1. INTRODUCTION

The increasing involvement of government in enticing higher education out of its ivory tower is indisputably part of a global trend. According to the 1997 White Paper on Higher Education (DoE, 1997), higher education is expected to increase its responsiveness to societal interests and needs. It must therefore be restructured to meet the needs of an increasingly technologically oriented economy, and its institutions must deliver the requisite research, the highly trained people and the knowledge to equip a developing society to address national needs and participate in a rapidly changing and competitive global context.

The need for globally equivalent skills raises the debate about curriculum relevance. Productivity and competitiveness depend on the ability to produce highly skilled and adaptive knowledge workers who can manage and manipulate knowledge and information and adjust to volatile and unpredictable global markets. Such knowledge workers need to have well-developed problem-solving skills and be able to continually adjust their repertoire of knowledge and skills to changing environments. In such a context, it is frequently argued that the role of higher education shifts from an induction into the specialised knowledge of specific disciplines to the development of broad, generic and transferable skills. In essence, higher education institutions worldwide are being called upon to become more responsive to the needs of the knowledge economy.

As South Africa attempts to meet pressing national needs in a global context, curriculum responsiveness has become central to policy, and the higher education system is grappling with this as it rethinks the curriculum. While efforts to restructure curricula show evidence of institutions attempting to become responsive, the outcomes are sometimes incompatible may respond to immediate market needs, they may not produce the ‘self-programmable labour’ that is required for the new knowledge economy.

This raises the question of how higher education curricula should respond to the new knowledge economy and how curriculum responsiveness should be conceptualised. This paper explores the various dimensions of curriculum responsiveness and analyses strategies for addressing several of the opportunities, challenges and tensions involved.
2. CONCEPTUALISING CURRICULUM RESPONSIVENESS

Responsiveness is behavioural change when incited by a stimulus. It is a characteristic of biological organisms. Adaptation to changes in environmental conditions (‘learning’) is an ecological prerequisite of survival. Responsiveness is the drive to survive. As applied to universities, responsiveness means meeting society’s broad expectations that higher education will adapt to change and contribute to national needs. What is meant by ‘institutional responsiveness’ depends on the context, purpose and time of the response. Timing can be problematic. An example of ‘immediate responsiveness’ would be competing to win a contract to provide services. Here a university, like a consultancy firm, has to swiftly and expediently produce the best proposal to meet the client’s needs. An example of ‘substantive responsiveness’ would be clarifying graduate attributes, embedding them into the institution’s curriculum and teaching and assessment practices and inculcating them into its culture and practice – this may take some years. Different people viewing an institution’s performance at different points in time may therefore form different opinions about its responsiveness. There is an element of ‘continuous improvement’ implicit in the concept of responsiveness (Gallagher, 2001).

The review of international trends and the national policy have increasingly emphasised the responsiveness of higher education to the goals of economic and social development. At least in principle, policy documents such as the NCHE Report, the White Paper and the NPHE report have taken a broad approach to the issue, avoiding a focus purely on economic competitiveness (NCHE, 1996; DoE, 1997, 2001). Thus the NCHE Report (1996: 79) refers to the challenges of redress and development, while the White Paper appeals for the development of ‘enlightened, responsible and constructively critical citizens’. As Breier (2001: 6) observes, it is also significant that the NCHE cautioned that responsiveness should amount to more than a reaction to short-term or immediate problems. In its concluding statement on the development of a framework for the transformation of SA higher education, the NCHE Report (1996: 80) states that:

Responsiveness should also include an appreciation of the longer-term demands on higher education, that flow from a more universal, wider-ranging view of its nature and role in human affairs. This means the new framework will also have to provide enough room for the kind of freedom that will ensure autonomous academic inputs and discretion, so that those longer-term objectives of higher education which the market and the immediate social environment do not, and cannot, register can be attended to.

However, the NCHE criterion of responsiveness to societal interests and needs makes for contradictions. South African higher education institutions are expected to be vehicles of social redress by broadening access, improving success rates, and setting targets for improved racial and gender balances. They are simultaneously required to be increasingly market-oriented by competing for students, producing employable graduates, establishing niches and diversifying their funding base (CHE, 2002: 10).

