SECTION 3: POLICIES AND STRUCTURES

In this section, national policies, which pertain to ICTs in higher education, are discussed. Given that higher education is a national imperative, no provincial policies are recorded. Understanding of policy in this report is data-driven. It can be described as contemporary rather than classical in that it meets the criteria of Crump and White (1993) in taking a critical perspective, having an ethnographic, sociological approach, avoiding models, highlighting micro-politics, and seeking to identify loci of power. This view assumes a need to encourage further research.

3.1 NATIONAL POLICIES

While ICTs for education at schools and in the institutions of further education and training (FET) are prioritized at national policy level in South Africa (Department of Education, 2003), there is no coherent national policy framework specifically steering ICTs and higher education in South Africa (Czerniewicz, 2004). In fact, there is no specific educational technology policy for higher education, nor is there any monitoring or coordination of relevant related policies.

References to educational ICTs in a number of related educational policies do exist in *ad hoc*, limited and indirect ways. Discourse on ICTs in the knowledge society is found in higher education documents as well as in related policy arenas. For example, the higher education *White Paper 3* (1997): 'A Programme for the Transformation of Higher Education', stipulates in sub-section 1.13, that 'Successful policy must restructure the higher education system and its institutions to meet the needs of an increasingly technologically-oriented economy...'. The National Plan for Higher Education also observes that

> These challenges have to be understood in the context of the impact on higher education systems worldwide of the changes associated with the phenomenon of globalization. The onset of the 21st Century has brought in its wake changes in social, cultural and economic relations spawned by the revolution in information and communications technology. (2001:5)

The importance of ICTs for education, specifically teaching and learning, is noted also in 'The Foresight ICT report' (1999), one of twelve reports tackling specific aspects of the South African society and economy as part of South Africa's National Research and Technology Foresight Project. The report notes:

> As economics move from the industrial paradigm to the Knowledge paradigm, ICT will have a growing impact on the learning and development of individuals and organizations… Focus is needed on needs-driven, ICT facilitated, virtual learning…(1999:49)

This echoes sentiments expressed in national human resources and research development documents, which also stress the importance of ICTs and explicitly mention the role of higher education institutions. The National Research and Development Strategy (2002) of the Department of Science and Technology states that

> …we have to ensure that as many of our people as possible master modern technologies and integrate them in their social activities, including education, delivery of services and economic activity. This relates in particular to communication and information technology. …we have to devote the necessary resources to scientific and technological research and development…. (2002:3)

The strategy declares universities and research institutions key role players in the national system of innovation (NSI) and states (in Section 2.2) that the sector would expose itself 'to insurmountable security risks' if it does 'not commit to maintaining and developing competencies across the system (universities, research councils, private sector, etc.) in critical strategic areas' (2002:21).

Higher education's role in developing a knowledge society in South Africa is made quite clear in the National Plan:

> Higher education has a critical and central role to play in contributing to the development of an information society in South Africa both in terms of skills development and research. In fact, as Manuel Castells, the noted social theorist of the information revolution as argued, "if knowledge is the electricity of the new informational international economy, the institutions of higher education are the power sources on which a new development process must rely". (1997:2)

The focus of the Foresight ICT report is on ICTs as a content area, but pertinent reference is also made to technology-enhanced learning. The report makes explicit the link between economic change and educational change:

> Through access to the information society, many new methods of education and training become possible.
>
> "ICT-enabled, world class learning methods" is one of the aspects of ICT that the respondent group believes offers the greatest prospects of wealth creation and improvement to quality of life for the citizens of the country. (1999: 54 & 79)

It also stresses the importance of ICT-related graduate competencies:

> The acquisition of new skills and continuous learning are needed to develop a population of effective users. The aim is to graduate students who are not only computer literate, but knowledge literate. (1999:23)

This echoes the National Plan, which reads:

> A priority of the National Plan and higher education – [is] to produce graduates with the skills and competencies required to participate in the modern world in the 21st Century. (1997:1)

These competencies are also mentioned in the schools' policy literature. The role of higher education in ensuring that teachers are technology-literate in their classrooms is emphasized:

