentage of eating and drinking areas fully accessible Percentage of sports areas full accessible
PR 2	All ancillary spaces (WC's etc) are accessible	
PR 3	All support spaces (admin etc) are accessible	
Material Resources		Impact
MR 1	School has access to materials and resources	<ul style="list-style-type: none"> Computer facilities and support software in place and functional Storage facilities in place and available System for the maintenance and management of material resources in place Percentage of learners in need of material resources at resource centres or special schools that have received an appropriate assessment Percentage of learners in need of material resources at resource centres or special schools that have access to the resources they require for the time that they require them
MR 2	Systems in place to maintain materials and resources	
MR 3	Capacity in place to support use of materials and resources	

		<ul style="list-style-type: none"> Percentage of staff identified to support the use of material resources trained on their use
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These indicators measure progress in activities that were undertaken as part of the field test projects, and therefore information is available on their completion.

Recommendations:

Information should be gathered to monitor the completion of all aspects of the activities covered in the field test project.

Indicators should be developed where monitoring and evaluation is required on activities that were not part of the field test projects, and yet are indicated as goals of the field test project, as part of plans for their implementation.

Other indicators should be developed if required; for example, the indicators for the physical resources do not cover the maintenance-management of the schools. If it is felt on reviewing these indicators that it is important that progress in the maintenance upgrading of the schools is monitored, then indicators should be developed.

3.6 Financing

White Paper 6, in the Chapter on funding (Chapter 3 page 37) indicates that the low growth rate of the economy and the relatively large proportion of money already allocated to education means that additional funding is unlikely for inclusive education. It indicates that most of the funding will come through the provinces, which will have to ensure that they are able to strategise over a 20 year timeframe. It indicates that finances will be targeted towards areas of poverty.

The White Paper highlights the need to investigate the costs of the system of institutional structures that it proposes; full service schools, resource centres and district-based support teams.

It indicates that the projected inclusion of out of school youth and out of school learners with disabilities in the school system will need additional resources as well as the conversion of primary schools, secondary schools and colleges to full-service schools.

The sources of funding for the short to medium term funding strategy (the first five years) is envisaged as:

- **New conditional grants from national government:** for use on facilities and other material resource needs to increase access for those currently excluded. Secondly, for assistive devices and support personnel that will assist learners in becoming part of an inclusive learning system.
- **Funding from the line budgets of provincial education departments:** sourcing funds from the reallocation of monies currently spent on specialist educators by redeploying their use.
- **Donor funds:** sourcing funding from donors for the audit of special schools and the national advocacy campaign.

The funding strategy indicates that a research into the costing of the new institutions should be undertaken as part of the field test.

The field test project was undertaken using donor funds and run through the national department of education. On completion of the project, there will be some difficulties for the DoE in costing the conversion of the institutions, since:

1. Not all the elements required to convert a special school to a resource centre were part of the field test; upgrading of the physical infrastructure was not included.
2. The audit of special schools ran as a separate project, and was not aligned to the field test project
3. No cost analysis of setting up district-based support teams was undertaken; these were set up through existing provincial structures.
4. The process of implementing the projects that made up the field test were through national tenders and involved procedures that the provincial counterparts in the Departments of Education will not have to undergo. Therefore any cost analysis from this field test will not be indicative of costs of the next stage.

Recommendations:

The national and provincial departments will have to consider the costing element of the next stage of the project quite carefully. Although some costs cannot be ascertained, there will be information, such as the cost of building conversion of the full service schools and the cost of the supply of packages of material resources, that can be used. Personnel from the finance departments should be engaged in assisting in the development of realistic cost models so that the required information can be collected.

3.7 Summary of findings and recommendations

There is a significant divergence between the conceived goals of the field test projects and their end results. The reasons for this divergence have been outlined in the sections on the different components. The divergence relates not so much as what was covered, as the broad goals of all projects should be achieved once completed; but the extent to which they were covered, in the time available.

The critical factors in the implementation of the field test projects were the systemic issues. The relationship between the national and provincial Directorates, the tender processes that took place in both departments, the involvement of other Departments and Directorates within the DoE had a fundamental impact on the delivery of the outputs of all the field tests; these factors dictated the extent to which the goals could be achieved and changed the timeframes.

Recommendations:

Development of provincially implemented plans: the provinces, supported by the national department should review their progress against the goals of the first phase of White Paper 6, using the indicators developed by the CSIR. The goals should be examined once this process is complete, and a revised implementation plan devised. The implementation plan should retain the elements of Human Resources, Physical Resources, Material Resources and Advocacy.

Monitoring and evaluation: a monitoring and evaluation plan, which forms part of the provincially developed implementation plan, should be developed; with indicators discussed and agreed between the national and provincial departments. The indicators developed for the CSIR as part of the field test project can be used, and adapted where appropriate. The monitoring and evaluation plan should retain the elements of Human Resources, Physical

Resources, Material Resources and Advocacy.

Financing: the financing of the future phases of the roll-out of White Paper 6 should be guided by the provincial implementation plans. Information from the studies undertaken as part of the field test can be used in projecting costs; however, additional work will need to be done to provide the type of cost analysis called for in White Paper 6.

4 Human resource development

4.1 Introduction

The purpose of the Human Resource Development (HRD) component of the project was to develop a human resource development strategy.

To develop the Human Resource strategy, the services provider (Siskonke Consortium) field tested relevant policies, materials and manuals. The field testing also included the training of a wide range of personnel to implement the materials and policies developed to support inclusive education.

Training was carried out at 30 primary schools identified to be converted to Full Service Schools (FSS), 30 Special Schools identified to be converted into Resource Centres (SSRC), 4 reform schools, and 30 District Based Support Teams (DBSTs). The materials and manuals developed were based on two key National Department of Education documents: the Draft National Strategy on Screening, Identification, Assessment and Support (SIAS) and the Guidelines for Inclusive Learning Programmes (ILP).

4.2 Key questions

The key questions addressed in the report are outlined below. These questions were identified during the field testing of the final Sisonke documents produced at each stage of the project.

SIAS and ILP strategies and related materials:

- How effective have these strategies been in promoting inclusive educational practices in the selected sites?
- What revision processes will enhance future editions of the strategies, manuals and materials considering the context of the field test?
- How should these strategies and materials be used in future phases?

Training, research and strategy implementation:

- What were the challenges involved in implementing the training and how could these be addressed?
- What positive lessons were learnt during the implementation?
- Was the model of training appropriate for fostering inclusive education?
- What was the learning from the training and orientation programmes that were run?
- What was the nature of the attendance of the training? What are the reasons for non-attendance? How can attendance be improved in the future?
- How should capacity development and orientation programmes be developed in future?
- How effective was the research, monitoring and evaluation process?

Supportive structures and collaborative partnerships:

- Were the DBSTs, FSSs, SSRs, and ILSTs in place and how effective, robust and functional are they? What is the current nature of these structures in these designated schools?
- What difficulties were experienced in setting these structures up?
- What should be the role of these structures in future phases?
- How should these structures be developed and supported in future phases?
- How do the DBSTs, FSSs, SSRs, and ILSTs collaborate with each other?
- What collaboration takes place with local communities, parent bodies and other organisations?

The development of a human resource strategy:

- What challenges were experienced in the development of the human resource strategy?
- How does the HRD strategy align with the DoE's overall HRD strategy?
- What is the viability and feasibility of the human resource strategy for future implementation of inclusive education?

4.3 SIAS and ILP strategies and related materials

The service provider, Sisonke Consortium, developed materials to mediate the two key National Department of Education's strategy documents which were constructed as tools for guiding the implementation of inclusive education:

1. Draft National Strategy on Screening, Identification, Assessment and Support (SIAS)
2. Guidelines for Inclusive Learning Programmes (ILP).

For each of these strategy documents, Sisonke developed a participant's and a facilitator's manual, which together formed a training unit. The participant's manuals were designed such that they could be used in conjunction with the training sessions and also used later for self study. The manuals included activities where participants could discuss issues with colleagues and thus broaden their understanding of inclusive education's philosophy and practice. Each manual provided for 20 hours of face-to-face training time which was conducted over a 3-day period. Participants were also required to undertake self study between the training sessions and take part in on-site follow-up visits, in addition to completing a portfolio assignment designed to consolidate their learning experience. This provided 40 hours of notional learning time.

The SIAS manuals were a prerequisite for understanding the ILP manuals thus SIAS training was scheduled first. Conceptually, educators need to follow the process from screening, identification and assessment of barriers prior to providing appropriate learning support.

The training manuals incorporated fundamental principles and philosophies of inclusion, as well as practical skills in screening for learning difficulties, identifying barriers to learning, adapting learning environments, differentiating the curriculum, modifying assessment strategies, managing inclusive schools and establishing networks of support. The manuals also served as a resource for educators and support personnel to use in their work within an inclusive education system.

An adequate editing and review process of all the manuals took place prior to their use at the training sites. Various successes and challenges were identified (Sisonke final process report, p 25-26). An initial challenge regarding the development of the materials was the lack of clarity of the brief. This caused confusion during the writing process and much time was wasted. Further delays were experienced when overextended DoE staff found it difficult to provide timeous feedback, which was clear, integrated and well coordinated, and not based on individuals' interpretations.

Recommendation:

SIAS and ILP strategy development

Service providers should clarify the brief with the DoE before moving forward with future projects. The DoE should appoint a project coordinator whose sole responsibility is to manage project issues from the department's perspective. Such a project coordinator would develop and follow a well-managed consultation process of commenting and providing consistent and integrated feedback timeously. This coordinator should also consider input from other directorates within the DoE, provinces and teacher unions.

In addition, it is recommended that a project steering committee should be established consisting of personnel from the key directorates at national level to ensure integrated planning and delivery of future projects.

Since both these strategy documents are in their initial stages of development, it is recommended that an impact study on the SIAS and ILP strategies, as well as their accompanying manuals should be undertaken. Clarity is needed on the sustainability and effectiveness of the SIAS and ILP strategies in promoting inclusive educational practices within school communities. An assessment is needed on how teachers are incorporating their new roles and responsibilities into their existing knowledge base and professional activities. Consideration also needs to be given to the impact of these strategies on the whole school system and how they are incorporated and aligned into existing frameworks such as OBE and the NCS.

It may be useful for the DoE to develop a plan for effective use of the training materials. This could include making the materials available for use by training providers such as Universities, NGOs and private service providers, as well as packaging and distributing the materials to schools and provinces to use as a resource. Posting the materials on the DoE website could also be considered.

Materials development

The design of the manuals incorporated that activity-based learning was beneficial to all participants. Since the training was scheduled for multiple sites and participants with various levels of expertise, the material had to be well scaffolded so as to be accessible to all during face-to-face training sessions, as well as during independent study. Overall the content of the manuals was received positively; however, concepts need to be simplified for both educators and non-educators.

Recommendation:

SIAS and ILP materials development

These manuals could be refined and edited further. Since these were the preliminary versions of the manuals and were designed specifically for this field testing; future versions of the manuals need to incorporate feedback from the field study. It is recommended that further revision of the manuals should take place before the next phase of WP6 is rolled out.

In manuals where there are answers to activities, answers should be given at the end of a unit to enable participants to obtain reinforcement for their responses without pre-empting them.

Future copies should be made available in other official languages, Braille and in electronic format. Simplification of the language used in the manuals should be considered since many participants had trouble reading and understanding them.

Learning outcomes and assessment standards should be included at the beginning of each section of the manual. These should be in line with the DoE's strategies. The content of each chapter should also be in line with the intended outcomes and their associated assessment standards. It is also important that the manual's content echoes the concepts taught during NCS and OBE training, emphasising the importance of a strong link between the curriculum and inclusion.

There is an over-emphasis on educators in the current manuals and more reference needs to

be made to other role-players such as therapists, support staff, SGBs, SMTs, ILSTs and DBSTs. Participants requested more information on content regarding specific topics, such as various disabilities, facilitating reading and writing, and ways in which the different parts of the education system work together to ensure support for all role players.

The SIAS manual needs to be strengthened to train participants in process tools such as the 'WORD PICTURE'. The SIAS forms developed by the DoE should be revised with particular reference to the complexity of the language and the bio-medical orientation of the forms.

Future versions of the ILP manual could elaborate on the practical procedures for 'straddling'. Some teachers admitted they did not know how to use 'straddling' in practice. The response was that this would be clearer once they have put in practice what they have learnt.

An informative facilitator's guide should be developed to accompany the SIAS and ILP participant's manuals. It is important that the Department's strategy documents and guidelines for both SIAS and ILP be used in conjunction with the manuals at all times during training sessions.

4.4 Training, research and strategy implementation

The implementation of the project was complex as it involved many sites, sometimes in remote areas of South Africa, and numerous role players. An operational plan for implementation was developed by the service provider which was approved by the DoE (Sisonke operational plan). The four phases of the training are described below as well as the research, monitoring and evaluation that took place.

Situational analysis

An initial situational analysis of the current scenario at the schools and districts was conducted. The results were collated in a database and summarised in a report (Sisonke database, Sisonke situational analysis report and Sisonke final process report). The aim of the situational analysis was to collect information that could assist in understanding the current human resource capacity at the target sites. Information gained from this process was used to inform the development of training materials and the training process, as well as the development of guidelines for the HRD strategy for the implementation of an inclusive education system.

The Sisonke research team and the CSIR identified key elements of HRD around which the research instrument was based. These key elements were used as the broad components of the situational analysis and as areas on which baseline information was obtained. These areas were theoretical knowledge of inclusive education, school policies, support for schools, curriculum-related support, governance and management, learner involvement, intersectoral collaboration, and stake-holder training.

Challenges encountered in the situational analysis

(Adapted from Sisonke final process report)

- The timing of the situational analysis posed a limitation because the final examinations in the schools took place at the same time, and therefore the district officials found it difficult to be available for the interviews. Other strategic planning meetings were also scheduled during this time which resulted in the absence of staff.
- The research instruments were not field tested prior to the fieldwork, so researchers were uncertain about the length of time required for the interviews and it was difficult to plan

effectively.

- A procedural manual was developed but not distributed to all provinces and was not available to all the researchers. The manual did not provide enough guidance for the fieldwork and researchers did not receive orientation prior to them undertaking the research. As a result, there was a lack of a uniform approach in the data-collection process between and within the provinces.
- Interview schedules were long and the interview process took hours to complete. The final instruments approved by the DoE differed markedly in terms of length and content as compared with the recommendations of Sisonke. This resulted in the collection of excess data that the service provider did not feel was very useful for the purpose of the project.
- Much of the information gathered was reliant on self-reported data which in itself was sometimes unreliable and inconsistent. This was a shortcoming of the highly structured questionnaire. In future projects verification and quality of data needs to be carried out and the outcome should be made available to confirm events, structures and policies.
- Not all the information that was gathered during the situational analysis was analysed and used to guide the training and development of the HRD strategy.

Recommendation:

The situational analysis generated a lot of useful data, which was used for the project but that could also be used for other purposes. "This data could be used by DoE for further implementation of an inclusive education system or by universities for training, research and publishing purposes and this will contribute to advocacy for inclusion, as well as human resource development, in the inclusive education field." (Sisonke final process report, page 24)

Training model

The training model that was used attempted to counteract the negative effects of previously used cascading models of training. The cascade model often leads to diluted, inaccurate or incomplete knowledge transfer as it is passed down. After consideration of the situational analysis findings, it was decided that all participants would be trained directly at the various sites and be present at the face-to-face training sessions. Since inclusive education is complex, the training sessions were designed as orientation sessions in the basic principles of inclusive education. They did not aim to equip the participants with in-depth knowledge of all its facets.

"Recommendations for training which emerge from the literature are as follows:

- All educators and district officials must be equipped with at least some of the knowledge and skills that were traditionally the domain of special education. These should include both assessment and programme planning skills;
- Training courses must not offer too much information in too short a time span, so that enough time is allowed for discussion and reflection to ensure genuine acceptance of the concepts presented.

Both the findings and the literature emphasise the need to recognise that the development of inclusive teams takes time. For this reason, participants need help to plan for some form of sustained contact and ongoing support after the training sessions, such as peer support groups and/or supervisory consultations." (Situational Analysis, Recommendations, page 5,

section 5.8)

Key elements of the training model

The training model was developed around the following elements:

1. The **constructivist approach** and spiral/cycle model – the training methodology was guided by constructivist and relevant adult learning theories which acknowledges the experiences and prior knowledge of the participants as the basis for engagement in the training activities.
2. Non-accredited **short course** – the training was a short non-unit standard-based training course.
3. **Cascade with site-based support** – the training comprised of a two-level cascade system which included the element of train-the-trainer and broad orientation which was cluster-based. An innovative dimension in the training model was the inclusion of a follow-up and on-site support phase in the target schools.
4. **Cluster-based** face-to-face training – a cluster of schools involving a special school as resource centre, full service school, district-based support team within a district, were trained together to contextualise the training and to begin the process of partnerships and collaboration between the three structures.
5. **Whole school** approach – the training targeted all personnel including non-teaching staff from all the target sites.
6. Trainers with **diverse experiences** – the trainers reflected diverse backgrounds and experiences e.g. people with disabilities, mixture of races, etc, and they were from institutions that traditionally work together, e.g. Universities, NGOs and DPOs.
7. Using combined **private and public** human resources – this entailed using trainers from private service providers and district and provincial officials.
8. Engaging in collaborative, **reflective practice** through portfolio tasks – portfolio tasks were an important vehicle in facilitating reflective practice during and after the training.

Training research

A critical element of the field test of the SIAS and ILP documents was the research component. The research team was constituted by the Sisonke Consortium and a research plan was developed. Both the process of material development and the training model were monitored throughout the project and continuous feedback was provided. Questionnaires were developed and refined to monitor the briefing sessions, train-the-trainer sessions, the orientation sessions and the follow-up on-site visits (refer to monitoring questionnaires and the Monitoring and Evaluation Plan, June 2005 and Sisonke ILP final report for examples of these questionnaires).