In this regard, Singh (2001: 8) notes that universities’ traditional knowledge responsibilities are increasingly being located within the demands of economic
productivity and its requirements for particular kinds of knowledge and skills. The discourse of accountability and responsiveness in debates about the role and value of higher education is narrowly framed by the expected contribution of higher education to economic growth and competitiveness – in other words, market responsiveness.

Singh argues convincingly for the reinsertion of the ‘public good’ as a means of finding a way back to a more comprehensive conceptualisation of responsiveness. She defines the public good as ‘a set of social interests that are not reducible to the sum of interests of individuals or groups of individuals and that demarcate a common space in which the moral and political goals can be negotiated and collectively pursued’ (2001: 9). This notion of responsiveness proceeds from the position that the responsiveness of higher education to the general and specific needs of the economy is a subset of a more complex and multi-faceted notion of responsiveness. Thus, it is asserted that, in a country like South Africa where higher education institutions have broader social responsibilities than their counterparts in more stable political and economic systems, it is vital that social responsiveness is not entirely subordinated to economic responsiveness.

Similarly, Moll (2004: 16) cautions against reducing curriculum responsiveness to its economic dimension, namely an exclusive focus on responding to labour market requirements and preparing students for the world of work. Rather, he sees curriculum responsiveness as higher education programmes responding adequately to policy requirements and constraints, to the knowledge and disciplinary practices of higher learning and to the particular developmental and epistemic needs of individual students. He calls for a theoretical orientation that can explain how curriculum responsiveness emerges from these levels simultaneously. He has developed a multi-faceted or stratified model, as shown in Figure 1.
While he acknowledges that the hierarchy of his stratified model is tentative, he maintains that there is a necessary relationship between the various strata:

It is based on the idea that economic responsiveness, which at a policy level appears increasingly to be the dominant idea of what universities should be doing, can only be realised if tensions between the various elements of specific institutional and broader cultural practice in contemporary South Africa are systematically engaged. In turn, this cultural responsiveness can only be achieved in a situation in which disciplinary enquiry and rigour is not compromised, but brought into contact with problems and issues that arise in the local context. Finally, the model suggests that all three upper levels, in order for responsiveness to be fully achieved, require a systematic engagement with the learning needs and interests of students in a university environment. (Moll, 2004: 16)
The following discussion explores the various dimensions of the model and their implications for curriculum design in South African higher education. The final section of the paper refers specifically to initiatives undertaken at the Nelson Mandela Metropolitan University to respond to challenges raised by these dimensions of curriculum responsiveness.

3. ECONOMIC AND POLICY RESPONSIVENESS

The connections between higher education and the economy are a key concern in South Africa, where restructuring and multiple policy processes are affecting the core business of institutions. Globalisation and the development of knowledge based economies oblige higher education curricula to be economically responsive and produce graduates who can meet the country’s resource needs and participate in the world of the 21st century (Griesel, 2002: 54). The Council on Higher Education (2002: 1–2) points out that this raises key questions:

- What are the necessary attributes of high-level personpower in South Africa and what are the challenges of its formation and development?
- How can higher education respond to the needs of the labour market in a rapidly changing and dynamic economic and social environment and, in particular, in the context of the systemic changes which characterise the world of work in the 21st century?
- What are the most effective mechanisms, approaches and strategies for higher education to contribute to the demand for high-level personpower?
- What kinds of relationships should exist between the public and private sectors and higher education in the light of diverse social purposes that have been accorded to higher education?

Griesel (2002: 55–6) correctly points out that there is no single discourse or grand narrative either of what universities are best able to produce or of the attributes that best fit the demands of the world of work. However, some attributes considered to be the most important to employers are:

- Critical and analytical ability;
- Flexibility and the ability to apply knowledge to new situations;
- The ability to use information technology;
- Understanding of core processes and principles;
- Willingness to learn;
- Self-motivation and initiative; and
• Ability to plan and execute tasks independently.

Similarly, Jones (1996: 143) says relevant curriculum develops ‘personal transferable skills’ and the students’ ability to ‘learn to learn’, and Smith and Webster (1997: 18) say a university education is more than the ‘transmission of knowledge and techniques which would allow those who have mastered them to perform a given occupation’, and cite qualities that may be hard to measure but that are indisputably cultivated at universities, such as the ability to think conceptually and engage in rational debate.