> There is a need to ensure that the new generation of teachers emerges from higher educational institutions with an understanding of how to incorporate and use ICT in their schools teaching. This in turn would imply that their higher education experience would take place in a congruent environment. (Strategy for Information and Communication Technology in Education: Departments of Education and Communication November 2001, 25)

The Foresight Synthesis Report: Dawn of the African Century (2002) includes among its recommendations that

> …the human resource base should be developed in schools and colleges of education. This should include the training of teachers on the use of Internet and multimedia technologies. Rural and outlying schools could be linked with tertiary institutions. (72)

By implication, these policy statements refer to teachers of all subjects emerging from all disciplines. It is not known to what extent higher education teacher training structures have integrated these imperatives from different policy arenas into their strategic planning and curricula.

The Foresight Report is of interest in relation to the subject of this report, because it is a non-educational document, which recognizes the possibilities of ICTs in education. It observes the role that ICTs can play in education:

> VSAT and DTH services can aid access to communication and information in remote areas, which can be combined with other facilities to support distance education….(26)

It is evident that ICTs and education are integral, often implicitly, to a number of education, science and technology, and human resource policies and structures. In addition, there are numerous national ICT policies, structures and initiatives, which define and steer a national commitment to ICT take-up. This can be seen in the development and implementation of e-commerce policies, general ICT policies, telecom competition policies, telecom regulatory policies and e-government policies,[5] all of which frame educational possibilities and intersect with higher education.

However, a concern has been expressed within the ICT sector itself about the lack of up-to-date policy coordination:

> Although the centrality of ICT to economic growth and poverty alleviation has been widely articulated, and although various departments have initiated ICT policy visions, and although Presidential commissions and national strategies have been established over the last few years, currently no integrated ICT policy framework exists for the country. Until this framework exists, ICT policy will be uncoordinated, *ad hoc* and often undermined by duplication.
>
> To find a broad national vision, a review of policy and strategy in the telecommunications sector is required, *a review that will need to be integrated far more systematically into other national policies in the areas of innovation, research and development,* ***education****,* health, *and e-government.* (Gillwald & Esselaar, 2004) [emphasis added]

It is essential that higher education should participate in and play a leading role in such a national policy review. Specific policies need to be closely interrogated and the intersections between them examined, in order to ensure that the needs and interests of higher education are being addressed (or, at the very least, are not being overlooked). The fragmentation of references to ICTs in higher education across so many pertinent policy documents leads to contradictory decisions being made, as well as unintended consequences occurring. Such a lack of coordination also opens up the possibility of key issues falling through the cracks. The lack of a single critical eye on these issues is a matter to be noted and addressed at a national oversight level.

[5] Numerous examples exist, including, for example, the Telecommunications Act of 1996, The Convergence Bill of 2005,the Electronic Communications and Transaction Act (2002), and the ICT Charter (2004).

3.2 INSTITUTIONAL POLICIES

At the institutional level, there is a continuum of policy examples of ICTs in higher education. On the one hand, there are formal policies complete with strategic plans and regulatory procedures, as well as statements of policy principles. There are a number of cases of draft policies or of individuals tasked with producing them. On the other hand, there is a significant group of institutions where there is no evidence of such policies at all.

The policy approaches observed can be summed up as follows:

- *Approach 1* – Institutions with formal policies in place
- *Approach 2* – Institutions with ICT-and-education policies incorporated into related policies
- *Approach 3* – Special merger issues
- *Approach 4* – Institutions with no evidence of any policy frameworks
- *Approach 5* – Institutions with relevant structures, but no policy frameworks

Approach 1

This approach is typified by serious attention to institutional ICT and education policies, although to different degrees of detail. A handful of institutions have detailed and comprehensive policies and associated documents in place. Stellenbosch University, for example, has an E-Campus strategy, an e-Learning policy, and a general IT policy. The E-Campus strategy is comprehensive, incorporating all university business specifically including e-Learning, e-Information, e-Student administration, e-Research, and e-Services. The document talks of Electronic Information and Communication Technologies, all of which, it is understood, will improve the quality of the core functions of the university (teaching, research, and community service). The e-Learning strategy is separate and focuses on ensuring a minimum online presence for all courses by the end of 2004. The "minimum electronic presence" is defined as a module outline (with outcomes) on the Web and some form of electronic interaction or communication, for example, e-mail or a Bulletin Board (van der Merwe & Pool, 2002).