Many challenges were experienced in conducting this research. The lack of clarity on the tender brief at the initial stages of the project about the importance of the research component in the project led to a limited research budget and only a small research team was appointed. Most consortium partners were of the understanding that the main focus of the project was on training rather than research. This resulted in a delay of research coordination and a constant turnover of research coordinators. The time and effort required coordinating and reporting on this critical component of the project was underestimated. While rich and useful information was generated during the implementation process this information was not always communicated on time to the provinces and thus the information was not used to improve on the implementation.

Recommendation:

A thorough, in-depth research plan needs to be developed and approved as part of an operational plan for service providers. A dedicated team of well-trained researchers that are

involved in each phase and activity of the project and provide substantive reports should be appointed.

Training strategy

The training was planned in the four phases outlined below:

Phase 1 Briefing of core facilitators and planning: prior to the implementation of each training manual, Sisonke held an orientation session for its provincial coordinators and some key provincial trainers to ensure that there was consistency in training implementation across the provinces.

Phase 2 Training-of-trainers (TOT): training of all the provincial trainers then took place in the respective provinces to orientate them all on the training manual, and finalise the micro-plan for the broad orientation of all participants in the targeted sites. Trainers were drawn from universities, NGOs, Disabled People's Organisations (DPOs), private service providers and district officials.

Two train-the-trainer sessions were held before training occurred at the individual sites; one session for the SIAS and one for the ILP strategies. During these sessions, activities were agreed on and developed into plans for the participant workshops. It was envisaged that members of the DBST would be present at the sessions to help facilitate the larger workshops and to ensure their involvement in sustaining the implementation of inclusive education after completion of the project. However, attendance by the DBST members was often difficult as they were involved in many other projects and appointments. These teams were loosely constituted and this contributed to their poor attendance.

Phase 3 Orientation / training on target sites: The orientation of all personnel in the targeted institutions was carried out following the TOT in all nine provinces, in both SIAS and ILP. Each session was scheduled for three full days and the programme consisted of a variety of activities including case studies, group work, presentations, videos, lectures and portfolio assignments (Sisonke report on Orientation Sessions).

In addition to the training on inclusive education, the Sisonke team also monitored the quality of the training and documented lessons learnt for the development of the HRD strategy. Participants at this training included educators from the three targeted sites of learning (Special Schools as Resource Centres, Full Service Schools and Reform Schools), school support staff, members of the DBST, therapy and medical support staff, members of the Institutional Level Support Team (ILST); and members of the School Governing Bodies (SGBs).

Phase 4 Follow-up and on-site support: This took place one to two months after the orientation of all participants in the targeted sites. On-site support was provided to each of the target sites during a four-day period. It provided follow-up on the tasks set during the orientation, determined the extent to which knowledge and skills mediated at the workshop were being used and drew lessons that might be incorporated into the HRD-strategy. It was envisaged that the DBSTs would provide these follow-up visits in conjunction with the service provider.

Lessons learnt and recommendations regarding key elements of the training model

These lessons are structured according to the key elements of the training model as given above and adapted from the Sisonke final SIAS and ILP reports.

Recommendation:

(Adapted from Sisonke Final SIAS and ILP reports)

The constructivist approach is considered useful in bridging new experiences with existing knowledge if it is used properly. Future training sessions should take care that plenary and feedback sessions do not dominate the programme. Facilitators should also provide new information to participants where necessary. It is important that all facilitators are conversant with the constructivist approach to learning to ensure that the wrong assumptions regarding prior knowledge do not leave some of the participants feeling inadequate and alienated. Prior knowledge and expertise must not only be acknowledged but also utilised during the training process.

The careful selection of facilitators is vital for the success of the cascade model. A clear understanding of the concepts and the ability to assist participants in successful cascading are essential. It is important that facilitators demonstrate a good understanding of both inclusion and curriculum (OBE and NCS). In cases where participants had not undergone the SIAS training, it had a negative impact on the ILP training as facilitators were unable to build on the expected knowledge. SIAS and ILP should be seen as one unit and strong links should be made between the two during the training process.

Participants requested acknowledgement, in the form of competency certificates, for their participation in the training. Future training sessions should thus consider formalising the training into accredited short courses as recognition is needed for the acquisition of knowledge and skills to build human capacity.

Participants reported that too much information was facilitated in a short period of time and that made it difficult for them to assimilate all the input and then implement it in their teaching practice. The portfolios were time consuming and there was concern about the lack of evaluation and the fact that no credit was attached to them. Careful timing and duration of future training need to be considered. The process needs more time and participants expressed concern that learning was threatened when the process was rushed.

On-site follow-up support was critical and beneficial in dealing with issues in the school context. It also encouraged the districts to continue supporting the schools and facilitating problem solving. Future on-site support should include classroom demonstrations of what was taught at the workshops and should be more on-going to include mentoring.

Cluster-based training was found to be cost effective, contextualised and promoted collaboration and sharing of information among role players. There was a need to build on the emerging relationships between SSRCs, FSSs and DBSTs and it should be further addressed in the HRD strategy.

Utilisation of personnel with diverse skills and experiences was essential and modelled inclusive practices especially by making use of individuals with disabilities to facilitate sessions. The involvement of the DBSTs in the training facilitation was considered to be very valuable. A training model that builds social capital in the form of collaborative networks is essential to sustain inclusive education.

Private-public collaboration within the South African context is critical in enhancing skills development. The two should be viewed as complementary and should be supportive of each other. Such collaboration should be endorsed in future training for inclusive education.

The use of the whole-school approach raised conversation amongst all role players in a school and its community and should be used for further training.

Training implementation

Sisonke reported the following challenges experienced during the SIAS and ILP training process (adapted from the Sisonke SIAS final report Chapter 3 and ILP final report).

A. Organisational and contextual issues

Communication: this appeared to be a major challenge for all the provinces. Training dates were either poorly communicated or communicated late to the provinces, districts and schools and therefore did not form part of overall planning.

Training schedule: the extremely short time period between the different phases of training posed a problem. Training was also scheduled on two consecutive holidays which was unsuitable to many and also clashed with other conferences, such as SAALED.

Trainer allocation: it was reported that some provinces had more trainers at some venues than others during phase three.

Availability of training materials: adequate training materials, policy documents, DoE implementation strategy documents and a variety of support equipment were available to participants in most provinces, however, not necessarily in the format preferred by the participant.

Venue suitability: most venues were large enough and fairly comfortable, although overcrowding and cold and uncomfortable venues were reported. Lack of screens and curtains impacted on the effective use of multi-media tools.

Competing national initiatives: dissatisfaction was expressed that the SIAS orientation coincided with the FET NCS training. This resulted in some teachers and a large number of DBST members being absent from the SIAS orientation, because they regarded the NCS training as more important. Participants called upon the Department synchronise scheduled training events.

Recommendation:

Communication: it is crucial that future capacity building initiatives are jointly planned, coordinated and communicated. A DoE appointed project manager may have been able to make a significant difference to issues of communication between the Sisonke team and the provincial contacts.

Training schedule: timing of training needs careful consideration to ensure that practical issues do not undermine the learning process.

Trainer allocation: sufficient time should be allocated between the core training and the TOT to allow for more effective preparation.

Availability of training materials: most participants, including those with visual impairments, felt that the training materials and Braille copies ought to have been made available prior to the training.

Venue suitability: use of a venue checklist for use when booking venues could overcome the problems raised by participants.

Competing national initiatives: care should be taken to avoid clashes with other training events.

B. Quality of mediation

Uniformity: lack of uniformity in facilitating the training may have compromised the quality of the training.

Quality of input: many facilitators did not feel adequately prepared for the TOT sessions, especially on the SIAS. The absence of an informative facilitators guide forced the core

trainers to develop their own guide, which contributed to the lack of uniformity during the TOT. During these sessions trainers tended to focus on the content of the training manual, rather than how they should facilitate learning. Participants in the TOT were not given training material to familiarise themselves with prior to the training sessions.

Knowledge of training content: generally trainers were knowledgeable and brought a variety of skills into the training sessions.

Managing diverse participants: in both the SIAS and ILP training the selection of national and provincial trainers reflected diversity in terms of race, gender and disability. Facilitators in most provinces made a concerted effort to respond to diversity among participants in terms of language, disability and gaps in knowledge. Participants felt that the training was aimed at educators from the full-service schools and that it did not meet the needs of the special schools' staff.

Effectiveness of training activities: activities such as group work, modelling, case studies, role play and individual reflection were mostly found to be effective methods of promoting understanding.

Recommendation:

Uniformity: future training should focus on preparation of how to facilitate adult learning, as well as the content to be covered.

Quality of input: the development of a facilitators guide is essential for the TOT model to work successfully.

Knowledge of training content: facilitators need to equip themselves with adequate knowledge on current debates on inclusive education, assessment and support to facilitate the SIAS and the ILP. Background knowledge on curriculum issues, in particular the links between OBE, inclusive education and the NCS is also essential for facilitators; any gaps in their understanding of the curriculum need to be addressed.

Managing diverse participants: future training should ensure that facilitators are bi- or multi-lingual and should be able to switch between languages when necessary. Sufficient sign language and other language interpreters should be made available. Future training materials should also be prepared in other national languages, not only English. The involvement of parents and SGB members in the training would be extremely beneficial.

Effectiveness of training activities: case studies should ideally reflect real life situations that are relevant and applicable to the different school contexts. There was a request from educators from full service schools to be taken to real special schools to see them in operation rather than relying on theoretical knowledge.

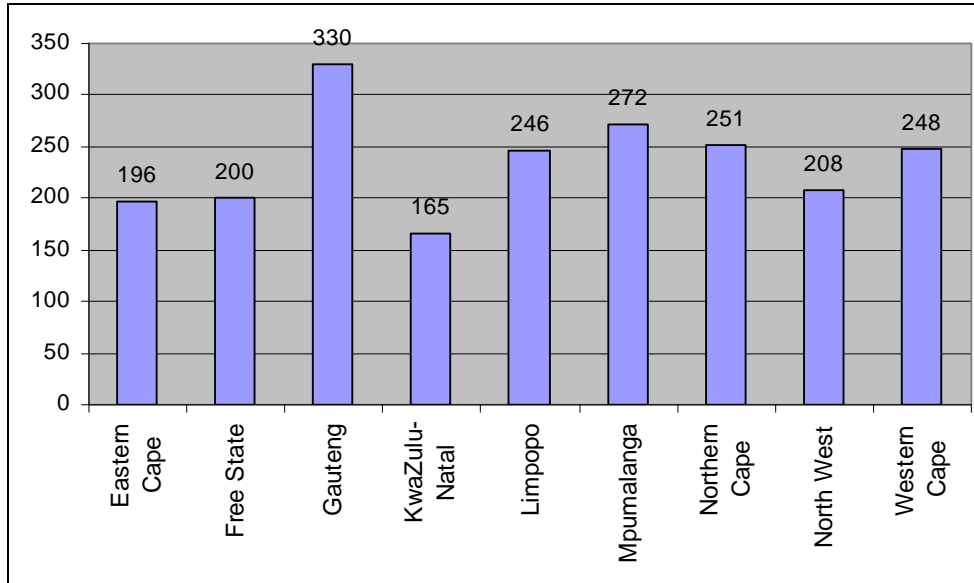
Participant attendance of SIAS and ILP in the target sites

Attendance and participation of Phase 3, the orientation sessions for both the SIAS and ILP, is given per province in this section.

SIAS attendance

“According to the project operational plan the estimated number of participants to be orientated on the SIAS was 2000 from 64 identified schools. This group was supposed to comprise educators, SMT members, ILSTs, SGB parent members, administration staff, and other non-teaching staff including hostel staff, nurses, therapists and approximately 360 members of the DBST. All in all, the projected number of people to be orientated to the SIAS was 2 360. The overall attendance results show that more than three quarters (89%) of the targeted participants attended the SIAS training. Of the estimated 2 360 targeted, 2 116 participants were orientated on the SIAS. The graph below shows the provincial breakdown of those who participated.” (Adapted from the Sisonke SIAS final report chapter 5)

Graph 1: Total number of participants trained in SIAS, per province



(Sisonke Final SIAS Report, Page 66)

ILP attendance

“A total of 1 504 people participated in the ILP orientation. As expected most of those who participated were educators. As earlier noted, it needs to be highlighted that unlike the SIAS orientation where all school personnel were expected to participate in the orientation, only teachers, and teaching and learning support staff, were required to participate in the ILP orientation. The reported number of people who participated in the ILP orientation shows that a reasonable number of teachers and other learning and teaching support staff have been exposed to the ILP. Like the SIAS, poor participation of DBST members was observed across provinces and a reasonable number of educators did not participate because of the late notification and the training scheduled on two consecutive holidays.” (Adapted from the Sisonke ILP final report chapter 5).

Table 2 provides the provincial summary of participants who participated in the ILP orientation.

Province	Expected attendance	Actual attendance
Eastern Cape	270	159
Free State	273	171
Gauteng	322	215
KwaZulu Natal	184	113
Limpopo		166
Mpumalanga	151	151
Northern Cape	270	159
North West	225	122
Western Cape	252	248
Total attendance		1 504

(Sisonke Final ILP Report, page 44)

SIAS training outcomes

According to the final SIAS report, the SIAS training reached the outcomes outlined in the Sisonke operational plan to a greater or lesser degree:

Most participants have an awareness of inclusive policies and are orientated to the requirements of the inclusive education policy

While most participants reported that they have a better understanding of the inclusive education policy and a sound understanding of the paradigm shift from a medical to a social model, it was noted that participants tended to revert to a deficit approach to analyse case studies and there was also evidence of use of faulty terminology, suggesting that the paradigm shift has not been grasped in its entirety.

Most have an understanding of the SIAS and the roles that different role players have to play to facilitate the implementation of the SIAS strategy

Most participants found the information on identification and screening very valuable; however, many felt that they needed more help and support in understanding and implementing the SIAS. Educators specifically found Form 3 very helpful but too long. Others stated there is a need to align the SIAS to existing national and provincial assessment processes and to create formal networks and collaboration between other government departments. Other concerns raised included the articulation of the SIAS with other education policies, e.g. the progression through grades; lack of clarity regarding which instrument was to be used to establish school readiness; lack of a clear link between the SIAS and the NCS and little training that dealt with SIAS issues at senior phase.

Most participants appeared to have a sound understanding of the roles of different role players when implementing the SIAS. However, research results indicated that they were not sure how to implement some of them. For example, some of the special schools were not sure how to support other schools. Therapists and psychologists did not have an understanding of the NCS and this made it difficult for them to provide the necessary curriculum support for learning and teaching. Some of the members of the DBST reported that they do not always have the necessary skills to support special schools.

Most participants should begin to implement some aspects of the SIAS strategy in their classroom practice

Results from the on-site follow-up support visits showed that there was a generally positive attitude towards SIAS within school communities. Systemic difficulties with dealing with change, and fear of learners with disabilities, rather than the actual SIAS strategy; were sighted as negative reasons. Some educators seemed to have a theoretical understanding of the SIAS concept of moving away from the category of disability as a way of organising support. However, they struggled to put this knowledge into practice. For example, they still wanted special classes and grouping according to ability. Elements of the SIAS were being implemented in isolated cases, dependent on individual teachers. Most teachers were still not sure what to do once they had identified the barriers; their ILSTs did not have the necessary skills to support the learners. In most instances the DBST was not available and often did not have the necessary skills required. Very often the nature and levels of support related to assessment were not understood. This resulted in no systemic uptake in the implementation of the SIAS strategy. It is important to note that in some schools there were strong leadership teachers who were implementing some elements of the SIAS and who had created their own support network within the surrounding communities.

Other reasons for the SIAS not always being practically implemented included: Staff shortages, e.g. therapist and district personnel, burnout and overstretched staff, fear of change, lack of sustained support; poor coordination of initiatives within the DoE. Most provincial reports stated that when visiting a school one was left with a feeling that teachers

need someone to be constantly there to guide them through the process. There was general uncertainty as to whether the SIAS has been adopted as an official intervention strategy. Staff were uncertain if it replaced various existing provincial assessment and support policies, especially in relation to admission of learners.

Systemic and contextual issues, such as large classes, overcrowded classrooms, limited resources in schools, financing of the SIAS strategy and clarity in staff job descriptions also impacted negatively on the implementation of the SIAS. Therapists, especially psychologists, stated that there is a need for the DoE to engage with the Health Professions Council of South Africa (HPCSA) about their expected new role within schools and districts as their role on the SIAS does not seem to be in line with what is expected of them by the HPCSA.

Recommendation:

- The SIAS forms were described as cumbersome and not user-friendly in their current format and revision is recommended.
- Staff were uncertain if the SIAS replaced various existing provincial assessment and support policies, especially in relation to admission of learners. This needs to be clarified as staff ratios hinge on the number of learners present at the school and this might unduly influence decisions on admissions.
- The provision of coordinated and accessible support is critical in implementing WP6 and this issue should be seriously considered by the DoE

ILP training outcomes

Understanding of ILP strategy

The response across the provinces seems to indicate that the participants had a good grasp of the theoretical principles involved. Most indicated that they understood the difference between learning programmes, work schedules and learning plans. Where participants did not attend the SIAS training, they were unable to build on the expected knowledge required for understanding the ILP.

Implementation of ILP strategy

Despite the apparent understanding of the ILP strategy observations from on-site support visits indicated that the conceptual understanding of ILP was not being systematically translated into practice in the classrooms. Participants appeared to have a very limited understanding of how to develop work plans and differentiated lesson plans. Some of the problems included a lack of understanding of basic, current educational practices in general and inclusive education in particular. In some provinces there was evidence of lack of understanding of basic teaching principles which hindered implementation of inclusive education practices.

It should be noted that in some schools excellent examples of curriculum planning and implementation were observed. Some of the schools were Baxoxele in Gauteng, Thuthukani Special School in KwaZulu Natal, Eljada Special School in Western Cape and KwaQonda School in the Eastern Cape.