Issues of responsiveness and employability are not accepted without reservations and there is another discourse that suggests the role of higher education is much greater than mere responsiveness to the labour market. This discourse argues that higher education must also respond to wider societal goals of a socially committed and critical citizenry that embrace the values of non-discrimination, tolerance, service to community and so forth. This discourse is particularly critical of what it interprets as the narrowing of the notion of responsiveness to the demands of specific professions, vocations and careers at the expense of the intellectual and critical functions associated with general or formative education (CHE, 2002: 4).

The Presidential Discussion Document on the Challenges Facing Higher Education in South Africa (2005: 11) points out that changes in the origination of knowledge and the advance of technology are revolutionising the concept of skill and the development of skills. It asserts that the notion that the economy is changing fast and that we need to adjust to the new skill requirements is a profound misunderstanding of what is taking place in the global economy.

Knowledge and technology are changing so fast that specific skills for specific needs increasingly have to be generated on the job. This in turn means that all dimensions – knowledge origination, technology advance and economic activity – need people with very high levels of generic knowledge. Stated another way, what is now considered necessary generic knowledge in any discipline or multidisciplinary endeavour is in fact highly specialised. People have to be exposed to the education process for longer to acquire such levels of specialised knowledge. This is true for all entry levels in the labour market. Most rapidly expanding advanced manufacturing and service industries cannot use entry-level workers who have not had a well-designed secondary level education.

It would be a mistake, however, to focus solely on economic skills, firstly because the domain of social interaction is changing as fast as the economic and technical domain, and secondly because social interaction is increasingly important in all human activity, be it economic or scientific. It is important not to fall into a technocratic approach that sees South Africa’s problem as the insufficient production of people with specific skills required by the economy. The economy and society need an education system that is more responsive in the sense of being able to adapt but also to lead by shaping the transmission of knowledge and producing the human leaders who can facilitate adaptation.
Hence the real challenge for the higher education system is to determine the skill sets and disciplines that are being drawn on most heavily by society and the economy at any point in time. Higher education institutions then have to ensure that they impart the highest possible level of knowledge and basic skills possible in that skills set or discipline. This requires a very close understanding of the surrounding society and the economy. In fact the university, particularly its faculty, has to be deeply embedded in that society and economy.

Furthermore, graduates of all higher education programmes, whether vocational, technical, professional or more general, must learn to live as responsible citizens. This means they must understand and take responsibility for their decisions and actions in terms of their acquired knowledge and skills. Graduates therefore need to develop cultural sensitivity, ethical awareness and responsibility, and a sense of the larger societal challenges within which they will conduct their chosen careers. This has profound implications for curriculum design. It also suggests that economic responsiveness should be integrally related to institutional and cultural responsiveness.

In this respect, Makgoba (2004: 3) writes that the South African university is an institution that obviously understands the need for skills development in pursuit of economic growth and competitiveness. However, he cautions that the effects of apartheid cannot be ignored and this implies that universities must recognise the need for the psychological rehabilitation of South African people, their cultural affirmation and the nurturing of their intellectual independence. This recognition filters into all aspects of the university, including its style of management, institutional culture and curricula.

In short, Makgoba (2004: 4) asserts that he does not perceive an incompatibility between the need for a productive higher education system that contributes effectively to the human resource, skills, knowledge and research needs of the country and the creation of a university that boasts an African and South African identity. This need for institutional or cultural responsiveness is discussed in the next section.

4. INSTITUTIONAL AND CULTURAL RESPONSIVENESS

Ekong and Cloete (1997: 10–11) point out that new types of knowledge production and dissemination are emerging where relevance is defined in terms not of service to the community but of how the feedback loops of different types of knowledge production contribute to productivity and competitiveness. However, another way to see the role of the curriculum is in terms of identity formation and citizenship, with the central determinants of curriculum responsiveness being culture and identity. This approach emphasises the role of higher education institutions in promoting peace and democracy worldwide as the true foundation of sustainable human development. Here higher education is cast as an essential factor in citizenship education, whereby professionals are educated to be capable of sound reflection and responsible action in the interests of a ‘world democracy’ that discourages ethnicism, racism, sexism, narrow nationalism and fundamentalism.
Singh (2001: 11–12) writes that the pervasive focus on an ‘enterprise culture’ in higher education has led to an increasing emphasis on private goods yielded by higher education at the expense of the broader social purposes of higher education. These broader social purposes include:

- Facilitating social justice through enhanced access to higher education to disadvantaged and excluded constituencies.
- Making it possible to pursue knowledge in ways that could extend the horizon of human understanding without always being constrained by considerations of immediate relevance or returns on investment.
- Ensuring that the function of higher education as the ‘critic and conscience of society’ is upheld as fundamental to the role of a critical citizenry in keeping democracy vibrant and substantive.