The University of Pretoria provides another case of a detailed institutional policy framework, with its Telematic Learning and Education Innovation Strategic Plan 2002-2005 (September, 2002). The strategy outlines an integrated approach to the attainment of quality teaching and learning practices, and the production of well-rounded, creative, and productive graduates who are ready to lead in modern careers.

It specifically mentions technology enhanced education; education technology; and ICTs (Section 2.4). The same institution also has an Electronic Communications Policy (March 2004) and University Technology Plan.

While it may be of interest that the two institutions with the most explicit policies and generous resource allocations are historically advantaged, Afrikaans medium institutions, it is not clear whether this is true of all such institutional types. It may be worth enquiring further into what the impact of such institutional choices might be on the higher education sector as a whole.

Other institutions have formal policy or strategic documents which make their key principles and intentions clear, although there do not, as yet, appear to be accompanying operational or implementation documents. For example, the University of Cape Town's Education Technology Policy (2003) outlines an integrative approach to the use of educational technology, encourages (rather than compels) ICT

usage, and prioritizes a linkage between ICT and pedagogy in ICT usage. The policy defines educational technology as a 'knowledge domain that deals with the articulation of education and information and communication technologies (ICTs)' (1). A similar example is the Tshwane University of Technology (TUT). The TUT has a Teaching, Learning and Technology (TLT) programme, which appears to be substantially based on Pretoria Technikon's pre-merger TLT Strategy. The programme encourages educators to enrol for and commit to at least 12 months – to focus on 'well-rounded technology enhanced courses that address specific challenges such as large groups, retention rates, geographically dispersed learners, non-traditional students…'. (2001)

The University of the Western Cape's Integrated Information Strategy (IIS, 2002) forms the basis of its draft e-Learning strategy as an implementation goal. Among the stated goals of the IIS is the production of graduates who are able to use technology to find, understand, apply, analyse, synthesize, evaluate and report on information from a wide variety of sources and who are competitive in twenty-first century careers. The overall goal of the ICT policy, here, is the support of overall educational values: to strengthen its participation in the global academy of scholarship, and to build a world-class research and publication profile while producing postgraduates who are internationally competitive in their fields (2). The draft e-Learning policy elaborates on strategic objectives of the IIS, outlines an implementation framework as well as time frames, and allocates responsibilities across different sectors and persons.

Other institutions are either working on draft policies or acknowledge the need for them. A policy was still in draft form in July 2004 at the University of Fort Hare, and a draft educational technology policy was being formulated at the University of Free State. In several cases, policies are being written from the ground up. Two interviewees, appointed fairly recently to coordinate ICTs in education in their institutions, commented that among their first tasks was the requirement to produce "some sort of policy document" to frame their work.

Approach 2

In some cases, ICTs and higher education are incorporated into related policy documents. The Durban Institute of Technology (DIT), for example, has no educational technology or general IT policy, but includes the use of ICTs in its Learning, Teaching, and Assessment (LTA) strategy. Spearheaded by a Centre for Higher Education Development (CHED), the LTA strategy represents a campus-wide shared understanding and a best practices policy on innovative teaching, learning and assessment at the DIT. Emphasis is placed on learner-centred flexible education with increased access, information sharing, and on-going knowledge construction. Key terms are web-based learning, distributed learning, blended learning, and online learning – which are also presented as the main ICT tools. As mentioned earlier, there is a strong focus on the Web, on 'sustaining and growing web-based learning…' and a 'multi-layered approach to the development of web-based learning practitioners' (Fregona & Pete, 2004). In another case, a respondent from a large urban university commented, "There is simply not a policy on the use of e-Learning or on the use of technology in education here. The policies that we have [are] the teaching and learning policies on curriculum development, on assessment, and on evaluation of teaching and courses, those three".