Perceived value of on-site visits

Most provinces reported that the on-site visits were an essential element of the training process. There was no negative response with regard to on-site support visits, however, it was frequently voiced that these visits needed to be linked to an on-going site-based support plan, stressing the need for longer, more structured site-based support.

Perceived value of portfolios

The value of portfolios was perceived differently across the various provinces. The biggest drawback was that it added considerably to the educator's workload. The usefulness of the portfolio was not disputed, but the assignments had to compete with a huge volume of paperwork which educators also had to cope with. In addition, educators did not want to spend time on the portfolio task as they wanted certificates for their work.

Recommendation:

- Future HRD initiatives should ensure continuity between the SIAS and ILP strategies of inclusive education.
- Further on-going in-service training and support should take place. Any small change needs to be supported and nurtured so that it grows slowly as deep systemic transformation does not happen overnight.
- Further studies can be conducted on the schools mentioned above as examples of good practice.
- A more structured, coordinated support plan for each school should be developed which is on-going and provides easy access to support personnel.
- Portfolios as a learning tool should be re-examined as educators already feel overwhelmed with paperwork and see the portfolio as an added stress factor.
- A separate research team is needed with sufficiently qualified members. Considering that this project was a field test, the research process was of central significance throughout all the activities and thus all measures to ensure rigour, reliability and trustworthiness needed to be adhered to.

4.5 Supportive structures and collaborative partnerships

The next section describes the essential features of the supportive structures as outlined in White Paper 6, and the lessons learnt from this project regarding these structures and collaborative partnerships.

District Based Support Teams (DBST)

In the framework for the establishment of an inclusive education and training system, White Paper 6 emphasises the “strengthening of education support services” (page 28).

“The strengthened education support service will have, at its centre, new district-based support teams that will comprise staff from provincial district, regional and head offices and from special schools. The primary function of these district support teams will be to evaluate programmes, diagnose their effectiveness and suggest modifications. Through supporting teaching, learning and management, they will build the capacity of schools ... to recognise and address severe learning difficulties and to accommodate a range of learning needs” (WP6, page 29).

Thus the DBST has a pivotal role to play in the implementation of both the SIAS and ILP strategies. A fully functional, committed and supportive DBST is essential to provide support for the implementation of inclusive education and help build the capacity of all the role players, including the ILSTs, SMTs, SGBs and the parents.

The situational analysis undertaken revealed difficulties in the establishment of the DBSTs and partly attributed this to a lack of common understanding around inclusive education within these structures.

“... suggests that lack of a shared understanding of inclusive education at all levels of the system, is one of the reasons why it has proved difficult to establish functioning DBSTs. This study confirms the diverse and narrow understanding of inclusive education, as expressed by schools and districts. If progress is to be made in establishing support structures for inclusive education, this is one of the most fundamental areas to be addressed. Advocacy programmes need to be run at all levels, to ensure common understandings of inclusion are developed, with the realization that application of common principles is context-specific.” (Situational Analysis, Recommendations, 5.1)

Additional difficulties were identified pertaining to lack of clarity regarding job descriptions and leadership roles of the DBST members.

“Specific roles of members of the DBST should be included in their job descriptions. Members of the DBST need to look at creative, divergent approaches for dealing with management issues and to develop more participatory leadership styles.” (Situational Analysis, recommendations, page 2. section 5.3)

“There is a need for the DoE to engage internally about the DBST as a structure that will support the implementation of inclusive education. A need for DBST capacity building is apparent.” (SIAS final report, page 82)

There was general agreement that the level of support coming from the DBST was problematic. This was complicated by the roles and functions of the DBST not being well established or clearly located within provincial structures. In some provinces concerns were raised on the legality of the DBSTs as a governmental structure. Dysfunction within the district system impacted negatively on the implementation process. A further concern was the inadequate knowledge base of DBST members in inclusive education, WP6, OBE and the NCS.

Recommendation:

The structure and capacity of the DBST is dependent on a committed and coordinated regional and national initiative in which the legality of such a structure needs to be determined. Issues such as leadership, roles, functions and job descriptions need to be clearly articulated.

Further capacity building is recommended within the DBST to address the challenges identified. The lack of curriculum specialists on some of the DBSTs also needs to be addressed.

In some isolated districts, certain members of the DBST provide the supportive role. Examples include the East London district in EC, District 9 in Gauteng and the Pinetown district in KwaZulu Natal. Where these districts are functioning well, further studies should be conducted.

Special Schools as Resource Centres (SSRC)

Further strengthening of education support services also involves special schools being

“converted to resource centres and integrated into district support teams so that they can provide specialised professional support in curriculum, assessment and instruction to neighbourhood schools. This new role will be performed by special schools and settings in addition to the services that they provide to their existing learner base.” (WP6, page 29)

Difficulties were identified within the special schools regarding sharing of human and material resources and their isolation from mainstream activities.

“Schools and other sites of learning should be encouraged to share human and material resources with others. In addition, responses from personnel in special schools/resource centres tended to indicate that these schools felt isolated from activities directed to schools in the mainstream. Special education practitioners in particular need to be equipped with the mediation skills to share their specialised skills with classroom educators and others.” (Situational Analysis, recommendations, page 4 section 5.6)

From the ILP final report it was reported that the attitude of some of the SSRCs was often negative. There appears to be a lack of clear understanding of their new role as a resource centre and how their expertise would be used to assist the FSS. Concern was also expressed about the lack of collaboration between the FSS and the SSRC. Specifically, SSRCs are not certain about the practical role they can play in supporting curriculum differentiation in neighbouring schools. Time constraints, distances between the schools and lack of skills and knowledge were cited by SSRCs as reasons for not understanding the practicality of supporting other schools.

Recommendation:

There is a need to provide further capacity building on how SSRCs can practically implement their new role, and resources with which they can achieve it.

Full Service Schools (FSS)

The implementation of inclusive education calls for the establishment of FSS which are seen to provide a wider spread of educational support, especially for learners with disabilities.

“FSS are ... schools that will be equipped and supported to provide for the full range of learning needs among all our learners ... and to address barriers to learning.” (WP6: page 22)

“FSS are first and foremost mainstream education institutions that provide quality education to all learners and students by supplying the full range of learning needs in an equitable manner. They should strive to achieve access, equity, quality and social justice in education.” (DoE, conceptual guidelines for Full Service Schools, 2005 page 8)

Additionally, “they work in collaboration with, and provide assistance and support to other schools in the area, so that a range of learning needs can be addressed, mainly in learner’s neighbourhood schools ... FSS are encouraged to develop resource centres for use by educators and learners.” (DoE, conceptual guidelines for FSS, 2005, page 11-12)

Sisonke’s situational analysis indicates that an area requiring extensive work in these schools to lead them in their change towards becoming FSS is the management and governance structures:

“Governance and leadership structures in schools need to recognise the influence that they have for positive change within schools, as well as the wider community. The challenge is to develop democratic leaders who are able to create welcoming environments. SGBs and SMTs need to be aware of their specific roles in terms of developing inclusive policies to support and sustain inclusive practices. Training in essential management and planning skills should be provided at school and district levels and elsewhere if needed. Strategies need to be in place for developing leadership skills, through the use of mentorship programmes. Mentors could be appointed not only from within the education sector, but also from the business or other relevant sectors.” (Situational Analysis, recommendations, page 2, section 5.4)

Recommendation:

It is recommended that management and governance structures within these schools receive the necessary training and support to develop and implement inclusive policies.

Institutional Level Support Teams (ILST)

Institutional Level Support Teams need to be

“established in general, further and higher education. The primary function of these teams would be to put in place properly coordinated learner and educator support services. These services will support the learning and teaching process by identifying and addressing learner, educator and institutional needs. Where appropriate these teams should be strengthened by expertise from the local community, district support teams and higher education institutions. District support teams will provide the full range of education support services, such as professional development in curriculum and assessment, to these institutional level support teams.” (WP6, page 29)

Where ILSTs are present in the schools identified for this project they are not fully functional. “In most schools ILSTs have been established but only 6% of respondents reported that this structure was effective and fully functional.” (Sisonke Situational Analysis, page 2). Most of the schools appear to have set up an ILST and understand their role; however, the perception of the effectiveness of this body varies from school to school and province to province. One of the most difficult challenges that the ILST has to face is time management. Educators’ responsibilities as ILST members often clash with their teaching responsibilities.

A challenge identified by the Sisonke Situational Analysis was that suitable training of the ILSTs should be done.

“There is a critical need for training in the SIAS strategy for all ILST members. This would allow for clarification of the roles of ILST members, as well as clarification of the role of therapists and other support staff and/or specialists. It is important for school and district management to recognise that additional time is required for the exploration and acceptance of different roles.” (Situational Analysis, recommendations, page 2, part 5.3). “45% of ILSTs reported that they have received training in inclusive education” (Situational Analysis, page 13). This means that 55% of the ILSTs have not received specific training in the functioning of ILSTs.

Recommendation:

An in-depth survey of the current status and functioning of ILSTs should be conducted to inform further training. Training of the ILSTs is essential as these are key structures in supporting inclusive education implementation and their functioning needs to be improved. It is important that these teams receive on-going support from the SMTs within their schools and the DBSTs.

School Management Teams (SMT)

Most of the provinces reported difficulties arising either from a lack of understanding of their roles regarding inclusive strategies or from an inability or unwillingness to perform them. Many appeared ignorant of the support mechanisms necessary for the effective implementation of inclusive education. Some members of the SMTs were reported to be not only unwilling but actively hostile towards the entire process. SMTs and principals play a crucial role in the leadership of inclusive education and implementation of the SIAS and ILP strategies at

schools.

Recommendation:

This suggests that there is a need for training programmes specifically aimed at winning over the SMTs to champion inclusive education in their own schools. Further training needs to focus on coping with change management and how to develop inclusive schools through institutional development and collaboration with DBSTs and SSRCS.

Parents

Despite the central role of parents as emphasised in WP6, very few participants mentioned their support in schools. When it was mentioned most of the comments were negative. Most parents live far away from the school and for this reason the school did not receive any support from them. Other reasons were parents work commitments and lack of knowledge on how to support their children's learning. It appears that parents have a lack of understanding of their roles and of inclusive education. This is particularly so with the support provisioning for learners who require additional support. (Adapted from Final ILP report)

Recommendation:

Parents need to be made more aware of their roles in the functioning of schools and for the need to support learners with special educational needs.

Collaboration between the support structures

"EWP6 recognises support as one of the key strategies to reducing barriers to learning. Support services can be strengthened through networking and pooling expertise ... Support is about enhancing learning through interaction with various support providers ... In order to utilise the expertise to the fullest, support needs to be seen in terms of an interactive cluster." (DoE, FSS conceptual and operational guidelines, 2005 page 20-21). This cluster includes the Full Service School, District Support Team, the Special School as resource centre and various other stakeholders such as professional bodies and NGOs.

"Support is the cornerstone of successful inclusive education. Collaboration ... is an important strategy of support for inclusive education." (Swart & Pettipher page 19, in Landsberg, 2005). According to Sands & Koleski (in Landsberg, 2005) collaboration is at the "heart of the inclusive school community." "Collaboration goes beyond obtaining information from experts and/or just working with someone. It involves the manner in which people work as a team to accomplish shared and clear goals" (Swart & Phasha, in Landsberg, 2005:228).

"Stakeholders within the education system need to learn how to work collaboratively in order to overcome the fragmentation and lack of coordination inherited from the past. Teachers should be encouraged to ask for help, and to be given the skills needed for consultation." (Sisonke Situational Analysis, recommendations, page 3)

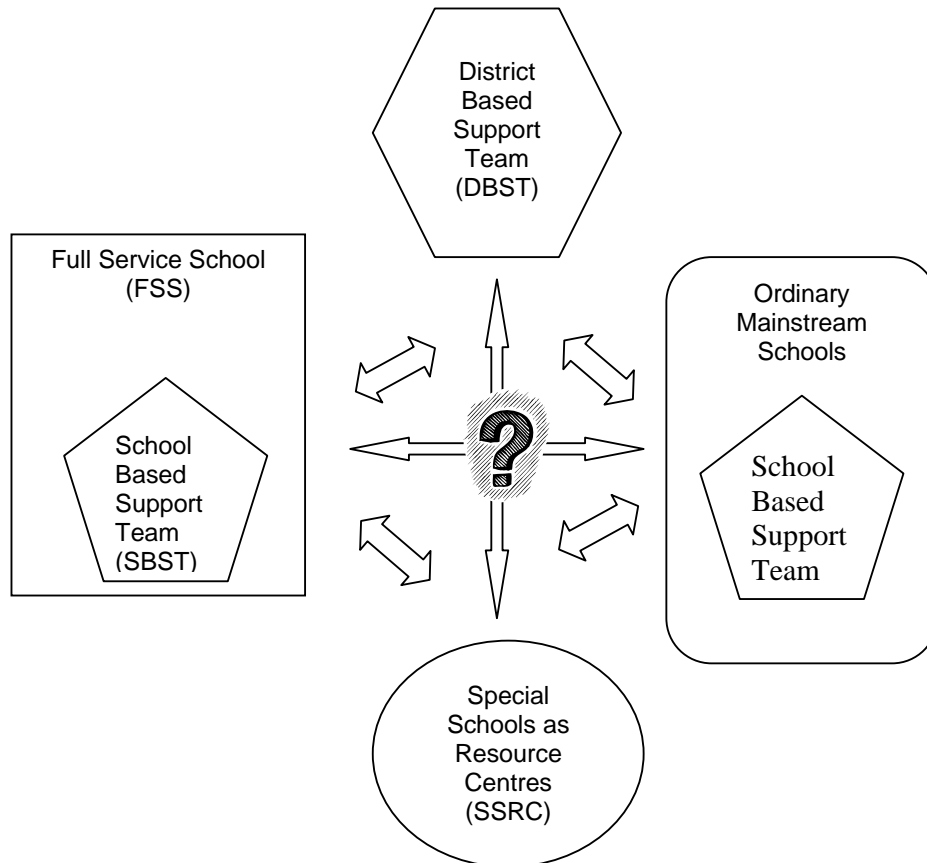
The Situational Analysis recommends "changing the whole system":

"The findings of this study indicate that some of the current models of support are still based on the deficit/medical model. If we are to develop a system in which there is inclusion for all, a systemic, assets-based approach to support is essential. Inclusive education is not about training individual teachers, it is about changing the whole system."

"Changes need to occur in the systems and mentality surrounding the teaching/learning situation, which actually determine what happens in classrooms. These systems are

inherently conservative ... Inclusion must concentrate on the totality of the environment. Training is a component of this, but is intimately linked to other aspects of school life. Inclusion needs to include the entire school community in planning, implementation and monitoring.” (Williams 2006:5) (Situational Analysis, recommendations, part 5.3)

Refer to Figure 1 representing the complexity of collaboration between the support structures.



However,

“Even if support is available, it is often fragmented and uncoordinated. To unite it into cohesive practice which works is the challenge? Often different support providers do not work as a team around common issues ... historically fragmented support provided to schools, colleges, ECD centres, and adult learning centres can be better coordinated so that a more holistic and integrated approach to support can be realised. This includes developing a framework of collaboration or teamwork where the different support providers plan and work together to address local needs and challenges in a comprehensive way.” (DoE, DBST conceptual guidelines, page 10)

Problems with collaboration between the support structures were identified in the Situational Analysis:

“In terms of the interaction between the ILST and DBST, 36% of schools reported that there was good collaboration between the two structures, however, 27% said that the support they received was insufficient or non-existent. Some schools (21%) stated that the DBST visited the school only to provide levels of required support on an ad-hoc basis (i.e. when the need arose)

... 14% reported that they have never benefited from or had any visits from the DBST ... 44% of schools reported that they do not as yet collaborate with ILSTs from other schools.” (Situational Analysis, page 3)

Recommendation:

Further input is required in formalising the collaborative partnerships between the various structures. This not only includes additional training, but attention to logistics such as meeting times, travelling, purpose of meeting, co-teaching, administrative procedures regarding paperwork and so on.

4.6 The development of a human resource development strategy (HRDS)

The DoE requested Sisonke to develop a Human Resource Development Strategy (HRDS) as a final output of the project. The HRDS was informed by research carried out during the field test by the research monitoring team of the project. They conducted a literature survey, monitored all the training phases, and shared ideas in a workshop.

The HRDS (Sisonke HRDS for Implementing IE, July 2007) outlines four strategic objectives; with main activities listed for each strategic objective and the roles and responsibilities of the role players. Human rights and learning principles that underpin the strategy, contextual and systemic challenges and opportunities are also given.

Attempts to obtain the DoE's overall HRD strategy were not successful, making it difficult to align this strategy with the DoE HRD strategy. In addition, the DoE was not available to participate in its development. It was difficult for the service providers to develop such a vital document “without participation from DoE staff members in the process ... it was critical that they were involved in the development process ... this would have ensured ownership of this strategic document.” (Sisonke Consortium, process report, July 2007, page 42)

Recommendation:

The strategy in its current form can be used as a draft to engage with provinces, teacher unions, professional bodies and other relevant government departments, such as the Department of Health, to develop an appropriate HRD strategy.

It is recommended that the HRDS be linked to the DoE overall HRD strategy so that there is alignment and integration within documents published by the DoE.

4.7 Summary of findings and recommendations

The HR component of the field test phase of implementing White Paper 6 was an extremely complex component. Although it achieved its broad goals, the process through which the goals were achieved was demanding. It is recommended that the DoE considers the whole HR component carefully to ensure that it is able to draw on the experience of this project.

Human resource development indicators and standards

The indicators that the CSIR developed for this component provide a measure that relates to the main body of work that was undertaken in the HRD component. It is possible that further indicators should be developed once the HRDS has been reviewed.