Pretorius (2003: 15) asserts that in a developing society like South Africa universities have an obligation to concern themselves with knowledge aimed at development. They also have to understand that the pursuit of academic excellence is intimately related to the extent to which they succeed in effectively engaging with the multi-layered, multidimensional environment in which they are located in ways that can be academically justified. The principal reason for promoting socially engaged knowledge generation for universities is that much of the knowledge that is required by universities to enhance their societal significance is embedded in the societal context or environment outside the university. Thus, socially engaged knowledge generation is promoted as an approach to academic practice that is aimed at both contextualising teaching and research for optimal social impact and maintaining the institutional integrity of the university by keeping its core institutional features intact.

This implies that the idea of a higher education institution as a ‘social institution’ has to be rehabilitated, particularly in the South African context where far-reaching social change is under way, democratic institutions are new and fragile, and social issues such as poverty, inequality and social justice need to be addressed. Barnett (1997: 7) adds that ‘critical being’ (encompassing critical thought, action and reflection) is central to socially responsive higher education institutions that play their full part in the continued reshaping of modern society. In this respect, Braskamp (1997) points out that being responsive and responsible are not necessarily synonymous. Being responsive implies that the university acknowledges and responds to the needs and priorities of the greater society in terms of knowledge generation and dissemination. However, being responsible in its service of society means that higher education should adhere to its calling of the free search for truth and its free exposition. In meeting the goals of the common good, higher education must be a critic of society, which society will not always like or appreciate. Thus, a tension exists – a potential incompatibility between scholarship and social relevance – and the solution is not to try to eliminate this tension between the producer and consumer roles, but to build on the creative and energising tension between responsibility and responsiveness. The academic community should address this tension through dialogue, debate, negotiation, and communication among the relevant communities of interest.
Schneider (1997: 125) adds that higher education institutions must assume a heightened responsibility for developing the knowledge of and social competence for engaging differences that are basic to a diverse democracy. The challenge confronting universities is to expand their previous embrace of intellectual pluralism or diversity and to articulate an ethos of democratic pluralism that places a high value on the ability to choose and act efficaciously in the face of difference. This calls for the inclusion of fundamental kinds of diversity learning in the curriculum such as:

- **Cultural knowledge:** Knowledge of diverse cultural encounters and cultural transformations.
- **Power:** Comparative historical knowledge of human projects to dominate other human beings and how oppressed communities have responded to such subjugations.
- **Equity and justice:** Study of democratic ideas, principles and aspirations especially as these relate to constitutional premises and principles.
- **Self-knowledge:** Study of one’s own cultural roots and sources of identity in all their complexity.
- **Study of diversity and equity in the context of one’s own chosen field of study:** Study of how issues of culture, power and equity manifest themselves in certain fields of study and in the individual’s moral situation within a particular field. Provision must be made for opportunities to integrate learning about these issues into the other dimensions of a particular field or calling (Schneider, 1997: 127–8).

However, it must be emphasised that issues of diversity should not only be incorporated as new curricular content to ensure that all students encounter them whatever their course of study. Rather, what is also required is new ways of learning that engage difference and construct social and intellectual conditions conducive to dialogue about different societal and intellectual perspectives. Thus, the most significant educational goals for diversity in the curriculum are achieved not only by transforming the content of the curriculum but also through ways of learning that are fundamentally collaborative, dialogical, deliberative and relational.