Approach 3

Because of the mergers, in some cases, it is difficult to assess whether newly formed institutions have policies that apply across the new structures. In two cases, where a historically advantaged institu-

tion had merged with an historically disadvantaged one, it was possible to identify a relevant policy located in the historically advantaged partner. The University of Johannesburg, for example, merges Vista University East Rand and Soweto campuses with the Rand Afrikaans University (RAU). Within these campuses, the former RAU has a policy on Access to Information that guides and directs the use of electronic resources. This university also has a multimodal teaching and learning strategy with a major focus on student constructivist learning, using various methods of access and presentation of teaching and learning events. Methods include traditional face-to-face teaching as well as computer-mediated technology.

In a second case, the University of KwaZulu-Natal (UKZN), which incorporates the former University of Natal and University of Durban Westville, there appears to have been no separate ICT policy at the former UDW. The former University of Natal had a Strategic Initiatives policy (2000) that outlines commitment to quality teaching and learning with educational ICT playing a major role. Here, ICTs were argued to be a driver of a paradigm shift, as well as supporting and enhancing existing education programmes. References to online learning include phrases, such as Web-based learning and open learning (UN, 2000). Open learning networks were seen as facilitating distance education and access, and as promoting life-long learning.

Approach 4

In some institutions, there seem to be no frameworks at all regarding the use of ICTs in higher education. This was true across all institutional types, and includes the University of Witwatersrand and the Walter Sisulu University of Science and Technology (previously University of Transkei, the Border and the Eastern Cape Technikons) where the only related documentation identified were guidelines on access to information at the Border Technikon. The Nelson Mandela Metropolitan University appeared to have no general IT policy; there were no educational technology and no IT-related teaching and learning policies at either UPE or Vista PE that could be identified. Similarly, the North West University (previously the universities of the North West and Potchefstroom) does not appear to have created or inherited educational technology, general IT, or teaching and learning policies from any of its constituent campuses.

Approach 5

In one case, the Cape Peninsula University of Technology (a merger of the former Cape and Peninsula Technikons), there were no inherited formal documents on educational technology, yet the institutional Web site suggested a strong commitment to the use of educational technologies, including the practice of e-Learning and the use of a WebCT learning management system. In this institution, information technology is described as 'having redefined the way in which business is conducted and the way in which learning is delivered'.

Thus, it is argued, the use of technology is defined by the nature of the institution, and not policies. In a related way, while no relevant policy was unearthed at Peninsula Technikon, a massive investment in a large computer laboratory has recently been made, a key statement in terms of resources.

And finally, while no evidence of a separate policy on the use of technology in education was found at Rhodes University (there are policies on curriculum development, on assessment and on the evaluation of courses), there is a relevant structure, the Technology Roundtable, which investigates issues relating to the use of educational technology on campus.

The last two cases of the Cape Peninsula University of Technology and Rhodes University provide examples of institutions which operate without written policy frameworks, yet have relevant structures, the purpose of which is to focus on ICTs and teaching and learning within the institution. It is therefore clear that, in order to understand what is happening in institutions, it is necessary to look beyond formal policies to the institutional structures formed in this arena.

3.3 ORGANIZATIONAL FORMS

The form and location of organizational structures is revealing as these indicate something about how that institution views the nature and role of educational technologies. Even without formal policies or regulations in place, there are relevant structures in existence at most institutions, located in several settings, including teaching and learning structures, higher educational development structures, IT structures and faculty departments.

In the institutions surveyed, the largest concentration of expertise is located in teaching and learning structures. Both Wits and Stellenbosch, for instance, have e-Learning coordinators in a Centre for Teaching and Learning. The coordinator at Rhodes University is located in the Academic Development Centre. This can also vary. At the University of Johannesburg, the Centre for Teaching, Learning and Assessment has combined with the Bureau for University Education, while the former Cape Technikon had both a structure for e-Learning, and one for Teaching and Learning, each with its own dedicated premises.