Human Resources		Impact
HR 1	Educators can apply inclusive education	<ul style="list-style-type: none"> Percentage of educators who feel they understand inclusive education Percentage of non-educators who feel they understand inclusive education
HR 2	School has an active ILST supporting inclusive education	<ul style="list-style-type: none"> Percentage of DBST who feel they understand inclusive education Percentage of District offices who feel they understand inclusive education
HR 3	School has a DBST/other bodies supporting inclusive education	<ul style="list-style-type: none"> Percentage of educators who feel they can apply inclusive education ILST in place DBST/other support body/network in place

The CSIR project management team also used the goals of the first phase of White Paper 6 to develop standards for the HR component, in conjunction with Sisonke. These standards could be used from which to develop more detailed indicators in relation to the HRDS.

Aspect	Standards
Developing inclusive values and attitudes	<ol style="list-style-type: none"> All role players share a philosophy of inclusion There are high expectations for all learners All learners are equally valued Role players strive to minimise discriminatory practices
Evolving knowledge base	<ol style="list-style-type: none"> All role players understand their roles in the implementation of WP All role players understand the philosophy of inclusive education All role players can articulate a theoretical framework for the implementation of WP 6, including elements of educational change, collaboration and life-long learning Personnel possess knowledge in inclusive teaching and SIAS and ILP within the context of the National Curriculum Statement (NCS) School managers are knowledgeable about leadership and management for inclusive institutions
Evolving teaching practices	<ol style="list-style-type: none"> Educators plan and make curriculum adaptations within the context of the NCS Educators implement the SIAS and ILP strategies Educators develop resources to support learning and participation Lessons are made accessible to all learners Lessons are responsive to student diversity Assessment encourages the achievements of all learners Educators plan, review and teach in partnerships
Developing inclusive structures	<ol style="list-style-type: none"> DBSTs function effectively as multi-disciplinary teams, consult with, support and monitor schools in the implementation and development of inclusive practices Special schools function as resource centres providing specialised support in curriculum, assessment and instruction to DBSTs and FSS ILSTs function effectively in supporting educators, learners, parents and schools Full service schools function effectively in promoting inclusive education throughout the school
Collaborative partnerships and relationships	<ol style="list-style-type: none"> Educators collaborate with each other Educators and management work well together Local communities are involved in the school There is a partnership between staff and parents

	<ol style="list-style-type: none"> 5. DBSTs collaborate with schools 6. ILSTs collaborate with educators 7. Therapists, psychologists, social workers and other professionals are included in collaborative partnerships with schools, DBSTs and ILSTs
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The following recommendations can be made in relation to the human resources component as a whole:

Recommendations:

Conducting a project post test

Determining the impact of any intervention requires a comparison of initial and post-scenarios. Thus the “baseline” questionnaire should be administered after completion of the intervention. This should be done with all relevant participants and role players in the 30 districts where these interventions occurred. This comparison with the original data should highlight the changes that have been brought about due to the interventions. This can have an impact on the future implementation of inclusive education and can provide more in-depth information on systemic change processes required. Such an impact assessment would also involve a thorough survey on the state of functioning of District Based Support Teams and Institutional Level Support Teams.

Comparison with other inclusive education projects

The results of such an impact assessment should be integrated with lessons learnt from previous projects, such as DANIDA and Scope, to strategically build on the positive aspects of the projects. This could be done through a small research team.

Rigorous research process monitoring

In a field test of this nature monitoring of the research process is vital to provide results that are valid and reliable to guide future implementation processes. Thus a thorough, in-depth research plan for future projects needs to be developed and approved as part of an operational plan for service providers. The service provider needs a clear understanding of the brief. The role of research in a project of this nature needs to be clearly stipulated. The plan should clearly outline procedures for field testing, gathering data, data analysis and interpretation. A team of well-trained researchers, with adequate content knowledge of the area could take this role.

Revising the conceptual and operational guideline documents for Full Service Schools, Special Schools as Resource Centres and District Based Support Teams

The three conceptual and operational guideline documents have not been implemented or realised in this project as they were conceptualised. They should be revised to ensure more coherence in their structure; focusing on the collaboration and interaction between the FSS, SSRC and DBST. Training in these structures should be done within each network cluster. During the training phase of the project; too much emphasis was placed on the “screening, identification, assessment and support” and the “inclusive learning programmes” strategies and very little training was done on the conceptualisation and establishment of these educational support structures.

Revising “screening, identification, assessment and support” and “inclusive learning programmes” draft national strategy documents and training materials

Some of the feedback from participants suggested that these strategy documents should be revised and made more user-friendly, especially for educators. Related training materials would need to be adapted to align with the revised strategy documents.

Refining training methodology

It is recommended that the constructivist approach to learning and training is used in future training for inclusive education. Facilitators should be well-trained in this approach and conversant with various training activities that promote constructive learning. It is important that facilitators demonstrate a good understanding of both inclusion and curriculum (Outcomes Based Education and National Curriculum Statement). It is necessary to make use of facilitators with disabilities and diverse experiences in the training.

Future training could be formalised into accredited short courses (through Higher Education Institutions or Sector Education and Training Authorities); it should be noted that many participants were concerned that their training was non-accredited. During the training, on-site follow-up support is beneficial to deal with issues in the schools context. Future on-site support should include mentoring and classroom demonstrations of workshop theory. Training of all personnel at selected sites should be done and the use of the cascade model should be limited. Cluster-based training to promote relationships between Special Schools as Resource Centres, Full Service Schools and District Based Support Teams should be maintained. A training model that builds social capital in the form of collaborative networks is essential to sustain inclusive education.

Strengthening project sites and support structures

Further support should be developed to suit the needs of each individual school in this project. These specific 30 Full Service Schools, District Based Support Teams and Special Schools as Resource Centres need to be further strengthened and supported before the project can be expected to roll out to a further 500 schools. They need **context-specific support** as the situation in each school and district is different and unique. Each district and school has unique challenges and difficulties that need to be addressed; particularly in light of the physical and material resources component of the project. Schools will need time to manage and familiarise themselves with assistive devices and various other inclusive resources which will be provided. The impact of the provisioning of physical and material resources on human resource development for inclusive education still needs to be ascertained. This should be done at each existing site where physical upgrading and provisioning of material resources occurs.

In essence, **whole school development** at each target site should be encouraged where schools take ownership of their growth and development in inclusive education for further sustainability and long-term impact. For this purpose a modified or adapted Index for Inclusion (Booth et al, 2000) could be used as a tool, where each school develops their own inclusive cultures, policies and practices as dictated by their individual needs, contexts and challenges. A South African version of the Index may be a useful tool to develop for the further implementation of inclusive education. The Institutional Level Support Teams at each school can function as a facilitating body for managing whole school development as these structures appear to be in existence in most schools. However, they will require strengthening and further training to lead schools adequately in the implementation of inclusive education.

Considering systemic changes in the educational system

The provision of coordinated and accessible support is critical in implementing any intervention that supports inclusion. The DoE should carefully consider the need for sustained support. Educators cannot be expected to implement new initiatives without the necessary support. The role of the provincial department of education in providing and co-ordinating support should be critically evaluated, as much of the development of the support structures takes place through the province.

- **Establishing support structures (District Based Support Team specific)**

Due to the logistic and legal difficulties experienced in establishing District Based Support Teams in each district, it is recommended that the National Department of Education pays

careful attention to the formalisation of these structures, and, together with the provincial departments of education, constitutes these teams. Issues such as line functions, pay structures, suitable qualifications and experience, job descriptions and logistics need to be addressed.

- **Formalising collaborative partnerships and networking**

The way that District Based Support Teams, Full Service Schools, Institutional Level Support Teams, Special Schools as Resource Centres and school management collaborate with each other and other organisations differs in the nature of the collaborative relationships. Collaboration and networking should be formalised in operational guideline documents and explicitly dealt with in training sessions.

- **Researching islands of good practice**

The Sisonke team identified aspects of current good practice. These need to be identified, supported, enhanced and used to influence other sites and support structures. Further site specific research needs to be conducted to establish the nature, context and development of existing good practices. Capturing some of the inclusive practices observed in the schools should be investigated. This information could form powerful tools for training and advocacy.

Where it occurs, examples of best practice should include non-educators who are providing valuable support to teaching and learning, but who are not formally recognised and acknowledged by the system. Some do not have formal qualifications, but have developed much needed skills that they are using to support schools.

Reviewing and revising the human resource development strategy

The Sisonke draft Human Resource Development Strategy document should be *critically reviewed* by a panel with inclusive education expertise before it is accepted for implementation. Members of the Department of Education, Higher Education Institutions and expert organisations on inclusive education need to be part of this review process. This panel should attend to two specific issues:

Firstly, since White Paper 6 emphasises that building an inclusive education and training system is fundamentally about transforming education and training systems; the systemic implications of the Human Resource Development Strategy should be clearly addressed and formulated. Clarification is required on the role players involved both within and external to the Department, and the extent of their involvement.

Secondly, the Human Resource Development Strategy is described only in broad terms. The panel should consider the viability of this strategy in light of practical logistics such as funding, contextual constraints, and the results from this and previous projects in inclusive education.

5 Physical Resources

5.1 Introduction

The purpose of the physical resource component was to ensure that the physical environment did not prevent learners with disabilities from being able to participate fully in the educational and other life of the full service school.

5.2 Key Questions

The key questions that the report addresses in relation to the Physical Resource Development component are outlined below.

- **Implementation:** What can be learnt from the way the project was implemented? How should implementation be improved in future phases of the roll-out of White Paper 6?
- **Stages of implementation:** what can be learnt from the stages of implementation? How can the system of implementation be modified to improve the way in which the different parties work together?
- **Teaching and learning accommodation:** What are the current problems with teaching and learning accommodation? To what extent did the interventions address these problems?
- **Support accommodation:** What are the current problems with administration accommodation? To what extent did the interventions address these problems?
- **Ancillary accommodation:** What are the current problems with toilets, eating and drinking facilities accommodation? To what extent did the interventions address these problems?
- **Costs:** What are the costs of upgrading conventional schools to Full Service School Specification Standards?

5.3 Implementation

There are a number of significant factors that influenced implementation. These are outlined below:

Baseline assessment of schools

In 2004, a separate project, (*EDO296 The Provision of Physical and Material Resources*) was carried out on the selected full service schools. Part of this project was to establish what environmental access improvements were required to bring the schools up to an inclusive school standard. The project also set the parameters for the Full Service School Specification, as a standard against which to assess the schools. The same standard was developed and used in EDO295 as a tool for the professional teams in the design and construction process.

One of the critical findings of EDO296 was that the schools selected to become full service schools were in a very poor state of repair. The schools had been selected in the presidential nodal areas, which were by definition some of the poorest areas of the country. It was not surprising therefore that the schools had a long history of poor building maintenance, for many reasons.

However, the criteria used to select the schools included a stronger focus on the human resource element (teacher awareness of inclusive education and a strong supportive community base) rather than prioritising the condition of the school and how easy it may be to make it environmentally accessible. These criteria were justifiable, but they had implications for the physical upgrading which perhaps should have been realised and discussed with the

physical planners at the time the schools were selected.

Whilst EDO 296 noted the maintenance problems, structural surveying and developing a costing plan for making the maintenance improvements was not part of the project's scope. These findings of the project were shared by the Inclusive Education Directorate with the physical planners, but no plan was put in place to address the maintenance issues. It was unfortunate that such a plan was not initiated at this stage in all provinces before EDO295 commenced; as the maintenance improvements and the funding of them became a problem later in many provinces.

Some provinces however, did find additional funds to address the problems during the implementation of EDO295. For example Mokgalabye school in Limpopo was found to be in such poor state of repair that the best option was to remove the school, bring in temporary classrooms, and rebuild the school to a new design; incorporating the Full Service School Specification.

In other provinces the problem has completely stalled the process. Agape in the Northern Cape has walls of asbestos board, which obviously cannot be cut into to widen the doorways or lower light switches. No progress has been made on reselecting a school four years since this was initially pointed out to the DoE.

EDO296 provided baseline diagrams for the environmental access improvements and the initial costing for them. These findings had implications later on in EDO295, which are discussed further on in this report.

Recommendations:

It cannot be overemphasised that the Inclusive Education Directorate need to discuss the selection of full service schools and resource centres for the next phases of White Paper 6 with the physical planners at provincial level; and at national level if required. Such discussions should include the Department of Public Works if this Department is responsible for the school maintenance.

Whilst the physical condition of the school may not be the only deciding factor in the schools selection, any maintenance work must fit into a planning schedule that the physical planners develop some years in advance. In fact the selection of the next set of full service schools should already have been discussed with the physical planners so that they can ensure that the maintenance work accompanies the environmental access improvements, schedule when these take place, and budget for them.

Establishing a system for implementation

The initial project plan for EDO296 stipulated that the project would be managed by the CSIR. It would be undertaken by local professional teams (Architects, Quantity Surveyors and Engineers) who would develop detailed tender documentation and administer building contracts. These tender documents would be used to appoint main building contractors who would then carry out the construction work on site. According to the initial project plan, all appointments and contracts would be between the DoE and the professional teams or building contractors.

The CSIR would brief and guide the teams on the required outcomes of the projects and would provide technical advice on procedural and contractual aspects of the project. They would also monitor and evaluate progress and report back to the DoE (*Project Plan A, 2004*).

The role of the provincial Departments of Education would be limited to facilitating the project,

enabling access to the schools in each province and ensuring that there was appropriate local support for the project.

In 2005, while the project was already underway, the DoE made changes to the project plan and decided to implement the project through the provincial Departments of Education. Their decision was based on the need to build capacity within the provinces for the future system-wide roll-out of the project. The CSIR advised against this approach as it would have a number of planning, cost and implementation challenges which the project design and timeframes would not easily accommodate. The decision was, however, upheld by the Inclusive Education Director at the time and was as follows:

- The physical upgrading of the schools would be managed in each province, by a provincial project manager, appointed by the provincial Inclusive Education Directorate and supported by a project management team. The provincial project management team would be composed of:
 - The Chief Financial Officer in the provincial Department of Education
 - The Physical Planner in the provincial Department of Education
 - A nominated person from the provincial Department of Public Works.
- The Inclusive Education Directorate had to enlist the assistance of the Physical Resources Planning Directorate at national level. The involvement of the Physical Resources Planning Directorate should ideally have happened at the inception of the project as they are responsible for the provision of education infrastructure. Whilst the project did eventually start to roll-out as the Inclusive Education Directorate had envisaged, it took additional time to enable the Physical Resources Planning Directorate at national, and then at provincial level, to be included.

The Inclusive Education Directorate, Physical Planning Directorate, together with the CSIR then embarked on project initiation visits to all provinces to initiate the formation of the provincial project management teams. Once the visit to the province was completed, the provincial Inclusive Education Coordinator was tasked to ensure that the teams were set up timeously. One of the critical factors that affected the establishment of the project management teams was that in some provinces the implementing agent for infrastructure was the Department of Public Works. This meant that different directorates and different departments had to work together at provincial level. It became quite a challenge for the provincial Inclusive Education Coordinators to get everyone they needed on the project management teams to participate. Approximately 8 months had elapsed by the time all provinces had set up the teams, which further set back the rest of the physical conversion processes.

Payment and funding

The DoE arranged to operate a Memorandum of Understanding (MoU) with each of the provinces which would provide the terms on which payment will be made for the completed physical upgrading work.

The DoE sent out “Letters of Intent” to each provincial head of department indicating the amount of funds that were available for the upgrading of the full services schools in their provinces. This letter requested provinces to use their own funds to upgrade the schools and claim back the funds from DoE. Alternatively, if no funds were available in a province, the province could request an advance from the DoE. It took some months to resolve the questions that arose due to the different financial processes in each province, which also held up progress in a number of provinces.

The environmental access physical upgrading work was to be funded by the national

Department of Education. It was agreed that the school maintenance physical upgrading work would be funded by the provincial Departments of Education. Although this decision was agreed to by all heads of department this was not achieved in all provinces.

Planning the design and construction process

The amended project plan required provincially located service providers, both for professional design and building construction, to be appointed and managed by the provincial Department of Education.

Once the provincial project management teams had been set up, they were tasked with appointing professional teams of architects, quantity surveyors and engineers as well as building contractors. The normal tendering procedures had to be followed in each province to appoint the various service providers. Additional time was required for these appointments as provinces have different implementing agents and tendering procedures that vary slightly.

Recommendations:

The changes that took place in the implementation of the field test project will not happen again so the implementation problems are not relevant to future phases. However, when the national and provincial Inclusive Education Directorates are reviewing the field test and planning the future roll-out, it should be noted that:

- Time is required at the planning stage to ensure that the system for implementation, in particular the management of finances, is in place before progressing. Funding and sources should be ring-fenced so that the project does not stall once it has started.
- Time should be factored in to the plan for the provincial project manager to bring together a team of the necessary provincial officials to co-ordinate the project at provincial level, as well as the time required for the external service providers and contractors to be selected, appointed and carry out their part of the project.

DoE processes

The national DoE follows a number of internal procedures in planning and managing projects. These may require submissions to senior management and approvals or letters from accountable officers such as the Director General. Provincial Departments of Education follow similar procedures.

Recommendations:

For the next phase, the national and provincial Inclusive Education Directorates should identify all of the directorates at provincial level that should be part of the project, to ensure that the right directorates at national level are involved and able to assist. For example, physical planning and the Chief Financial Officer.

The implementation plan should ensure that time is allowed for the internal processes of both the national and provincial Departments of Education to be followed correctly and for tabling and agreeing timelines through their joint structures. Additional time is also required for provincial processes that have to run parallel to those of the national Department of Education, for the appointment of professional teams, and to make arrangements for the next stages. Should they be relevant in future phases, financial arrangements between the national and provincial departments should be put in place before moving to the next stage; otherwise this prevents progress in the implementation of the project.