In the South African higher education context, one of the key issues in the demand for increasing openness concerns different approaches to the Africanisation of the curriculum. Dowling and Seepe (2003: 52) present an interesting perspective on the challenge of Africanisation, as follows:

> South African universities need to be sensitive to the developmental agenda of government and make a contribution to meeting the social and economic aspirations of the African people in particular. But there is more to the matter than this. We have seen that it is also necessary to examine the notion of a university within a South African context. Universities need to locate themselves firmly within African culture and value systems… they need to ensure that the African experience is at the core of the curricula.
According to Makgoba (2004: 2), the concept of an African university essentially means two things, namely, that an African identity provides access to a powerful and liberating consciousness that is worth defending and promoting, and that higher education institutions with an appropriate intellectual focus and institutional ethos can give Africa, and South Africa, a competitive advantage in the global arena.

He adds that Africanisation does not imply a rejection of European or Western knowledge systems, but that African scholars may raise alternative questions and that they offer a valuable interpretive key, not only to the African experience but the global experience as well. Furthermore, Africanisation means the African experience as a source of ideas that leads to exceptional and original scholarship as well as informed public policy. This implies that Africanisation entails a holistic transformation and it is a process that does not avoid issues such as curriculum content and the development of an institutional culture that is not alienating to those who choose to study and work within it.

Institutional responsiveness clearly encompasses a focus on changing the ‘way of doing things’ internally. This is a complex process in that institutional culture is embedded at many different levels and requires changes in structure as well as in attitudes and consciousness on the part of academic and administrative staff. The failure to frame a unifying institutional culture will be likely to compromise the promise and potential of the higher education restructuring process. Thus, to be culturally and socially responsive the curriculum must be located within the broader transformation project relating to institutional culture. It is difficult to see how curriculum reform can be effectively addressed without reflection on the manner in which the institution engages with its internal and external constituencies, the manner in which it listens to diverse voices, and the manner in which it creates open spaces for discussion between differing value systems and approaches. Without this vibrant development of an open space for critical intellectual discourse, and the willingness for institutional self-reflexivity, curriculum reform has little prospect of meaningful success.

This view is supported by Moore and Lewis (2004: 43), who write that issues of divergent pedagogic and epistemic orientations among academics, incompatible organisational cultures and inappropriate resource allocation models all complicate the process of achieving stable organisational forms to support the delivery of new curricula. Muller (2001) adds that institutional responsiveness, or the ability of institutions to respond to exogenous pressures for change (from policy or the market), are limited by the influence of endogenous factors at work within these institutions. Such factors may include the various knowledge disciplines’ amenableness to the direction of the suggested change and the institution’s capacity to ‘learn to learn’. Muller defines ‘learning to learn’ as the institutional capacity and inclination to respond to both threats and inducements by improving the social base for knowledge growth and its stabilisation.

Gallagher (2001) concurs with the above and adds that responsiveness as an organisational capability has structural, procedural and cultural forms. Structural flexibility can be affected by institutional scale and composition, including physical location and technology of provision, breadth of offerings, staffing organisation and access to skill sets – the more ‘fixed’ or ‘locked-in’ these factors are for institutions the lower their response capability will be. Procedural efficiency requires anticipation
and timeliness in decision making, well-developed stakeholder relations and market knowledge, adequate and reliable delivery systems, sound performance measurement and know-how. Cultural readiness involves opportunity orientation, client-centredness, openness to new views and approaches, preparedness to take calculated risks and willingness to collaborate. Universities have not normally been designed with such characteristics and therefore face the challenge of having to rebuild themselves in various ways.

To sum up, institutional and cultural responsiveness can only be achieved in a situation in which disciplinary enquiry and rigour is not compromised. This necessitates a focus on disciplinary responsiveness.

5. DISCIPLINARY RESPONSIVENESS

Economic, social, institutional and cultural responsiveness must be supported by rigorous and systematic approaches to knowledge development and dissemination in higher education curricula. A distinctive aspect of higher education institutions is their adherence to formal and principled procedures for assessing knowledge claims.

The following quotation from Slonimsky and Shalem (2004: 83) provides a useful description of what is meant by disciplinary responsiveness:

There is no universal way of producing academic knowledge nor a single conception of what counts as knowledge in academic practices. However, there are some orientations, conceptual tools and operations that are commonly used across geographical and historical contexts and also across conceptual positions (e.g. modernist or post-modernist). These include rational argument, the justification of claims, engagement with established knowledge (i.e. to refute it, extend it etc), proof or defence of a position, principled and systematic analysis or investigation, validity and/or reliability claims, peer review and specialised forms of communications which can transcend temporal and spatial boundaries… Academics impose ordering principles on the objects of investigation by framing and relating the objects of investigation through a principled or systematic gaze, developed on the basis of established knowledge and the object of study.

