Chapter Four: The Policy Framework

4.1   The following key elements underpin the use of ICTs in teaching and learning without constraining the teachers, learners and learning organizations in creativity, problem-solving and innovation. It encourages them to be fully engaged and participative in the teaching and learning process within an outcomes-based approach. This is dependant upon policy reforms, both within education and within other sectors e.g. the finance and telecommunications sectors.

Equity

4.2   The use of ICTs in education always involves choices about resource allocation. The drive for additional resources results from prior access to information and resources. The technically able and well equipped can often make more compelling cases for re-equipping than those who have poor or no resources. Technology tends to amplify advantage.

4.3   It is for this reason that the principle of equity should inform our approach and provide an alternative basis for supplying access to information and the allocation of resources. Equal access and equal competence must be the objective of our education system.

4.4   A technology baseline will therefore be developed to address the issue of equity,

Access to ICT infrastructure

4.5   The impact and effectiveness of ICTs rest on the extent to which end-users (learners, teachers, managers and administrators) have access to hardware, software and connectivity. For e-learning to be successful, learners must have regular access to reliable infrastructure.

Capacity building

4.6   ICTs are most effectively applied when viewed as integral to teaching and learning by both learners and teachers. ICT integration supports outcomes-based education, which encourages a learner-centred and activity-based approach to education and training. Any ICT integration requires that teachers engage in rethinking and reshaping their engagement with the curriculum.

4.7   Many teachers have grown up in environments with limited electronic technology, and thus find the adaptation to working with ICTs more difficult than their learners do. A programme that urgently addresses the competencies of teachers to use ICTs for their personal work, in their classrooms, must be developed. This will require extensive staff development and support. Thus, ICTs will be central to the pre-service training of recruits and the ongoing professional development of practising teachers.

Norms and standards

4.8   Current initiatives and donations of software and hardware have sparked debates on issues of open source, copyright, licensing, refurbishment and inter-operability, as well as human resource capacity building.

4.9   The need for national norms and standards for educational ICTs cannot be overemphasised. Calls for the scaling up of provincial programmes, in order to ensure equitable access to learning opportunities and to improve learner performance have been made repeatedly.

4.10   The aim of the Department of Education in creating national standards for ICTs in teaching and learning is to clarify compliance requirements, responsibilities and implementation mechanisms. Standards of teacher development, content, connectivity, hardware, software and community engagement cover the following areas:
- teacher competencies consistent with the National Qualifications Framework (NQF) levels;
- educational soundness of electronic content, for example, relevance, reliability,
- accessibility and usability;
- inter-operability of hardware and software, and connectivity to promote durability,
- scalability (to be delivered to a large number of learners) and flexibility;
- rights management, for example, licensing, branding, trading and legal compliance;
- network and information security; and
- community engagement.

4.9   Educational soundness standards for content will include:
- content relevance and reliability - the purpose of the content is readily apparent;
- it adds value to teaching and learning tasks, includes processes and criteria for learner assessment, and is compliant with outcomes-based education;
- accessibility - content is compatible and inter-operable with existing software and hardware; it complies, where feasible, with accessibility standards for learners with disabilities and barriers to learning; and
- usability - content is easy to use and recognise.

4.10   Inter-operability of content standards will include:
- accessibility - content must be accessible from many locations;
- inter-operability - learning components developed with one platform or set of tools
- can be used in another location with a different platform or set of tools;
- durability - technology changes can be made without redesign or recoding;
- scalability - the ability of a system (both hardware and software) to be distributed to large numbers of learners in diverse locations; and
- flexibility - the ability to use and remix learning components from a range of sources.

4.11 Rights management norms will include:
- equitable rights licensing - negotiation of intellectual property licensing will benefit the education sector and investment shareholders, as well as stimulate the education resource development market;
- branding - provisions will be made for common structure, format and expression of rights information;
- flexible rights trading - rights can be traded in accordance with the digital, modular and dynamic nature of learning content; and
- legal rights compliance - licensing rights are honoured and trading rights are supported.

4.12 Flexibility will include flexibility towards:
- future changes in technology thinking;
- new developments in education;
- new technology innovations;
- multiple platforms;
- different software options; and
- using a mix of appropriate technologies.

4.13. e-Education will enhance the development and growth of the relevant existing legislation and regulation such as Telecommunication policies and national e-strategy.