Capacity

In most provinces it became apparent that there were severe capacity constraints both within the Departments of Education and Public Works and within the built environment professionals sector. This had the following impact on the project:

- Officials were often unable to monitor projects or to respond to communication quickly. Professional teams tended to try and juggle many projects and regular contact by the CSIR was required to ensure that progress was maintained on projects.
- In many cases, professional teams developed reasons for not completing documentation on time, including 'not understanding the scope of the project', 'not being paid', 'not having skilled staff', and 'changes in the client department'.
- In some cases drawings provided by Architects were of an extremely poor quality and had not been carried out by a competent person or been properly checked by a qualified Architect.

Training

The CSIR held a Full Service School briefing and training in each province. Provincial Officials from the Department of Education and Public Works, the professional teams and targeted schools were invited, and attendance in most provinces was good. In general there was satisfactory attendance by the Department of Education and Schools. The project experienced significant problems later on where attendance by Public Works and professional teams was poor. Although some architects were reluctant to attend, the difference in the quality of environmental access in the designs that were submitted was noticeable; it took longer to assist the architect to bring the plans to a suitable standard, with a significantly greater amount of input. For instance substantial effort had to be made to ensure that the drawings for Tenteleni in Mpumalanga were up to standard, as the architect did not attend the briefing. Difficulties were also created where the architect attended the training, and subsequently handed the project over to a technician who had not attended the training. In other cases where provinces were using their own funding, project management teams and architects were only prepared to listen to the advice from the CSIR on compliance in the early stages of the project. After this appraisal report issues were not addressed as the DoE was not funding the whole project. This happened in the case of Zanolanyo in the Eastern Cape.

Recommendations:

- Provinces should appoint project managers with a construction background to manage construction projects. Where Public Works officials are the implementing agent, they should be made project managers. Their brief should be to ensure that projects are delivered on time and achieve the required quality standards. These project managers should attend environmental access training.
- It should be recognised that professional teams do not have the necessary experience or skills in environmental access to create a design that provides universal access, and therefore a compulsory CPD course should be run prior to their appointment or the design stage by an agency with the required skills.
- Only people with the experience of working on projects that include elements of environmental access should be appointed to ensure that the training process is limited to the shortest time possible. Architects should demonstrate their ability to design projects that are accessible by showing their previous work to the province.
- The provincial project manager should include penalties in the contract of the professional team that relate to quality of the finished product, and delays they cause in the process of achieving it. This should be included so that the architect takes his/her role of quality assurance seriously when supervising other staff who may undertake the technical drawing work.
- Additional time is required at this stage for assessing the skills levels of the professional team in environmental access, to ascertain what type of training is required.

- The training module developed should be formalised to ensure that it can be carried out by SETA accredited trainers and will be recognised in terms of CPD points by the respective professional registration bodies such as SACA and CBE.
- Provinces should only appoint professional teams where at least one member, preferably the Architect, has attended the course outlined above.

Full Service School Specification

The CSIR and Gauge developed a detailed training module and manual on a Full Service School Specification, which included information on the design of an inclusive environment for the full service school. This material proved to be highly effective in setting the required standards in an explicit way. When it was used and the access appraisal process followed as planned, it enabled architects and government officials to readily understand the requirements of the project and achieve these quickly with limited additional support and guidance from the CSIR.

The Specification initially covered most schools areas, including play areas and all non-teaching spaces. However, due to the budget limitations of the project the coverage of the specification was reduced, and certain areas, such as play areas, were omitted. The level of provision was scaled down to other areas, such as sports facilities; rather than an inclusive playing field, changing facilities and access to them, a compacted earth path and level playing field was included. Given that there was no money for maintenance, the specification did not include guidance on the redecoration of both the exterior of the school and the interior. Where schools did find the money to undertake this work, further guidance was provided during the appraisal process.

Recommendations:

- There are no formal school design guidelines of norms and standards for schools yet. These are currently being developed by the Physical Planning Directorate. It is recommended that the full service school specification should be integrated into these guidelines/norms and standards. The Physical Planning Directorate is aware of the Specification and have been issued with a copy.
- The Inclusive Education Directorate has expressed a desire to gazette the Full Service Schools Specification in the Government Gazette. However, the construction work on the schools has only just begun. Whilst the Specification appears to have withstood being field tested with architectural firms undertaking the designs, they should be fully re evaluated once the building work is complete, so that any minor changes can be made. In addition, decisions should be made as to whether the published document should include all the areas taken out of the original document due to the need to tighten the budget.

Brief

The scope of the project was defined during the baseline assessment project, *EDO296 The Provision of Physical and Material Resources*, during which environmental access audits were carried out of the targeted schools. The reports from this project defined environmental access problems and proposed costed solutions for addressing them. These reports included site illustrations/drawings, intervention plans and outline budgets, which were provided to all provinces and professional teams as the basis and brief for the project. In many cases, provinces decided to go beyond the scope detailed in these reports and added new buildings, maintenance and other infrastructure.

While cost savings could be achieved through increasing the scale of the project, there are obvious implications for programming. In all cases where provinces increased the scope of the project, the programme for the work had to be extended; in some cases up to 2 or 3 times the original programme length. A particular concern was that, despite briefings and the Full Service School Specification, there was a tendency for provinces and their architects to lapse into thinking that more 'special' accommodation was required such as a range of therapy rooms (for example Baxoxele, Gauteng and Letlotlo, Free State.) This went beyond the Full Service School Specification and resulted in blurring the roles and responsibilities between Resource Centres and Full Service Schools projects. It also created a more expensive design and therefore a model that could not be replicated widely. This tendency was addressed through design appraisal reports but needs to be guarded against in future projects.

Recommendations:

- The project scope should be clearly defined at the beginning of the project and only changed if there are very good reasons. This scope should be used to define realistic programmes and budgets for the project.
- Clear cost norms should be provided for the conversion of ordinary schools into full service schools. These should ensure that upgrading programmes are cost effective and can be replicated widely.
- Additional time is required at this stage for ensuring that the provinces and the professional teams are clear about the brief and that there is enough time to deal with changes to it.

Funding and financial arrangements

Budgets for the physical resources component of the full service schools were determined by EDO296. This project was carried out in 2004 and focused on interventions required to upgrade school to the Full Service School Specification Standard. Delays and additions to the scope of work by provinces meant that budgets for the projects had to be increased significantly. While the briefing and correspondence to provinces made it very clear that there was a fixed budget many provinces assumed that funding from the DoE would increase. This led to delays as original correspondence had to be resent and the funding situation clarified. In addition, many provinces did not understand the process by which funding for the project should be claimed from back from the DoE and meetings and correspondence were required to clarify this.

Recommendations:

- The DoE should either contract directly with service providers and construction contractors on projects or not be directly involved in projects other than in a guidance and monitoring and evaluation role. The approach developed in this project should be avoided in future as the DoE had obligations to donors in terms of quality and deadlines but no means to ensure that these were achieved.
- The projected costs made in 2004 could not account for the property boom which occurred in 2006/7, and therefore these costs were too tight. In addition the amount of funding available to the DoE was reduced due to the Rand/Euro exchange when the monetary conversion took place and therefore less funding was available than originally thought. These factors meant that the project was short of funds. These factors should influence projected costing for the future conversion of the other Full Service Schools, and the future system wide roll-out.
- Where schools receive donor funding, the school should co-ordinate the expenditure of this with the Inclusive Education Directorate to ensure that work that is undertaken is not duplicated or that work does not need to be redone if it is done incorrectly.
- Additional time is required at this stage for ensuring that:
 - Funding is in place and that the expected work will be carried out.
 - When provinces prepare their budgets for the next MTEF cycle, they identify which schools are due to be upgraded from ordinary to full service schools. This should be co-ordinated between the Inclusive Education Directorate, Physical Planning Directorate and Public Works.
 - Queries or clarification requests on the financial arrangements between the provincial and the national departments are dealt with in good time.
 - Claiming procedures between the provincial and national department are carried out in good time by the chief financial officer.
 - Cost guidelines for professional fees are in place.

Intervention design stage

The professional teams began by measuring up each school to obtain accurate site drawings. The intervention diagrams from EDO296 were used to guide their design process, and provided the scope for the interventions.

In most cases the design submitted by the architects went beyond the original scope, and further discussions had to take place between the architect and the province to reduce the amount of intervention work. There were a number of reasons for this:

- The architect did not use the original intervention diagram as the basis for the design, and created another with higher cost implications.
- The costs of renovation work were included with the costs for the environmental access work, and not separated off.
- The architects selected had professional fees that were too high.
- The architect intervention diagrams from EDO296 were based on the minimum amount of work that should be undertaken to achieve an inclusive school. Often the architects re-interpreted the work; for example, rather than including an inclusive area for eating, they included a new facility for a feeding scheme, or included multiple new inclusive areas for eating.
- The Full Service School Specification included a layout for a sick bay / assessment room. This facility was added by the DoE during EDO295, and was not included or costed in the

original assessment in EDO296.

Often the drawings were sent to the CSIR for the environmental access appraisal stage before they had been checked and approved by the provincial project managers. This may have been due to the pressure of time. However, it meant that the appraisal was undertaken on designs that had not been agreed with the province, more changes made, and the architects charged additional fees for this. The provincial project managers became involved after this process was complete, and had to reduce the intervention. This was due to a lack of communication between the provincial project managers and the architects; the process that both parties had agreed to was that plans would be sent to the province and forwarded to the CSIR rather than by-passing the province.

Recommendations:

Additional time is required at this stage for ensuring that a detailed feasibility study can be carried out, using the Full Service School Specification in its Gazetted form.

Controls should be put in place in the contract to ensure that the architect remains within the original brief. If changes do need to be made to the brief due to the poor state of repair to the schools, or if additional facilities are required; this should be agreed with the project manager before the appraisal process. It should be clear where the additional funding for these changes will come from.

The architect should be able to provide the province with a fee outline that is in line with the processes that she or he has agreed to follow.

Access Appraisal Stage

Most schools who appointed a design team submitted plans for appraisal. Most of the architects responsible for the design who attended the full service schools specification briefing used the specification. Several reverted to Part S of the Building Regulations and had to be reminded to use the specification. One, (Tenteleni, Mpumalanga), attended only an hour of the training, used no formal guidance and produced drawings were not acceptable. Achieving compliance required considerable effort by the CSIR who had to appraise drawings numerous times and spend more time guiding the architect than on the other projects.

Where the principal architect attended the briefing, but used technicians to develop the plans other problems environmental access problems occurred due to inadequate supervision of the drawings that were submitted on the company's behalf.

Most digressions from the specification highlighted in the access appraisal report were corrected. It was sometimes difficult to get additional information from the architectural team on the corrected drawings and in obtaining additional information on finishes and fittings. It is presumed that the difficulty in obtaining information on corrected drawings was due to the pressure that the architectural team were under to move onto the next stage and that obtaining information on finishes and fittings was difficult because the budget for finishes and fittings was not made clear at the beginning.

Occasionally architects were reluctant to follow through with the advice from the access consultant. The process worked smoothly and efficiently when the architects saw it as a learning opportunity and were rigorous in addressing problems. (Sondelani, Kwa Zulu Natal, Ebotwe, Eastern Cape, Mphuputhe, North West)

Recommendations:

The professional team needs to be made aware of the tender processes within each province, the time it takes for tender documents to be approved and tenders advertised, to ensure that funding allocated in that financial year by the province is not lost.

Additional time is required at this stage for ensuring that problems that are highlighted during the access appraisal are dealt with appropriately, as this then affects the tender documentation stage.

That there is a nominated, experienced and suitably qualified professional, such as an access consultant, to appraise the architect's drawings and provide a suitably drafted report highlighting changes that should be made for the design to comply with the specification.

The provincial project manager should be responsible for ensuring that any changes that need to be made at this stage are made within the project time frame. There should be agreement between the project manager and the access consultant so that when environmental access problems are identified, the architect is clear that these must be dealt with as a critical part of the brief, and that this will affect his or her payment.

The provincial project manager should check the plans before submitting them for an access appraisal to ensure that the plans submitted for access appraisals are in line with the original brief, or that new additions have been approved by the province.

The brief for the architect should make it clear that compliance with the Full Service School Specification is a conditional part of his or her contract. A significant amount of time could have been saved on many of the projects if the original designs had complied with the Specification.

Tender documentation stage

The tender documentation stage drew on approved designs (from the environmental access appraisal stages) to develop tender documentation. This usually included a set of drawings, bills of quantities and a contract. The format and contract used for this documentation in general aligned to provincial Public Works requirements. The Provincial Public Works Department was in most cases, involved in reviewing and advertising the tender documentation.

The main problem encountered during this stage was that the cost estimates for the work came out far higher than the original budget estimates. The reasons for this were due to a) construction cost escalation (Refer to *funding* above), b) provinces and architects did not adhere to the original brief provided by the national Department of Education and c) maintenance costs of the school were included within the cost estimates.

In order to assist the professional team in reducing the costs, a prioritisation list detailing the most important environmental access interventions was provided. This list helped ensure that the upgrading could be done in phases, as and when, funding became available. The CSIR developed this list and advised schools on prioritisation of interventions.

These processes sometimes lead to a rework of the project in order to ensure that it met the budget requirements. In other situations, particularly if relatively little additional funding was required, it could be sourced within the project and notification of the additional funding was passed on to the provinces.

Recommendations:

The planning and budgeting for the maintenance and repair of the schools should be brought in line with the environmental access upgrading to ensure that dealing with the poor physical condition of the schools does not hamper the implementation of the environmental access improvements.

In future the provinces will be responsible for planning and approving the interventions, omitting the involvement of the national DoE. This will automatically remove the problems created by a third part setting the budget and ensure that the province works within its own budget limits.

Additional time is required at this stage for ensuring that the professional team present the tender documents in such a way that the provincial procedures for approval can be followed correctly.

Tender period

Contractors were provided with a period of 3 to 5 weeks to put together tenders based on the tender documentation. Completed tenders were then submitted to Public Works or the quantity surveyor from the project team. The quantity surveyor reviewed tenders. This process checked documentation for mistakes and resulted in an adjudication report with recommendations for appointment. The final decision on appointments was then taken by a tender committee.

The adjudication and appointment process sometimes took a considerable length of time. This was caused by provincial committees only sitting intermittently and disagreements about who to appoint. In situations where there appeared to be an impasse on appointments, CSIR intervened to help ensure that appointments were made, and these were made on a rational and fair basis.

Recommendations:

Strict tendering procedures should be defined and agreed with all parties. Role players should understand their responsibilities, the requirements of the PFMA and government procurement processes. In particular, tender committees should understand their oversight role and be warned against decisions not based on a professional team's recommendations.

Quantity surveyors should present their recommendations clearly and outline the basis on which they were made. They should be available during tender adjudication meetings to ensure that their reports were understood and that clarification can be sought.

Construction stage

The construction stage covered the period during which a contractor established themselves on site and undertook construction work defined in the contract. In most provinces this stage had only just started during the close out of CSIR's involvement in EDO295 and only a limited amount of feedback is available.

In some cases work was initiated smoothly. In other schools there were problems included sourcing of material, such as river sand or steel, which led to delays in starting building work. In addition the weather and working around the school term were also factors that caused delays.

Much of the construction work involved changes to the external routes around the school,

which meant that often the whole school site was dangerous for learners. Even where the school was not being demolished, the learners had to be moved to another school, or classrooms had to be rendered unusable. Where areas of the school were unusable, they had to be cordoned off in such a manner that they would be safe to learners still in situ.

Delays in construction were also caused when the work had not been carried out according to plan or when the contractor had deviated from the plan. For example, the compaction of the foundations was not checked correctly and had to be redone, or the paving layout did not match the architectural designs.

Payments

Payment to the contractor is usually undertaken on a monthly basis based on certificates of work completed drafted by the quantity surveyor. In some cases, despite payment certificates being submitted, payment to contractors was delayed. This inevitably led to delays as contractors experienced cash-flow problems and in some cases focussed on other projects.

Recommendations:

A comprehensive and well-thought out plan on the school reorganisation should be put in place before construction work starts. This plan should be developed with the teaching staff so that they are clear how the school needs to be reorganised during the construction process. There may be additional costs in hiring another school or bringing in additional classrooms, and the province would need to budget for this in advance.

The plan for the reorganisation of the school during construction should account for any delays that may occur due to weather or construction problems.

Streamlined and effective processes for paying contractors should be put in place. These should ensure that the payment obligations of the building contract are met in all cases. This is particularly important on small projects of this nature where emerging contractors are involved. Establishing good relationships with small contractors is important in this project as it will ensure that they develop strong experience within the environmental access upgrading area and are willing to tender for future work.

Contract administration

During construction one of the roles of the professional team is to ensure that work being carried out in accordance with the contract documents and original design. This ensures that client receives a final building that is of the quality and nature defined in the contract documents. In this case, having made a significant effort to ensure that designs comply with the Full Service School Specification it was important that completed building work also complied with the Specification.

Unfortunately on the second and last site visit that was carried out (Letlotlo, Free State) during the time in which the CSIR was involved, it was apparent that the environmental access work was not being carried out to the required standard and the contract was not being effectively administered. Mistakes were not being picked up by the project management team and payments were not being withheld until the work was corrected. Some of the digressions from the original plans were:

- Bricks with bevelled edges had been selected for the surface, when non-bevelled edges had been recommended.
- Steps were being included with no provision for handrails on either side.
- Metal strips were left in the walkways, which had not been indicated on the plans.
- The light switches and door handles were higher than that required by the Specification (and that shown on the plans).
- The metal insert for the door closing mechanism created a hazard on all new doors.

- The WC was not included (although later it was indicated that this was included. Further problems were apparent in the work on the WC).
- The rear entrance was to be used by learners with disabilities (although later this was clarified; all learners would be using the rear entrance).

There was also concern that as the paving layout differed from the architect's drawings, this may have implications for the environmental access.

Where mistakes occurred whilst the CSIR was still appointed, letters were sent out to the principal agents reminding them of their responsibilities to oversee the environmental access work. Where specific digressions from the original plans were identified during the site visit, these were highlighted and the professional team asked to address these as a matter of urgency. Given that the CSIR's role in the project ended at the beginning of, or just before the construction period for the work in the schools, practically all the sites could not be checked and problems with contract administration picked up.