The call in the NCHE and other policy documents for a more open system of knowledge formulation and for new forms of knowledge production and dissemination (see NCHE, 1996: 5) recognises that knowledge may be produced in various sites and that solutions to complex problems may be generated within the context of application. Higher education institutions must provide their students with the conceptual framework to understand and assess the merits of such forms of knowledge in the repertoire of theories, methods and practices that evolve in specific disciplinary and interdisciplinary fields. For example, if indigenous medical knowledge is incorporated into the curriculum, students should think about how it could broaden our understanding of health care. Disciplinary responsiveness implies that university curricula should provide students with an effective and appropriate induction into the explanatory concepts and the techniques and practices that have been developed in various disciplines and academic fields.
National policy documents such as the NCHE Report and the Education White Paper have approached the call for greater disciplinary responsiveness in contrasting ways, which Ensor (2002) refers to as the disciplinary discourse and the credit accumulation and transfer (or credit exchange) discourse. The **disciplinary discourse** recognises the importance of disciplines as the basis for developing high-level knowledge and skills. Therefore it encourages the development of disciplinary programmes in one or more disciplinary majors. The **credit exchange discourse** argues that programmes should be designed more flexibly around a combination of modules that are not necessarily intended to deepen understanding and skills in specific disciplines. In this discourse, the call for greater responsiveness implies that programmes should almost always be multi-, inter- or transdisciplinary.

A review of curriculum change (Ensor, 2002) shows that the new academic programmes introduced by many institutions were aimed at promoting interdisciplinarity, portability, coherence and relevance. According to Ensor’s analysis, portability definitely did not increase. Attempts to achieve interdisciplinarity and relevance led to many institutions ‘packaging’ their programmes with titles relevant to the workplace, such as Tourism, Heritage Studies and Development. In many cases, however, interdisciplinarity was not achieved because the programmes were still organised largely on a disciplinary basis; contemporary curricula in the sciences and the humanities looked little different from the way they did before academic programme implementation began.

There is also a growing concern about interdisciplinarity, particularly at the undergraduate level. Without a disciplinary base, a ‘little bit of this and of that curriculum dumbs all students down’ (Muller, 2001). Interdisciplinary courses advantage middle-class students with cultural capital and disadvantage those from poor school and home backgrounds. The net result is increased inequality. Muller (2001) argues that skills for employability require in-depth learning, which is what disciplines provide and what is needed to produce ‘self-programmable labour’. A serious question must be raised as to whether many of the new, loosely configured, career-relevant interdisciplinary programmes can produce this kind of labour. According to Castells (2001), self-programmable labour means workers who have the built-in capacity to generate value through innovation and information, enabling labour to constantly redefine its work and add value. It is, of course, not a given that many of the traditional discipline-based courses in South Africa automatically produce innovative, transferable skills.

It is important to stress that disciplines remain important constructs that induct students into particular epistemic traditions relating to the generation and validation of knowledge. Similarly, as has been stated previously, the practices of specific disciplines provide students with an environment in which they can develop certain high-level skills and techniques. The ability of scholars and graduates to solve complex problems that cross various disciplines is usually grounded in their induction into the ways of understanding that are developed by specific disciplines. However, recognising the continuing importance of disciplines does not mean that programmes should necessarily be designed in a disciplinary manner and universities should attempt to achieve an appropriate balance between disciplinary, multi- and interdisciplinary programmes.
The following comments are made as guidelines for the process of curriculum renewal:

- Disciplinary programmes should continue to play an important role. They provide students with the necessary depth to develop the specialised knowledge and skills that may be required for specific vocational and professional careers and for advanced study and research careers. Responsiveness requires an exploration of the opportunities for developing multi- and interdisciplinary programmes that will become increasingly important for addressing contemporary societal and economic problems and challenges.

