Chapter Three: The Use of ICTs in Education

e-learning (learning through the use of ICTs)

3.1 The introduction of information and communication technologies (ICTs) in education represents an important part of Government's strategy to improve the quality of learning and teaching across the education and training system. The policy intention is to focus on learning and teaching for a new generation of young people who are growing up in a digital world and are comfortable with technology. GET and FET institutions must reflect these realities.

3.2 The policy intention is not just to build technical skills, but also to use ICTs to extend and enrich educational experiences across the curriculum. The objective is to build digital and information literacy so that all learners become confident and competent in using technology to contribute to an innovative and developing South African society.

3.3 e-learning is about learning and teaching philosophies and methodologies within the context of outcomes-based education, using ICTs in the learning environment. Enriching the learning environment through the use of ICTs is a continuum; it is a process that takes learners and teachers through **learning about ICTs** (exploring what can be done with ICTs), **and learning through the use of ICTs** (using ICTs to support new ways of teaching and learning), supporting and enriching each other at the same time.

3.4 While e-learning will not replace teachers, it will enhance the quality and reach of their teaching and reduce the time spent on administrative chores. In introducing e-learning, we must make sure that we balance it with other teaching and learning methods. e-learning should recognise that its value is linked to its suitability to individual learning and teaching styles and strategies.

3.5 Learning through the use of ICTs is arguably one of the most powerful means of supporting learners to achieve the nationally-stated curriculum goals. It must however be very thoughtfully selected and integrated into educational planning and management. In particular, the use of ICTs for learning encourages:

- learner-centred learning;
- active, exploratory, inquiry-based learning;
- collaborative work among learners and teachers; and
- creativity, analytical skills, critical thinking and informed decision-making.

3.6 e-learning will be introduced as an integral part of an environment where teaching is transformed and where learning is an ongoing, creative process. This requires a changing teaching and learning methodology in which teachers and learners will have access to:

- high quality, relevant and diverse resources, beyond what school libraries are currently providing,
- means of communicating and collaborating with other learners and teachers; and

- opportunities to create and present new knowledge.

3.7 The quest for active contextual learning to promote understanding will be supplemented by multimedia applications that require learners to create realistic contexts for problem-solving, data analysis and the creation of knowledge in the learning process.

3.8 The introduction of learning through the use of ICTs is not merely about creating interesting tasks for learners, but furthermore to deepen their understanding. It require the use of higher-order thinking skills and taking learners beyond recall, recognition and reproduction of information to evaluation, analysis, synthesis and production of arguments, ideas and performance. The implications for teachers and teacher development are significant and the role of the teacher be redefined.

3.9 Currently, GET and FET institutions are tackling issues of excellence and equity. They are creating new learning environments that model a spirit of inquiry, inclusiveness and interdependence with learners who represent a wide array of cultures, languages and social backgrounds. Within this context, e-learning has the potential to offer teachers and learners access to a variety of learning and teaching support material that promotes the appreciation of diversity, a collective identity across the institutions and begins to connect them to the broader societal goals.

Assessment

Assessment is an important driver in education and, if not well-managed, can become a barrier to innovation. Once ICTs are embedded in learning and teaching reform processes, it can be effectively used, in conjunction with other methods, in assessment.

3.10 e-learning will require teachers and learners to reflect upon and improve their approaches and strategies to teaching and learning. This will have an impact of the skills levels of the teacher as a assessor. The efficient use of e-learning methodologies has the potential to enhance the quality and value of assessment.

3.11 Data analysis techniques can assist teachers to track learner achievements and review teaching strategies according to the insights gained. Teachers will also be able to give learners immediate feedback on progress, identify areas of weakness, and design necessary and appropriate support systems in a timely fashion.

3.12 The administration of assessment is a labour-intensive exercise. The use of ICTs in assessment has the potential to increase the efficiency and to streamline and safeguard data-transfer processes.

3.13 ICTs have the potential to simplify the administration of assessment. Time saved by teachers on administrative routines can be spent on giving direct support to learners and improve the quality of contact time.

3.14 In adult education and training, online assessment has the potential to increase participation by overcoming barriers such as location, time and cost, through "on

demand assessment". Adult learners who progress at their own pace and wish to demonstrate skills acquired at the workplace should not be tied down to an inflexible timetable.

Increasing the efficiency and effectiveness of management and administration

3.15 ICTs are increasingly allowing GET and FET institutions and education systems greater access to timely, relevant and detailed information on many of the functions of schools. More complex information can now be collected, analysed and used at both institutional and system levels.

3.16 The rapid development of ICTs, the increased pressure for effective management of organisational performance, and a preference for self-managing institutions have resulted in the development of powerful management information systems. As with other types of organisations, schools and school systems are increasingly using management information systems for planning, monitoring, improvement and accountability purposes. ICTs have the capacity to automate processes and save time, thereby freeing managers to focus on instructional leadership.

3.17 If managerial functions at institutional and other levels of the education system are to be carried out efficiently and effectively, it is necessary that information of high quality is available at all times to inform decision-making. This points to the need for a reliable information system that provides defined objectives and the right information to the right people, at the right time and in the right way.

3.18 Educational leaders do not yet fully appreciate the benefits of e-learning and e-administration for institutions and for provincial and district offices. It is important that educational leaders at all levels of the system are provided with the necessary support to enable them to manage the introduction of ICTs and the related change processes.

3.19 In order to increase the administration of education through the use of computerised information systems, the Department will develop standardized templates for management, statistical analysis, record-keeping and reporting.