A more recent trend has been to set up structures called Centres for Higher Education Development. In three cases, programmes for ICTs in higher education are to be found here. The DIT's Technology in Education Project is located in its newly formed Centre for Higher Education Development (CHED), and the recently appointed e-Learning coordinator at the University of the Free State is in the Centre for Higher Education Development Studies (CHEDS). Similarly at UCT, the Multimedia Education Group, which existed until the end of 2004, was located in UCT's CHED, while the new Centre for Educational Technology (which succeeds MEG) is also located in CHED.

The location of such centres in learning and teaching structures represents a significant shift from the past, and signals an emphasis on the educational role of educational technology. However, despite this, a supportive champion is an important element in the power play of legitimacy and growth. Hence, one e-Learning coordinator noted that their director (of a teaching and learning structure) had no interest in e-Learning and had not included that element in the current strategic plan. By contrast, there are examples of relevant structures being closely aligned with institutional strategies and senior level support; the new Centre for Educational Technology at UCT, for example, is closely integrated with other developmental structures which exist to facilitate and to support academic development within the institution.

There are still instances where structures are located in the ICT services structures. This is usually because champions supporting the work are located there. In one instance – the University of the Western Cape – the head of the Teaching and Learning Technologies Unit in 2004 reported to the Executive Director for Information and Communication Systems who has been responsible for the institution's IT and e-Learning strategies. Similarly, the UKZN's structure for ICTs in Educational Development (Howard College campus) seems to be located in the IT Services for historical reasons. It is an unusual mix of roles including teaching, research, support and development. In another case,

the IT person himself suggested that such work should be located elsewhere, in a teaching and learning structure he said, rather than in an IT structure where it is presently found.

Some institutions have two structures, which divide the roles of support, development, research and teaching along traditional academic/non-academic lines. Thus teaching and research of ICTs is likely to be located in academic departments such as the education or information systems department. Other structures play support, service and/or development roles. This division of labour differs from institution to institution as does the extent of collaboration – and any associated tensions. At one university, for example, there exists a close partnership between the coordinator located in the Academic Development Centre and the academic course convener located in the Education Department, with shared teaching and research projects taking place. In other cases, there is evidence of more tensions. In one example, a respondent in an academic department was quite dismissive of the kind of research being conducted by the institution's structure for ICTs in higher education. In a third case, the respondent in the teaching and learning structure commented how difficult it was to collaborate with colleagues supporting online e-Learning in an ICT structure.

These different arrangements may be due to a lack of senior level overview of the kind of integrated work required of ICTs in higher education, itself a new area crossing over several disciplinary domains. They may also reflect long-standing tensions within universities between the craft knowledge of practitioners in what are generally regarded as support posts, and the specifically discipline-based knowledge of traditional researchers.

In addition to listing existing structures, it is also important to note which of the key players are active, which are passive, which are present and which absent. This is part of the process of '…identifying the significant actors within a particular political system and exploring how those actors seek to protect and extend their authority, their institutional character and responsibilities and their budget' (Samoff, 1994:21). This kind of political jostling may be suggested in the range of titles and levels of these positions. These titles include: Coordinator of Technology and Education; Convener of Computer-based Education programmes; Director, Centre for Educational Technology; Convener, Computer-based education; E-Learning Coordinator; Coordinator of Master's in Computer Integrated Education; IT Manager; ICT Manager; Coordinator of Education and Technology; Senior Adviser: e-Learning; E-Learning Project Leader; Interim HOD, Information Systems and Technology; and Director, Centre for IT in Higher Education.

The terminology used for different positions is likely to be in accordance with the language of local structures, which may favour terms, such as 'coordinator' or 'manager' depending on the culture of the particular institution. The term convenor indicates an academic role, while the term manager generally does not. The lack of standardization of these position titles may hint at different roles, divisions of labour and educational priorities.

It is important to note, however, that a lack of standardization may only be an indication of the emerging status of this field of educational development. The fragmentation and dispersed location suggest how important individual champions remain at this early stage, especially given the absence of dedicated, coherent policy frameworks. Actors may express self-interest, but also have different roles and may be representatives of other interests. These interests are all held in some kind of tension and may be balanced or compromised, and of course, these tensions exist within implicit power relations. Thus policy-making touches on the nature of the democratic process and the relationship between the key parties.