- Whether programmes are disciplinary, multidisciplinary or interdisciplinary, they will need to provide students with a coherent educational experience. Coherence can be conceived of in terms of both vertical and horizontal integration. Vertical integration emphasises the systematic development of knowledge and skills in a certain subject or field whereas horizontal integration implies that there should also be learning components such as capstone modules that integrate the range of disciplinary components. Furthermore, there should be a coherent selection of fundamental, core and elective modules from the contributing disciplines in order to achieve the overarching learning outcomes of the programme.

- Appropriate organisational structures should be created to promote the provision of disciplinary, multi- and interdisciplinary programmes.

Besides the above requirements for disciplinary responsiveness, curriculum design and teaching strategies must also take cognisance of the learning needs and styles of a diverse student body. This is referred to as pedagogical or learning responsiveness.

6. PEDAGOGICAL AND LEARNING RESPONSIVENESS

Ensuring that curricula are designed and delivered in a manner that is pedagogically sensitive to students from diverse educational and cultural backgrounds presents complex and demanding challenges for universities. Responsiveness in this fourth sense entails approaches to the design of curricula, instructional strategies, methods of assessment, and approaches to student support that take the characteristics and context of target student groups seriously. For instance, academic programmes should be delivered in ways that suit diverse learning styles, and curriculum design and assessment should enable students to acquire knowledge and skills in a meaningful manner that enables them to understand the inner logic of the academic practices and ways of understanding that they are trying to master.

Referring to the work of Slonimsky (1994), Moll (2004: 11) points out that all students who enter higher education are ‘disadvantaged’ in the sense that they need to adapt to an institutional and epistemic context that it unfamiliar to them. However, some students struggle more than others as a consequence of their specific learning
histories. The challenge is to enable students to change and develop their learning practices so as to internalise the new epistemic culture. It is also incumbent upon the university to transform its practices so that curricula articulate with students’ entry-level knowledge practices.

Orrell (2005) points out that a slightly different approach is possible, namely one that takes no responsibility for students’ levels and capacities for learning upon entering, but assumes considerable responsibility for the quality of their learning thereafter. This means curricula must account for students’ mastery of general skills such as effective communication, analysis, problem solving, and effective citizenship and social interaction. To achieve this, academic units need to ask:

- What is worth learning in a university?
- What kind of learning tasks will engender the kinds of learning we deem important?
- How can we determine whether students have learnt what we wanted them to learn?
- How can we give students feedback that will help them to be their own critics in the future?

To enhance pedagogical responsiveness, universities must balance what are often competing needs that require quite different teaching and assessment strategies. Academic staff will need to weigh up:

- Teaching merely prescribed knowledge and skills against helping students develop really useful dispositions and ways of learning.
- Accountability to the requirements of a discipline or profession against developing independent thinking and student autonomy in establishing learning goals and needs.
- Safety and rigour against creativity and originality.
- Reproduction against transformation.
- Fixed content based curriculum against student centred curriculum.

Responsiveness to learning thus demands that university academic staff concentrate not only on what is taught in a course, but also on how it is taught. This implies that the curriculum is responsive to the learning needs of students by teaching them in terms that are accessible to them and assessing them in ways that they understand (Moll, 2004: 8). Holtman et al. (2004: 12–13) write that ‘good teaching practice’ can facilitate deep approaches to learning and enable students to actively build and transform their cognitive and knowledge structures. They suggest some principles of ‘good teaching practice’ as a means to this end:
• Making clear to students the purposes and intended outcomes of the learning task;

• Ensuring that the learning outcomes, selection of content, and teaching and assessment methods are coherent and aligned;

• Developing an appropriate motivational context so that learning is meaningful to students;

• Providing opportunities for students to test, extend, reflect on and revise their ideas through performances of understanding; and

• Creating powerful learning environments that focus on student activity, interaction, variation in task demands and the application of knowledge to real-world problems.

Dunkin and Lindsay (2001) furthermore point to some implications of the shift in the student population, including the need for new ways of teaching and learning, the application of adult learning theory that calls for a wider range of learning experiences (and respect for and recognition of students prior experiences), and the tailoring of courses to meet the needs of paying customers. They contrast the assumptions that traditionally underpin curriculum design for a cohort of students starting higher education straight from school with those relevant to a cohort of lifelong learners. In designing teaching and learning programmes universities tend to assume that:

• The target audience are school leavers with minimal life experience and a high need for structure and guided learning;

• This group needs an initial post-secondary qualification to begin a career;

• The students are full-time and/or available to attend campus based instruction;

• Programmes should reflect professional/vocational or disciplinary specialisations; and

• Academic staff provide the gateway to knowledge expertise and their role is to disseminate this knowledge.