Recommendations:

It is imperative that the DoE considers how to address environmental access problems during the construction stage. This is usually done by a series of site visits by the access consultant during the construction process, at suitable intervals. If this is not done as a matter of urgency during the current field test, it is likely that all the effort that the DoE has taken to ensure that the schools are brought in line with the Specification will be undone in a number of schools. This aspect should also be taken into account in the future phases of the conversion of full service schools.

Professional teams should be reminded of their responsibility to administer contracts effectively. In particular, their attention should be drawn to the checking and quality control role that they need to undertake in order to ensure that the Full Service School Specification requirements are met. They should request that an access consultant checks the work at the following stages to ensure defects are picked up and delays avoided:

- Once the levels are complete but before the surfaces have been finished
- After the wiring has been done but before the electrical installations are fitted
- Once plumbing work is done but before new sanitary ware is installed
- Once structural changes have been done but before doors, handrails and other fixtures are fitted
- A final inspection before handover

It is also recommended that copies of the Full Service School Specification be made available on all sites, to ensure that work can be checked against this easily by both the contractor and professional team. This may help contractors avoiding careless mistakes which result in the Full Service School Specification not being met.

5.4 Teaching and Learning Accommodation

There are a number of environmental access problems with current teaching and learning areas in school. These are as follows:

Existing buildings

The selected schools were existing schools chosen for upgrading. During the initial assessment of the schools, they were all found to have maintenance problems, many were in

great need of renovation and some needed to be re-built. It did not make economic sense to improve environmental access in classrooms when the classroom itself was in a state of disrepair and therefore provinces were requested to take responsibility for the renovation/maintenance work.

Some of the selected schools were on steeply sloping sites. Levelling off the sites to avoid having to include ramped or stepped access, or designing the site so that the ramps would comply with the Full Service School Specification, which required universal ramps of a gradient that both adults and children could use with ease, required a great deal of thought and cost.

Other schools were situated in areas prone to flash floods or significant amounts of rainfall during the summer seasons. Including level thresholds in the doorway of each room that would not create water ingress meant that the rainwater drainage system had to be thoroughly and carefully designed. This was carried out in Limpopo, but the potential problem of it happening was one of the factors that the Northern Cape school was deselected. One school in the Eastern Cape was situated on a marsh, which had to be drained in order for the building work to be carried out.

Recommendations:

Schools selected for upgrading should be on suitable sites and in a good or reasonable state of repair. If schools are on unsuitable site or in a poor state of repair, all parties should be made aware of the substantially increased budget and time requirements for the work. Budgets for environment access upgrading work should not be used to carry out general maintenance and repairs.

New schools should be designed in line with the Full Service Schools Specification, even if they are not identified to be converted to full service schools at this stage. The cost implications for converting existing schools are far greater than including universal design at the outset.

Storm water drainage

Levelling off entrances into classrooms means that the position and design of storm water drainage is of particular importance to ensure that water is prevented from entering into the classrooms. By raising entrance to the classroom and raising the verandah, a larger change in level is introduced from the verandah to any adjacent space, which may present problems to learners with sight impairments, unless such problems are carefully designed out.

Recommendations:

Creating an effective storm water drainage system should remain part of the architects brief in achieving an accessible full service school whether converting an existing building or developing a new site. The architect should apply careful thought as to how to do this minimizing the change in vertical height whilst achieving level thresholds and adequate level turning space into the classrooms. Advice and discussion between the architect and the access consultant remains critical during this stage.

Thresholds

Most classrooms in the targeted schools had thresholds in the doorways. These prevented wheelchair users from accessing classrooms. The Full Service School Specification (FSSS) and EDO295 brief generally recommended that this was addressed through raising floor levels in access walkways or verandas adjacent to classrooms in order to achieve a flush threshold.

Some architects ignored the FSSS and designed small ramps at doorways. These were however noted on drawing appraisals and remedied in revised designs.

Recommendations:

Unless the concrete work required to raise walkway levels is done carefully cracking in the new surface can occur. It is therefore recommended that architects pay specific attention to this component of school upgrading and thresholds are avoided in new school construction.

Doors

Many doors in targeted schools were broken or had handles and hinges that were coming away. Doors did not have vision panels and often clashed with burglar gates. The Specification required that doors be upgraded and burglar gates be fixed back so that they do not cause an obstruction. Most doors opened inwards towards the classroom rather than inwards against the wall. Whilst this does comply with fire regulation Part T, it severely reduces circulation space in the classroom.

Door furniture

Most of the door furniture was not universally designed and should have been replaced. However, where the school had budgetary restrictions for the work, and the current handles were still in working order, these were left to be replaced at a later date.

Recommendations:

Doors are a general maintenance and security problem in many schools in South Africa. It is recommended that the DoE appoint a designer to develop solutions that can be disseminated which avoid current problems. This should include positioning doors so that they open against the wall rather than towards the classroom.

All new schools should be upgraded with door furniture that complies with the Full Service Schools Specification and a programme put in place for upgrading the existing door furniture.

Lighting

Potential glare problems were identified in the target schools. In particular strong light on the blackboard may cause problems, particularly for learners with sight or hearing impairments as glare reduces vision. This may also present a problem during class discussions, reducing learners' ability to see the faces of their peers or educator clearly. The specification suggested that blinds be placed on all windows, particularly adjacent to the blackboard to avoid potential glare problems.

Recommendations:

It is recommended that school buildings be carefully designed to avoid light and glare problems. The easiest way of doing this is to ensure that class rooms are correctly orientated and that sufficient roof overhangs have been provided.

Colour and luminance contrast

The internal décor of the classroom and exterior paint work of the school buildings affects visibility for learners with sight impairments. If a significant degree of colour and luminance contrast is achieved between adjacent surfaces, these learners will be able to be more independent. Provinces were encouraged to make this change only if they were intending to

redecorate the classrooms.

Recommendations:

Redecorating classrooms to acceptable standards of colour and luminance contrast should be a standard part of the conversion of a full service school, in all classrooms and support buildings.

Acoustics

The acoustic quality of the classroom environment is very important to teaching and learning, and to the ability of learners with hearing or cognitive impairments to participate in lessons. During the initial assessments of the schools it was found that most of the background noise in classrooms was caused two factors:

- Over-flow noise from adjacent classrooms
- Tables and chairs scraping on the floor

Poor acoustic environments were also caused by a poor standard of classroom; no ceiling and badly fitting doors or windows.

A decision was made to tackle this by putting rubber bevels on chair and table legs (as part of the material resources package, see next section), rather than carpeting classrooms or adding acoustic treatment to the classroom, given the expense of the last two options. However, some schools unit, which is not suitable for learners with disabilities, nor for adapting in this way. had no tables and chairs, and in others the design of the tables and chairs for learners was as a fused

Recommendations:

Norms and standards developed for schools need to give serious consideration to acoustic issues for new schools, as to alter them in an existing building leads to considerable expense. The initial intervention will be the layout of the school, ensuring that classrooms are spaced so that the amount of noise from one classroom to another is limited. The density of the walls between classrooms could also affect this. The position of windows and doors is another important factor; should it be possible to leave windows open for fresh air, without noise from the external environment creating an disturbance.

For existing and new schools addition decisions should be made to supply furniture and fixtures that create an acoustically supportive environment.

Furniture and layout

Furniture and furniture layouts in the targeted schools were generally inappropriate for learners with disabilities. In particular the following aspects were noted.

Layout

- There was very little space to enable a wheelchair user to move around and access the different parts of the classroom due to the number of learners in any class.
- A standard classroom layout is not suitable for learners with hearing impairments as they are unable to join in classroom discussions if they cannot lip read or respond to the expressions of their peers.
- Additional power sockets should be provided so that learners with sight impairments using computer equipment in the classroom have a power source. The table layout will be affected if a learner with a sight impairment is included who is using this equipment.

Furniture

- Tables and chairs should be sturdy, but lightweight so that they are easy to reposition.
- Both tables and chairs should be stackable so that more space can easily be created.
- There should be space underneath tables so that a wheelchair user is able to use them.
- Secure, height adjustable tables should be available, or tables of different heights to accommodate different heights of wheelchair. These may be kept in the resource centre and loaned to the full service school if required.
- A variety of different chairs should be available; with arm rests, and of different heights, so that learners with ambulant impairments of different ages can be accommodated. These may be kept in the resource centre and loaned to the full service school if required.
- Desks and chairs for teachers should be designed in such a way that if a teacher is in a wheelchair, they are able to use the desk, and if the teacher has an ambulant disability a suitable chair is available.

Recommendations:

It is recommended that further research be carried out into the selection of inclusive school furniture, which follows the principles laid out in the Full Service School Specification. Furniture should be designed to ensure that learners in wheelchairs as well as other learners with disabilities are able to use the same furniture as other learners and to ensure that the most universal type of school furniture is selected for all schools throughout the country, avoiding the selection of 'special' furniture in classrooms. The findings of this study should affect selection and supply of school furniture in all provinces.

Universally designed furniture should carry a degree of sound proofing, so that it creates a better acoustic environment in the school classroom (see acoustics above). This should ensure that chairs scraped or desks moved across a hard surfaced floor do not make undue noise and affect the ability of learners to hear each other, or the teacher.

It should be clarified by the national Department of Education and the provincial Departments of Education whether the provision of desks and seating falls with the physical conversion of schools or the provision of material resources.

In addition, further research should be undertaken to ascertain if wheelchairs users can be accommodated in classes where the current norm is 35 or 40 learners. Different layouts can be tested in classrooms to ascertain if and how learners in wheelchairs can be accommodated. The findings of this study should inform a review of the 35- 40 learner per classroom norm, school space standards and new school design guidelines.

Switches and controls

All schools had switches and controls positioned at non-universal heights. In order to make the school inclusive, it was recommended that most light switches were moved, especially since most doors had to be re-hung, and thus the light switch to each classroom had to be moved in terms of its position as well as in terms of its height and distance from the corner. Many sockets also required relocating, as did window closers and window blinds. However, where the school had budgetary restrictions for the work, and the light switches, sockets and window controls were still in working order, these were left to be replaced at a later date.

Storage

Many classrooms had no storage provided in the classroom itself. Given that educators should be working with an increased number of material resources, it was felt that a standard metal cupboard lockable cupboard would be necessary, at least one per school.

As with the furniture, it was unclear whether this fell within standard provision from the provinces, in the physical provisioning or the material resource provisioning. Many schools had

storage; however it was not necessarily secure enough to house expensive equipment. The budget for upgrading of the storage was not identified as part of the provincial responsibilities early enough in the process, as it was unclear whether this fell under the physical upgrading or material provisioning. (See provision of material resources).

Recommendations:

Once the material resource component of the project is complete, the DoE can review storage provision in full service schools and make decisions about a suitable standard for the future full service schools. The degree of security that should be provided should also be established. The budget for the provision of storage should be established, since, as with furniture, it is easy for this essential item to fall between the provision of physical and material resources. The recommended provision of secure storage would be that each classroom contained a cupboard, at least the size of a standard metal cupboard, which locked (for consumable material resources used during a lesson) and that the Administration Block contained an built in storage cupboard for portable shared and non-shared resources, depending on the number of learners in the school.

Signage

The specification provided guidance on the universal design of signage, and the provision of a minimal amount that should be provided in a full service school, in order that a new comer or visitor should be able to find their way from the road, to the administration block, to then ask for assistance in finding their way around the school.

Recommendations:

This should be assessed on completion of the schools and further recommendations drawn up about the amount of signage that should be included in full service schools. In an ideal situation, directional signage would be included all around the site, and identification signs for doors included with embossed tactile lettering, Braille and an agreed set of symbols included. The symbols should be uniform across all full service schools, incorporating the needs of learners with cognitive impairments. However, there are obvious cost implications for the development of such a detailed quantity of signage, which must be balanced against the need for expenditure on other resources.

5.5 Support Accommodation

Support accommodation includes areas such as administration blocks, storage and food preparation and consumption spaces. Problems were identified in these areas including the following issues:

Environmental Access

Many of the environmental access problems identified for classrooms (such as thresholds) applied to support accommodation as well. Conversion of these areas was critical to making the whole school inclusive. However, budgetary restrictions meant that conversion of some of these areas was not feasible.

Recommendations:

That an upgrading programme for the remainder of the school be put in place where certain areas were omitted due to budgetary restrictions.

Counters

Many administration blocks had counters or a hatch which were used by administrative staff to serve members of the public or learners. These were invariably too high and did not have any knee space so could not be accessed by wheel chair users.

Recommendations:

This issue is addressed in the Full Services School Specification and should be reflected in the norms and standards for school buildings being developed by the Physical Planning Directorate.

Sick bay and adjacent wheelchair accessible WC

The national Department of Education introduced a requirement following the initial assessments of the schools in EDO296 that a sickbay be introduced in the Administration Block in each school. This could also be used for assessment purposes, so that learners requiring additional support could be assessed, and treatment sessions could take place if these were not to take place in the classroom. Later it was felt that by adding an adjacent wheelchair accessible WC this facility could also be used for learners with incontinence problems so that they had some where to change, and that the storage space provided could also be used for their equipment. Due to the fact that this requirement was added later on, the costing for this was often not available.

Recommendations:

The national and provincial Departments of Education should budget for this facility in the conversion of the first phase of the full service schools. Thereafter funding should be agreed with the provinces as part of the general norms and standards, including any modifications made to the design once its use has been field tested.

Storage

The storage requirements for equipment in each full service school, given the additional demands for equipment was likely to mean that more storage space was required than simply one standard metal filing cabinet. Most schools actually had a built in store room in the Administration Block. Many of the schools were found to have inadequate security for the storage.

Recommendations:

A storage ratio for full service schools should be developed and agreed between the national and provincial DoE. This should be discussed with the physical planners. If the full service school is far from a resource centre, additional space should be included to house the additional material resources that the full service school would be required to hold.

Computer rooms

During the life of the project a decision was made to equip all schools with computers. This was due to the fact that most of the material resource packages concerning teaching and learning designed for learners with disabilities required a computer to access them. Therefore the space to house computers, their security and access to the internet needed to be catered for. The access to the computer rooms provided the same environmental access problems as access to the classrooms. In addition the budget for the secure storage of computers and the need to have alarm protection for them was not agreed between the national Department of

Education and the provinces.

Sports fields and play areas

Most schools contained a sports field, some schools contained play areas. The specification contained guidance for making the sports field accessible to a minimal level, however, when budgetary restraints became apparent, this item was omitted. Play areas were not included.

Recommendations:

In order for the full service school to meet its intended goal, the whole school site should be inclusive; all facilities in addition to the classrooms should be of a comparable universal standard. The Specification should be revised to so that inclusive sports facilities and play areas are incorporated. The cost of upgrading all sports and play areas should be an integral part of the next phase. If funding is not immediately available this work should be implemented over time once the project is complete.

Drinking water

In the targeted school learners drank from standpipes, which were often located some distance from the main accommodation and surrounded by mud. This made it difficult for learners with disabilities to use them.

Recommendations:

Standard designs which are inclusive were developed and but further designs should be developed and all designs should be tested. The current design should be evaluated after the completion of the project. This should include discussions with tap manufacturers to see if they can produce a lever tap (as supplied in Wheelchair Accessible WCs or that uses gravity to operate it) that has a water supply cut off (water supply cuts off after a limited duration to avoid wastage).

In addition careful consideration would have to be made of the tap position and ground surface material and drainage. The norms and standards for school building being developed by the Physical Planning Directorate should also address this issue and ensure that the design and location of water fountains and drinking and hand washing facilities are appropriate.

Eating areas

No specific eating areas were provided at any of the targeted schools. Learners generally were served from pots or buckets in the open air or in front of a classroom or a cooking shed. Learners then took food and drink and sat under trees or beside classrooms.

Recommendations:

Guidelines are provided in the Full Service School Specification for eating areas. It is however recommended that more detailed designs are developed and tested and the current design included in the specification be evaluated after the completion of the project. The norms and standards for school building being developed by the Physical Planning Directorate should also address this issue and ensure that the design and location of inclusive eating spaces are appropriate.

5.6 Ancillary

Ancillary refers to service accommodation and facilities such as toilets, cleaning storage and

circulation.

Steps

Most of the targeted schools had steps leading to verandas or into classrooms even where the site was flat. A number of problems were experienced with these steps. These included overly steep steps, steps that were slippery, irregular treads and risers, no contrasting nosings, no handrails and steps that were sometimes cracked and in poor condition.

Recommendations:

Most of the problems with the steps were addressed during the Intervention Design and Access Appraisal stages. However, the cost implications of addressing steps in existing buildings are high. The Department of Education should bear this in mind when selecting and budgeting for the conversion of new full service schools. New schools, and the norms and standards that guide their design should have step-free access around the school site where possible, to minimise the need for ramps and lifts. Step and ramp-free sites are in principle the most universally accessible.

Uneven surfaces

Many concrete and brick pathways between school buildings were cracked, broken, or made of unsuitable surface material (such as cobbles, bricks with bevelled edges, or compacted earth that had worn away in the rain). This not only made the route difficult, or non-negotiable for wheelchair users to navigate; it also presented a trip hazard for non-disabled users and users with disabilities other than those in wheelchairs.

Recommendations:

Most of the problems with surfaces were addressed during the Intervention Design and Access Appraisal stages. Norms and standards for pathways should be developed that aim to minimise deterioration over time. Factors that should be considered include distance from tree roots, adequate compaction and appropriate bedding material; as well as thickness and specification of path material and the incorporation of expansion joints at suitable intervals. Norms and standards should also consider the degree of maintenance needed to maintain surfaces, over a specified period of time.

Ramps

There were ramps in a number of schools, however in nearly all cases these were not compliant with the Full Service School Specification or at the very least, SANS 10246. Problems experienced include overly steep ramps, no kerbs, no landings at the top, bottom and appropriate intermediate intervals of the ramps, no handrails and slippery surfaces.