This section of the report has touched on the relationship at an institutional level, between individuals, emerging organizational forms, roles and practices and current uncoordinated policy frameworks. It is essential that these relationships be explored more fully given the crucial role being played by educational technologists implicitly and explicitly as change agents. Through decisions and choices on the ground, important decisions are being made framing an emerging policy framework. While this daily work is exciting and often innovative, it needs to be guided or enabled by conscious policy principles that exemplify the clear objectives of South African higher education.

It is also important to look closely at the key players in terms of their roles, competencies, career trajectories, and so on. Such work can draw on the existing work established in the United States of America and more recently in the United Kingdom, but it must also be fully localised in the context of South Africa's shortage of skills, uneven human capacity development, and competing higher education needs.

Some of the questions which need to be answered, in order to begin to articulate a national policy framework for ICTs in South African higher education include:

- How are the effects of educational technology activities being facilitated by designers and coordinators of learning being felt and being played out?
- To what extent and in what ways are such people acting as agents for change?
- What are the implications for meaning-making and learning outcomes in South African higher education institutions, now that educational technologists are acting as 'brokers' across academic disciplinary domains?[6]
- What kinds of training and competencies are needed to encourage a coherent strategy for ICTs in South African higher education? The process of developing standards is part of the reification of practice leading to 'a canon of knowledge' (Wenger's term used in interesting ways in Jones's 2004 paper). While work has been done in the United States to name the competencies of "instructional technologists" (Surrey & Robinson, 2001) and the United Kingdom (Beetham, Jones & Gornall, 2001), such work has yet to be undertaken in South Africa.

3.4 POLICY BY IMPLICATION; POLICY THROUGH EMERGING PRACTICE

As has been noted, there is no overarching policy framework for the use of ICTs in higher education in South Africa, such as is found in many countries, including England, Australia and Canada. However, it has also been pointed out that there are policies being made implicitly and in practice, where policy is understood to mean 'any course of action (or inaction) relating to the selection of goals, the definition of values or the allocation of resources' (Codd, 1988:235). Indeed, the state's non-intervention in this area is also a policy statement with its own implications that need to be explored (Offe, 1996:75).

It is clear that there are fragmentary and uncoordinated references to ICT in higher education in a number of related higher education policies as described above. These are likely to exert unintended influences. Policies 'take on multiple guises and can be viewed differently at many points of a complex system' (Kogan cited in Ranson, 1995:430). Thus, although policy exists in the form of an allocation (or non-allocation) of national state resources, there is an emerging policy in the form of an implicit allocation of values. It is, therefore, essential to continue to conduct research into the ways these fragments are being understood and taken up in practice.

[6] See Conole 2004, and Jones 2004 for some useful UK work in this area

In line with such authors as Christie, 1996; de Clercq, 1997; Ball, 1994; Corbitt, 1997, the concept of policy-as-practice (or what Christie calls practice on the ground) is seen as central. Policies are usually represented in a formal way, through legislation or the like. But there may be times where status and commitment can be seen through practice, by observing that something has gradually become the case. This gradual change means that it may be difficult to identify the moment when that practice became so widespread that it has, *de facto*, become policy. Policies about ICTs in higher education are seen as emerging from organizational structures and practices. Actions being taken express decisions, and the discourses of implementation are revealing. As expressed explicitly by respondents earlier, in many institutions, policy intentions are first being formally marked and only articulated at a later stage.

Clearly, attention needs to be paid to the issue of a potential single national policy. There are arguments both for and against an overarching policy, especially in the light of the currently policy-intense higher education environment. A national policy would provide a clear statement of principles, and express values in relation to overall intentions and goals. Such a policy could play a role in ensuring that the required human resource development could take place in a coordinated way and in a manner that is appropriate and responsive to local conditions. It could also play a role in an accreditation system for the emerging career paths of people working in this field. On the other hand, a national policy might spawn additional regulations which change-weary academics and managers could be resistant to even if the intentions were sound. There is also the problem of resourcing given that the national department is already so financially stretched.