Recommendations:

Most of the problems with the ramps were addressed during the Intervention Design and Access Appraisal stages. Ramps at schools should at least comply with the Full Service School Specification and this should be incorporated into the norms and standards for new schools as well as the conversion of new full service schools. The gradient required in the Full Service School Specification, and the provision of landings is a far more stringent requirement than that found in the SANS standards. The selected standard is inclusive of adults and children in wheelchairs, and achieves the optimum rather than the minimum.

Lifts

Some of the schools selected were double storey, which presented a problem in terms of lift access. In order for learners who require alternative means of physical access to reach a second storey, a lift is required, as ramps to this vertical height are too long and tiring for daily use. To solve egress problems a fireman's lift and refuges also had to be included. This meant that the cost factor for these schools was very high.

Recommendations:

Consideration should be given to ensuring that all full service schools have single storey access particularly at primary level. The provincial and the national DoE's should discuss and agree whether the doubling up of facilities on the ground floor with those on the first floor in buildings with second storeys is acceptable for a full service school. Where lifts are fitted they should comply with the full service schools specification and refuges should be provided. This should be reflected in norms and standards for new ordinary schools if not full service schools. Norms and standards should also consider the degree of maintenance needed to maintain lifts over a specified period of time.

Verandas

Most of the verandas outside the classrooms provided less than adequate width to turn into a classroom and had to be widened. Due to the position of the threshold at the entrance to each classroom, these had to be raised, which added additional height and made a greater drop from the veranda to the adjacent ground. Step or ramp access was provided, but raised walkways acted as an additional hazard around the school site, particularly for learners with sight impairments.

Recommendations:

The inclusion of a level threshold should ensure that it is possible to make verandas level with the adjacent ground in new buildings. This should be reflected in the norms and standards. In the conversion of existing buildings the guidance in the full service school specification should be complied with and tested and the current design included in the specification should be evaluated after the completion of the project

Toilets

Many schools appeared to have a very low WC ratio to learner number. This meant that there were very few WC blocks and the travel distances to the WC's from each classroom were too far for learners with disabilities. The current work carried out on the schools was not able to address the problem with the lack of provision of WC's, and only included the conversion of one unisex wheelchair accessible WC.

Recommendations:

The national and provincial departments reconsider the number and positioning of WC's in ordinary and full service schools. The current design included in the specification should be evaluated after the completion of the project and the layout of WC's should be included in norms and standards.

Car parking and drop off

Most schools had a car park, which consisted of compact earth. Some schools had concrete or tarmac surfaced car parks. None had a formalised drop off point with a suitable surface. It was felt that it was important to include a suitable drop off point to provide a suitable surface for learners in wheelchairs who arrived by public or school transport, or taxi. The full service

school specification included the addition of these facilities, within a reasonable distance from the Administration Block.

Recommendations:

That the design of the car park and drop off facility should be evaluated after the completion of the project and the layout should be included in the norms and standards.

5.7 Resource Centres

The physical upgrading of Resource Centres was not part of the scope of EDO296 or EDO295. However, during the life of EDO295, it became apparent that a specification for a resource centre was necessary. Although the likelihood of a new SSRC being built was slight, it also became apparent that many of the current SSRC's did not meet the full service school standard. SSRC's are supposed to provide a higher standard of environmental access.

In addition, due to developments in Alexandra, Gauteng, Nokothula school was in the process of being relocated to a new design. An outline specification was specifically developed for this project, and is included in the Appendices of this report. The school was not built due to reasons unrelated to this project.

Recommendations:

The DoE is aware that some special schools that cater for a specific group of learners with disabilities do not have the facilities to accommodate learners with other disabilities; for example, schools that accommodate learners with sight impairments cannot accommodate learners in wheelchairs. This will make their role as SSRC's difficult.

The Full Service School Specification develops a higher level of environmental access than is present in ordinary schools, and than some special schools. However, it envisages an even higher level in resource centres, where learners requiring assistance of one or two on and off the WC could be provided, a full continence facility with hoisting, amongst other provisions. It also envisages that there would be access to Braille printers, a library of Braille resources, sign language interpretation, and suitable assessment facilities.

The material resource service providers are visiting most of the SSRC's that are part of the field test project, and will make a preliminary assessment of the level of environmental access. If it is apparent to the DoE that the level of environmental access is inadequate in SSRC's then a sister publication to the Full Service School Specification should be included. The national and provincial DoE's would then need to put in place a programme for the upgrading of SSRC's.

5.8 Summary of findings and recommendations

The upgrading of the physical infrastructure of the selected full service schools took much longer to begin than originally anticipated, and at a much slower pace; for a variety of reasons which are discussed in this report. The involvement of the CSIR is coming to an end at a critical stage, just as the construction work is beginning. Experience to date indicates that the environmental access work will not be suitably supervised. Unless the DoE undertakes some rapid and careful input, the likelihood of the project going astray is high.

The following indicators were developed which can be used on the completed schools to ascertain the level of accessibility achieved. The standard against which the level of access is measured is the Full Service Schools Specification. Given that none of the schools have yet

been completed, it has not been possible to measure them:

Physical Resources		Impact
PR 1	All education spaces are accessible	<ul style="list-style-type: none"> • Car parking and signage in place • Percentage of classrooms fully accessible • Percentage of admin areas fully accessible • Percentage of WC fully accessible • Adequate learner/WC ratio • Percentage of eating and drinking areas fully accessible • Percentage of sports areas full accessible
PR 2	All ancillary spaces (WC's etc) are accessible	
PR 3	All support spaces (admin etc) are accessible	

- Key indicators to measure environmental access

The following recommendations can currently be made in relation to the physical resources component as a whole:

Recommendations:

Planning the future roll-out of full service schools: the Inclusive Education Directorate at national and provincial level should begin co-ordinating the selection of schools with the Physical planners. Together they should develop a set of criteria for the selection of schools to be converted to full service schools, and align their selection with the programme for the upgrading of schools. A budget should be allocated for alterations, renovations and new build, at provincial level. This budget should relate to other provincial priorities and monies received from other donor funded projects.

Finalisation of the specification: The Full Service School Specification has largely been completed. It should be reviewed after the project is complete, and be gazetted as a standard that can be used for developing new ordinary schools and converting existing schools to full service schools at primary, secondary or tertiary level. New school design guidelines and norms and standards should incorporate the specification, and the issues connected with it, such as number of learners per classroom. Additional research into issues such as non-flush accessible WC's should be included. Either an additional document or an annex to the current document should be included, covering resource centres and specialist facilities such as science laboratories.

Development of norms for full service schools: these should include the full service school specification, and cover related issues such as storage space ratios and furniture in classrooms.

Provincial expertise on environmental access: A core team of people should be fully acquainted with the Specification within the Province. This team should include physical planners and department of public works officials responsible for school development and planning. A CPD course, which is SETA accredited should be available to architects.

Monitoring the construction process: The provinces should either take it upon themselves to undertake assessments, or should buy-in the services of an access consultant to provide assessments at key stages to evaluate compliance with the full service school specification. The project management team should be able to take corrective action on behalf of the province when compliance with the specification is not attained.

Monitoring progress: Physical planners should be able to report on the level of environmental access in full service schools using the indicators developed as part of this project; and annually report back on progress to through the NIMS assessment process. This information should be co-ordinated with the Inclusive Education Directorate.

6 Material Resources

6.1 Introduction

The purpose of the material resources component was primarily to provide full services schools with access to the necessary equipment that would enable educators to include learners with disabilities in classroom activities, and make sure it was installed correctly.

Secondly, the material resources component was aimed at providing SSRC's with access to the same material resources indicated above. In some cases, an alternative to this would be installing some of the more expensive equipment, such as high volume Braille printers, in SSRC's and equipping them to function as resource libraries.

The third element was to provide training to both learners using the equipment and staff supporting the use of the equipment, on its use. It was also to train school and district staff on how to assess learners to determine what was the most appropriate device for them.

Finally, schools would be provided with guidelines on the safe storage, maintenance and management of the equipment. The service provider would supply call-out assistance on the supplied material resources to the schools for three years from delivery.

6.2 Key questions

The key questions that the report addresses in relation to the Material Resources Development component are outlined below:

- **Implementation:** What was the learning developed through this component? How should future phases be implemented?
- **Systems:** What are the systems that are in place to manage and maintain the material resources? How could these systems be improved?
- **Capacity:** What capacity was in place to manage and maintain the material resources? How should this be improved in future phases?
- **Interaction:** What was the extent and nature of the relationship between the full service school, the SSRC, the district, the province and the DoE? How should this be improved in future phases?

It should be noted that this element of the project is still running and the roll-out phase has only just started. The project will end after the CSIR's involvement in the project has ended. Therefore only limited information can be provided in connection with the above questions.

6.3 Implementation

There are a number of significant factors that influenced implementation. These are outlined below:

Development of the specification for the supply of material resources

The Inclusive Education Directorate initially envisaged by that the supply of all material resources for this field test phase of the implementation of White Paper 6 would be achieved through an external service provider; responding to a tender issued by the Directorate.

Prior to the advertising of the tender, a specification was developed on the range of material

resources that should ideally be accessed by a full service school. These resources would either be held at the school, or at the SSRC nearby. The specification was based on the Inclusive Education Directorate's classifier of equipment, namely:

Assessment category	Types of physical or material resource	Examples
Learning and teaching support material	Portable and shared	Braille printers, audio-visual equipment, communication devices, computer hardware and specialised software, tactile and print photocopiers that can enlarge print etc
	Portable, shared and consumable (replaceable)	Educational videos, audio tapes, computer software, white board pens, acetates
	Consumable	Braille, printed and enlarged work sheets
Assistive devices	Portable and not shared	Hearing aids, personal FM systems, wheelchairs
	Consumable and specifically medical	Medication, consumable medical equipment, diabetic supplies.
	Consumable and not specifically medical	Food, nutritional supplements.
Auxiliary aids	Portable and shared	Portable ramps, shower chairs, hoists etc
Building modifications	Non-portable - structural alterations	Non portable: ramps, accessible toilets, access roads, Braille rooms, sound proof rooms
	Non-portable – addition of fittings and fixtures	Additional signage or lighting, hand rails, nosing, lifts

For the purposes of this tender, 'material resources' covered learning and teaching support material, assistive devices and auxiliary aids; not building modifications. The specification went through a series of revisions. The first version (*Special Schools Survey Form Version A April 2006*), was used to survey both SSRC's and full services schools, the process of which is described below. However, the tender process, also described below, resulted in a number of changes being made to the specification (*EDO 295 project database: material resources June 2008*) and the final version did not correlate with the survey form that the schools used.

Other problems encountered during the development of the specification included:

- The specification initially included all material resources from the assessment categories that were covered. Therefore some were generic or universal items, which would be available in a typical well-stocked school; however these would also be required for use by learners who experience barriers to learning. For example, computers and scanners are required so that software can be installed that is designed for use by learners who are blind or partially sighted. The specification included assistive devices (normally provided by the Department of Health) as well as equipment needed for teaching and learning (provided by the Department of Education). Initially it was thought that the money available through the Inclusive Education Directorate's donor funds should provide all categories of resources; however this has proved unrealistic in terms of cost and appropriateness. For example, the DoE does not have the facilities to provide cochlear implants or prostheses, and yet these were included on the specification.
- It was envisaged that the budget for the project would cover the supply of the whole package of material resources to the 30 full service schools, but eventually 12 full service schools were selected and 30 SSRC's. The factors that affected this decision-making were, the difference in the Rand/Euro exchange at the time the transfer of the donor funding took place; which resulted in less money being made available than was

envisaged during the planning stages. In addition, the Inclusive Education Directorate had concerns that they should be targeting learners most in need. Finally the Minister decided that the supply of material resources should be concentrated on the Special School/Resource Centres. This was in view of the fact that most of the SSRC's were under-resourced and that there were many learners in serious need of assistive devices; whereas the full service schools have not yet started to include learners with disabilities.

- It became apparent that it was unrealistic to work towards supplying schools with all resources; effectively providing a library from which they could draw on. Therefore a 'learner specific' approach was adopted, and the service providers were required to assess the provision of material resources against the particular barriers to learning and participation found on site. Further targeting of the resources to specific schools, rather than a comprehensive package to all schools is now envisaged. The Inclusive Education Directorate still require the material resources service provider to develop recommendations for a basic package to address the barriers experienced in each area of functional limitation so that these can be used in future in provincial procurement processes.
- The results of the survey form sent out to schools indicated that most schools (both full service schools and SSRC's) did not have standard universal resources to benefit all learners, such as computers, aside from the lack of resources to overcome specific barriers to learning. A decision was made to work at ensuring a standard package of universal items was available. This meant that the level of provision had to be re-adjusted so that more of the basic universal items could be provided. The supply of these had to be from government-approved sources.
- The Inclusive Education Directorate's classifier, as set out above, is incompatible with the manner in which other agencies in the Department classify equipment. Thus, when the need to modify the specification became apparent, it was difficult to do this. A decision was made to break the specification up into three separate categories (described below), one of which was computer-related resources. A government supplier, called Gautengonline, already supplies computer equipment to schools, including SSRC's in Gauteng. However computer-related equipment supplied by Gautengonline classifies specialised equipment by disability rather than learning outcome. This led to complications amalgamating the two lists.
- Most of the schools selected to become full service schools and some of the SSRC's were in poor condition. Many had no access to computers or had limited storage space. Some had poor security both for computers and for storage of specialised resources. The availability of computers and a computer room, secure storage space, an internet connection and insurance was also surveyed. The budget for the provision of this element was not seen as part of the original costs for the provision of material resources. Therefore funding had to be negotiated with the provinces.
- Some items originally listed on the specification may not be provided: rubber bevels to counteract acoustic problems in classrooms, pagers for learners who use hearing aids (so that they can be aware of the break alarm or fire alarm), height adjustable tables and chairs. Some items are not covered such as accessible transport to school. This will mean that the school will not be as inclusive as originally intended.
- The final specification contained in the CSIR's database specification (*EDO 295 project database: material resources June 2008*) may not be the final version of the specification. It was given to the material resources service providers for their input. It is anticipated that they will modify it further.

Modification of the specification

The process through which the specification has evolved has resulted in it being divided into three separate parts:

Category	Type of device	Procured through
A	Equipment for teaching and learning including 'low tech' equipment	Service provider
B	Assistive devices	Health Transversal contracts
C	Computer-related items (amalgamated with the specifications from Gauteng-on-line	SITA

These three separate lists were developed late on in the process. (*Appendix B revised, 30 July 2007*). This came about due to the failure of the first tender, and it is possible that if this had been done sooner the first tender might have succeeded.

The categories of devices are now to be ordered through the following classifiers:

- Blind
- Low vision
- Mobility
- Deafness and hearing loss
- Intellectual Disability
- Communication
- Learning support

Recommendations:

The classification system used by the Inclusive Education Directorate should be modified further, so that it is compatible with that of other agencies. It should be simplified and agreed so that it can be easily understood by other Directorates and departments. The Department of Health have queried why the Inclusive Education Directorate distinguishes between assistive technology and assistive devices.

Policy should be clarified between the Departments of Education and Health in terms of which Department would be responsible for the supply of which categories of devices. The high cost of devices makes it prohibitive for Education to supply all of them. Further, the current SITA standard list of ICT equipment does not make provision for assistive technology required by learners who experience barriers to learning. The tender process should ensure the development of a standard package for future procurement.

Discussion should take place with the FET Directorate on the supply of material resources to FET institutions. Although the roll-out of White paper 6 is supposed to begin with the GET phase, packages of material resources are already being supplied to FET institutions. The Directorate should ensure that further supplies to the FET sector align with current policies in this area.

The future budget of the material resources should relate to a budget for the alterations required to the existing school fabric. The Department should make sure that computers and other items provided can be stored safely, and that other classroom-related issues, such as the supply of suitable furniture (both in terms of the ergonomic design of the furniture and its ability to generate background noise in the classroom) is considered.

The provision of suitable furniture in the classroom goes together with the provision of material resources. The funding of these complementary elements should be discussed with the responsible parties at provincial level so that budgets can be aligned.

The provision of accessible transport for learners to and from school should be discussed further with the provinces.

The material resources service providers should consider the issue of alerting learners with hearing impairments for school breaks and in emergencies and work with the Inclusive Education Directorate in making a final decision about the most suitable equipment to provide.

The service providers appointed to provide the material resources should develop a comprehensive cost analysis. The cost element of this part of the project needs to be carefully considered by the Department, to ensure that the maximum number of learners can benefit from material resources, as and when they require them.

The cost analysis should include recommendations on the most cost effective way in which learners can be assessed to determine the most appropriate devices needed, especially in view of the shortage of therapists and other health professionals at district level.

The specification should be reviewed after the project to ascertain how to break the specification into different parts. This should include:

- Items that are used most frequently according to the different categories of disability.
- Items most likely to be used in a full service school setting (this should include an identified package of computer software)
- Items most likely to be used in a resource centre setting. (this should include an identified package of computer software)
- Items that should be supplied by the Department of Health
- Items that should be supplied by SITA

Survey of currently available material resources

It was unclear what resources were currently available to either full services schools or SSRC's. A survey was sent out in April 2006 to the selected schools (Special Schools Survey Form version A April 2006), both SSRC's and full service schools, in all provinces. This was to establish what was currently available in comparison to an ideal. The results of this were compiled on the project database. The provincial departments of education were responsible for compiling the surveys and some, to date have not been returned.

The inability of some provincial departments to return completed material resource survey forms is of concern. Given that in future provinces will be responsible for monitoring the provision of their own material resources once this national tender is complete, it could be that some schools do not receive the material resources that their learners require.

There was concern over the accuracy of the information returned. Anecdotal evidence indicated that some schools might not have filled in the forms correctly; anticipating that they might get more equipment if they indicated that they had little to begin with. In other cases it appears that, if the school had sourced equipment by fundraising, this was not reported in the survey; if the DoE had not provided equipment some schools took their own decision not to include it. In addition, the length of time that lapsed in the processing of the tender meant that the information on the equipment available at the school and on which the provisioning was based was out of date. This largely related to the supply of computers.

Recommendations:

Surveys of schools on material resource acquisition and availability should take place on a yearly basis and build on the information gathered in the initial survey. Thus school, district and provincial staff would recognise the surveys as part of their regular reporting systems and it would be easier to pick up anomalies. The survey form could include a column on the source of the equipment, to distinguish between DoE procured material resources and those obtained through fundraising. A decision should be made as to whether it would be better for the school to fill in the survey forms or a district official.

The Inclusive Education Directorate should begin discussions now with provinces that have not returned their forms. They should ascertain how these provinces intend to put systems in place for the monitoring and distribution of material resources. The current situation indicates that there is a problem in obtaining information, which is of concern.

The reports of the service provider tasked with the delivery of the first batch of material resources should carefully reflect on the lack of response from certain provinces to data collection and monitoring.

The Inclusive Education Directorate should also meet with FET and ascertain which schools they have supplied to ensure that there is not a double supply of equipment.

Appointment of a service provider

The CSIR initially drafted a number of project plans for the material upgrading of schools (*Material Resources Project Plan Version A 19 December 2005* through to *Material Resources Project Plan Version E 13 February 2007*). In the original plans the delivery of material resources, the training of staff and the completion of the upgrading of the physical infrastructure would be finalised at the same time. The Department of Education decided to run the physical upgrading of infrastructure through the provinces, but keep the supply of material resources as a national tender. The material resources process was revised a number of times and a variety of changes were made to the first tender; it developed over ten versions.

The development of a national specification, the national supply of material resources and a system through which it would function as an all-inclusive project had never been attempted before, and input from a variety of sources had to be considered. The changes that took place over these ten versions were in relation to the development of the specification for material resources; an expansion of the list of items that should be included, and changes in the roles and responsibilities of the service provider, the provincial and national Departments of Education.

At the stage of letting the first tender, the specification was all-inclusive, with the items that would normally be supplied by the Department of Health, and the universal items available in any well-equipped classroom.

In direct conflict with this was the limited budget. It was difficult to design an affordable project when not enough money was available to supply all the items on the specification, and, given normal tender procedures, the amount available could not be divulged.

The intention of the development of the tender document was to make it clearer for the service provider to understand, however, since the duties of the service provider and the specification expanded, it could have confused the tenderers. The first tender failed, for reasons described below; one of the contributing factors could have been an over-supply of information to the service providers.

However, it should also be recognised that the provision of material resources is a specialised field and only a limited number of suppliers are available. Many of the companies available also provide therapy and consultancy services and do not provide equipment only, therefore they had a tendency to focus on the supply of services, inflating the price.

Ultimately the Department of Education was unable to appoint a service provider for the provision of material resources until June 2008 and this part of the project is now due to be completed by the end of 2008. The physical upgrading of the schools is now being run separately through the provinces. Given the pace of the upgrading of physical infrastructure, it is likely that the material resources will be delivered prior to the completion of the physical upgrading in some cases.

Two attempts were necessary to appoint a suitable service provider. The first tender (Material Resources Tender Version 10, 12 February 2007) included an expression of interest based on the Department's classifier of material resources. Interested parties were asked to submit information on the products that they supplied. The specification was updated from this information. The tender was advertised as a closed tender, with a compulsory briefing, and submissions were received. Problems experienced during this process included:

- During the initial compulsory briefing it was made clear that the focus of the tender should be on the provision of material resources, with training provided to support their use. Through the compulsory briefing the tenderers decided to form a consortium and one tender was submitted. This tender process failed to deliver a suitable candidate as the cost of the submitted tender was too high. The consortium incorrectly interpreted the scope, placing too much emphasis on assessment, training and systems development and too little on the actual supply of devices to schools. This resulted in a huge inflation of the cost which would have made it impossible to deliver, and also unrealistic for the South African context. Therefore the tender process had to be re-run.
- The second process also included a compulsory briefing before the tenders were submitted. A clearer emphasis was put on the scope of work. In the second tender (*Material Resource Tender version 5, 30 July 2007*), it was made clear that the service provider would only supply items connected with overcoming barriers to teaching and learning, although they would be responsible for assessing the entire range of devices required, and liaising with government procurement sections. Other items would be provided through different sources; the universal items would be supplied through government suppliers, assistive devices through the Department of Health. Tenders were submitted in which service providers gave costed lists of devices to be supplied as part of their tender submission.

Recommendations:

Teething trouble was experienced in developing a process for the supply of material resources which aligns to the DoE's internal protocols. It is recommended that the Inclusive Education Directorate at national and provincial level:

- 1) Survey the availability of material resources in the next consignment of schools to be considered for upgrading, using the survey forms that have been developed from this project, after they have been finalised by the material resources survey provider.
- 2) Monitor the use of equipment in the schools that have currently been selected to assess whether the right levels of equipment have been supplied.
- 3) Ensure that the safe storage of equipment and computers, the supply of internet facilities and the provision of school insurance is monitored in the currently selected schools.

- 4) Ensure that the safe storage of equipment and computers, the supply of internet facilities and the provision of school insurance is also surveyed in the next consignment of schools to be considered for upgrading. Work should be completed on this element prior to the procurement of material resources.
- 5) Start negotiations for the funding for the provision of material resources to the next consignment of schools as soon as possible, along with any improvements required in terms of computer and storage security, internet access and insurance.
- 6) Build on the current processes that have been developed for the supply of material resources. These processes cannot be reviewed until the material resources service providers have completed their work. However, their final report should include recommendations for future procurement.
- 7) For future tenders, the project plan drawn up by the Department of Education should include realistic projections of the time required for all their internal processes to be taken into account. Revisions of the tender documents and re-letting of tenders should happen within the planned timeframe.
- 8) It is recognised that the process through which the first phase of material resources was supplied is unlikely to be repeated. Provincial departments are likely to contract with suppliers directly in the future using money that they have received directly from Treasury. However, the national specification, in a modified form, can be used and built upon as a database.

Awarding of the contract

The contract was awarded when the tender was re-let. The successful service provider was a consortium of three companies:

- South African National Council for the Blind
- Shonaquip
- Inclusive Solutions

The role of the companies who had been appointed for the provision of material resources included the following tasks to be completed by the following dates:

	Stage	Completion date
1	Situational Analysis and development of project plan	September 2008
2	Procurement of material resources	October 2008
3	Delivery, installation, and training of staff and users	November 2008
4	Development of process support and maintenance guidelines and a manual	March 2009
5	Drafting of systems guidelines for the correct use and storage of the resources	April 2009
6	Finalisation of the report	April 2009

The situational analysis

It was decided that the following schools would be visited:

Full-Service Schools	2 (see notes below)
Special Schools for Physical Disability	6
Special School for Blind and Low Vision	1
Special Schools for the Deaf	1(+1 school for Deaf and Skills Training)

Special Schools for Deaf and Blind	5
Special Schools for Deaf, Blind and Physical Disability	1
Special School for Multiple Disability	1
Special Schools for Severe Intellectual Disability	9
Special School for Severe Intellectual Disability and Deafness	1
Skills School	1

The situational analysis included:

- Developing survey instruments approved by the Department of Education prior to the visits taking place.
- Visiting 2 full service schools, one urban and one rural. It was decided that due to time constraints, the material resources service providers could formulate a generic package for full service schools, which would include assessment guidelines for assessing learners with barriers to learning in a full service school setting. The recommendations from these visits would be used by provinces and districts to determine the package required in the other 10 schools, and they would carry out the basic assessments.
- Visiting 30 special schools / resource centres, and assessing learners as agreed with the Inclusive Education Directorate.
- Determining the basic packages of devices for each school based on real needs of learners currently attending the school, or of learners who are known to the school who could attend if the correct material resources were provided.
- Providing survey reports on the readiness of sites for installation of material resources.

The visits are being conducted with the Department of Education and district officials. The Department will provide information on schools not visited, where they are still to be supplied with material resources.

The project plan includes requirements for:

- Detailed costed lists of devices to be supplied to each school.
- A detailed procurement, delivery and installation plan.
- A detailed training plan.
- A plan for development of guidelines.

SSRC's are provided with funding at the beginning of the financial year, for their needs. Given that in future they will be able to buy the material resources they require without having to go through a tender process. Each resource centre should, at the end of this field test project, be provided with a comprehensive list of the material resources they require to be fully equipped, by the material resource service provider. This list should be prioritised so that the SSRC is then able to procure items according to the funding that they have available.

The selection of devices should include:

- Finalisation of an initial provisioning basic package with extras per category of learner assessed, not a comprehensive material resources package.
- Cost-effective selection of resources and alignment with the budget available.
- The procurement and installation of the equipment:
 - Planning with the Department of Education procurement section on how and when to supply the agreed resources.
 - Early submission of lists to the Department to ensure delivery in accordance with the Programme.

- Facilitating the process at all levels, from correspondence with the procurement section of the Department to negotiation with the schools, to ensure the safe delivery of all specified resources.

Training should include:

- A training programme of not more than three days in length at each venue.
- Alignment of the training programme with Inclusive Education Directorate for monitoring purposes, prior to its delivery.
- The training would involve district officials.
- Focused training with identified devices.

The material resource service providers will develop a manual for use in their training on the use of the resources that they supply. This will include information on the product and on its correct use and care. It will include contact information in relation to future warranties. The manual should be as comprehensive as possible; given that the material resource service providers may not be providing some of the resources themselves. It will require liaison with government suppliers and the Department of Health where necessary, for their information.

The contract with the service provider has only just been signed, a process that has taken almost two months; due to DoE internal processes. Although the letter detailing the formal arrangements for the visits to the provinces was drafted in May, it was only approved by the DDG in mid July. This gives some indication of the additional time that is required so that the formal channels of the DoE are taken into account in project implementation.

Recommendations:

The service provider appointed to supply the selected schools is currently undertaking the project. It is recommended that they include the following issues in their final report to the Inclusive Education Directorate:

- The extent to which the needs of learners who experience barriers to learning have been met
- The surveying of schools with regard to the availability of and monitoring the availability of material resources.
 - This should include information on how many computers and what software is available. It should provide the whole package of material resources that are required; however, this package should be prioritised into long term and short term provision requirements so that these can be procured against available funding. It should include a breakdown of learner needs, both generic (universal) and specific.
 - This prioritised package should include procurement sources; wheelchairs that should be provided by the Department of Health, and so on.
 - It should also include an indication of the physical infrastructure in relation to computers and security for the safe keeping of computers and material resources. An environmental access audit of the schools is not required, as it forms a different part of the project.
- Problems encountered and recommendations for the procurement process.
- Problems encountered and recommendations for the delivery and installation of resources.
- Advice to the Directorate on how to monitor implementation.
- Recommendations on the guidelines for use, repair, maintenance and safe storage of the resources.
- Training: what was covered, (including copies of documentation provided) who was trained, copies of attendance registers.
- Insurance and Upgrading.

- On going supply of disposable items.
- On going support provided in relation to the equipment, and back up support for staff in connection with warranties.
- Future planning of project implementation, with the provinces, to try to avoid the delays caused by internal processes, or to plan around them.

6.4 Systems, capacity and interaction

Given that the material resources service providers are currently delivering on this section of the project, evaluating the systems, capacity and interaction is not yet possible. It is envisaged that there may be problems in the following areas:

Systems

The material resource services providers will deliver material resources and will initiate the systems for maintaining and monitoring the equipment. Their evaluation of these systems will be important for the Inclusive Education Directorate in planning the future roll out of the programme.

Given that the provinces will be implementing the project in the future, the development of a system for the supply of material resources will be the responsibility of the province and the districts in which the schools are situated. The material resources service provider can use their experience of procuring and supplying resources to highlight potential problem areas to the DoE. However, they will not be responsible for establishing the procurement and supply system.

Some schools may have systems for the procurement and supply of resources to overcome barriers to learning, particularly the SSRC's; although the survey results indicated that all SSRC's selected were under-resourced. Where systems do exist, it would be useful if the service providers could analyse the problems present in these current provisioning systems, so that improvements can be put in place for the future.

The service provider should also advise on the monitoring aspects for the procurement and supply of material resources, which they feel would be important for the province to develop in the future.

Capacity

It is envisaged that whilst the SSRC's may not have the material resources they require; current staffing levels will provide available capacity to maintain and make them available to learners, as long as personnel can be allocated. Staffing levels in full service schools may be over-stretched, and there may not be the capacity to maintain the resources.

It may be that in both full service schools and some SSRC's, support staff will not be available in each class to work with particular learners who experience barriers to teaching and learning. Teacher assistants appointed on a full-time or part-time basis to work with individual learners and free up teacher time, can be considered. The appointment of itinerant staff such as learning-support educators who provide mentoring support to teachers, is another cost-effective strategy. In terms of services related to assistive devices, therapists currently working only in SSRC's can assist with identification and assessment of learners in full service schools.

The material resource service providers should provide an impression of the current staffing availability for the assessment and maintenance of equipment. They should also provide strategies and ideas on how to meet the demands in the SSRC and full service school situation, and indicate the anticipated role of the DBST.

The material resources currently being procured will be supplied from at least three different sources. The material resource service provider will co-ordinate the supply. To avoid confusion in supply co-ordination, each school will need to know what is to be delivered, and who will be responsible in the school for checking its safe arrival.

The material resources service provider will train a number of staff in each school on the use, care and maintenance of equipment. The number of staff trained should form a core, so that, if some staff leave; there are still enough staff remaining who can retain the built capacity in the school.

Interaction

In some cases the SSRC will hold material resources for the full service school. The required system for managing this will depend on the circumstances in the district, as the distances between full service schools and SSRC's differ in each province. Also the storage capacity in full service schools and SSRC's differs.

Transporting resources when required to and from the resource centres, making sure that the resources are maintained and ensuring that they are returned in good condition may be problematic for the SSRC and the full service school. It is likely that the role of the district in supporting this will be critical.

Some districts may not have been able to establish DBST's due to staff shortages. Other contingency plans may need developing in such situations.

Recommendations:

The service provider appointed to supply the selected schools is currently undertaking the project. It is recommended that they include the following issues in their final report to the Inclusive Education Directorate:

- **Systems:** Procurement and supply; observations and identification of risks for future phases.
- **Systems:** Maintenance and management; experience in establishing systems, observations and identification of risks. A description of a standard for maintenance management.
- **Capacity:** Each school should identify a staff member to liaise with the material resource service provider, who knows what has been allocated to the school and who can help co-ordinate the receipt of the material resources. The staff member should be able to check the delivered items and report back to the material resources service provider on what is delivered when and what is still expected. Identification of staff responsible for the maintenance of material resources in each school, and a system of reporting in place through which the named staff member would work.
- **Capacity:** Details of the training programme including the documentation received by each school. A record of who have been trained.
- **Capacity:** An analysis of the most suitable staff/learner ratio for supporting learners in the classroom setting and a comparison against that, describing what they actually find in the selected schools.
- **Interaction:** A description of the current scenario in each assessed SSRC and full service school setting; between the SSRC, the full service school and the DBST. Specific problems with the interaction between full service schools and resource centres should be highlighted and a risk analysis undertaken to try to predict future problems.

6.5 Summary of findings and recommendations

The provision of material resources is still underway. The initial conception of the supply of material resources to designated institutions was very ambitious, and had to be modified. This prolonged the planning stage extensively. The project currently being implemented is more realistic in relation to the available resources.

Development of indicators

The indicators developed by the CSIR for each school relate to the learner experience, and to the systems that should be in place at the onset. These are as follows:

Material Resources		Impact
MR 1	School has access to materials and resources	<ul style="list-style-type: none"> • Computer facilities and support software in place and functional • Storage facilities in place and available • System for the maintenance and management of material resources in place • Percentage of learners in need of material resources at resource centres or special schools that have received an appropriate assessment • Percentage of learners in need of material resources at resource centres or special schools that have access to the resources they require for the time that they require them • Percentage of staff identified to support the use of material resources trained on their use
MR 2	Systems in place to maintain materials and resources	
MR 3	Capacity in place to support use of materials and resources	

The following recommendations can currently be made in relation to the material resources component as a whole:

Recommendations:

It appears that, the focus of the material resource provision has shifted. The initial aim was to focus on the full service schools, ensuring that, given their pivotal new role in the education system, they were fully equipped to accommodate learners with disabilities.

However, due to the evident lack of availability of equipment in resource centres, these are now the central focus. This will change the outcome of the material resource component, particularly in relation to the costing of the full service school. The costing of the loaning system from the associated resource centre, rather than the costing of the material resources should now be calculated.

The specification should be developed to include the procurement source. It should be possible to determine the basic package for a full service school and a SSRC. It is also important that the specification is prioritised for each school, so that each institution is able to use it as a tool to plan what to get in future procurement phases.

The material resource providers are already including additional items in the specification, although they included fixed costed lists in the tender. Additional provision will have an

inflationary affect on the final cost. The Inclusive Education Directorate should consider carefully the other aspects which might inflate the cost of this component and discuss all of them with the service provider.

The Inclusive Education Directorate should start working with provinces now on preparing to implement the systems that should be put in place, and to overcome monitoring problems on available material resources.

Provincial and national Inclusive Education Directorates should consider the staffing implications carefully. The material resources service providers will be able to provide useful insights into this, but the future planning of staffing the inclusive education system will rely on a wider study. It will be important to relate this element of the material resource provision to the Human Resource Development Strategy.

The final report of the material resource service providers could highlight a great deal of useful information. The DoE should ensure that the service providers are clear of the expected content of the report.

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7 Appendices

- 7.1 Full Service School Specification Version 1**
- 7.2 Maintenance Management Manual for Full Service Schools**
- 7.3 Outline Specification for Resource Centres**