Yet those who pursue lifelong learning are commonly:

• Working adults who are accustomed to managing themselves in work or life;

• Forced to juggle competing demands for their time and their resources;

• Increasingly seeking updated or further formal education to support their career, and the frequent and lateral moves that are now open to them;
• Facing problems at work that are multi-faceted and require systemic or team-based solutions and approaches; and

• Able to access knowledge and information through several different avenues.

Thus, a new set of expectations of university responsiveness, now driven more directly by students themselves, is rapidly emerging. The competitive pressures of the future are likely to urge increasing responsiveness.

From the above exposition, it is clear that curriculum responsiveness is a multi-layered concept that cannot be simplistically reduced to any one of the strata outlined above. Higher education institutions in South Africa need to respond to the challenge of enhancing the responsiveness and relevance of their curricula in a holistic manner to ensure that the various dimensions receive adequate attention. They need to record and critically reflect upon successful and failed curriculum responsiveness projects so as to enhance the capacity of the South African higher education sector to ‘learn to learn’. The final section of this paper is thus devoted to sharing certain practices and initiatives evolving at the Nelson Mandela Metropolitan University (NMMU) that may help the institution respond to the challenge of enhancing curriculum responsiveness.

7. REFLECTING ON CURRICULUM RESPONSIVENESS INITIATIVES AT A MERGED COMPREHENSIVE UNIVERSITY: A CASE STUDY OF THE NELSON MANDELA METROPOLITAN UNIVERSITY

To establish its reputation and long-term viability in the new higher education landscape and address the multiple challenges of the national policy context, international trends, and the expectations of employers, civil society and students, the NMMU has to develop a coherent planning framework for curriculum design and renewal. This framework will guide decisions about the consolidation and further development of the Programme Qualification Mix (PQM) and about academic structures.

Such a framework will need to take its cue from the characteristics of a ‘comprehensive’ university as defined in national planning documents. Gibbon (2004: 5) outlines these characteristics as follows:

• Diversity – through the offering of a diverse range of academic programmes (vocational, career-focused, professional and general formative) of both university and technikon type.

• Accessibility – through the opportunities created by a variety of entry and exit points.

• Student mobility – through developing strong vertical and horizontal articulation pathways.
• Responsiveness – through the development of a suite of educational programmes and research foci appropriate to local, regional and national needs.

• Flexibility – through the strengthening of relationships with community, civic, government, business and industry partners for local and regional development. Flexibility should characterise the institution’s ability to meet the human resource needs of the local (and wider) context through its training programmes, and to contribute to the development of the communities it serves through the application and extension of its knowledge and expertise.

The NMMU will thus need to adopt a systematic, cyclical approach to programme planning and review to ensure that its PQM is optimally aligned with national steering mechanisms. The most immediate challenge for the NMMU is to negotiate its academic profile within the institutional typology of the South African higher education landscape. The distinctive feature of comprehensive universities is their ability to offer qualifications across the full spectrum of the HEQF (Higher Education Qualifications Framework). However, each comprehensive university should negotiate a balance between programme types that is appropriate for its context, including the demands of the local and regional environment.

To develop and implement a coherent academic planning framework the NMMU therefore needs to understand its educational mission as a comprehensive institution in a global knowledge society, and the specific challenges of higher education in South Africa. The way the NMMU defines its educational mission should be reflected in the range of its academic programmes, its academic priorities and focus areas, its programme framework, and its approaches to curriculum design and delivery. All these will enable the NMMU to translate its commitment to engagement and sustainable development into the practice of the educational experience it offers its students. Some of these aspects are discussed in the sections that follow, to highlight the ways that higher education institutions can enhance curriculum responsiveness.

7.1 Aligning institutional strategic priorities, academic focus areas and academic planning

The NMMU’s academic planning must be informed by broad institutional priorities as there are spelt out in various planning documents – the Vision, Mission and Values Statement, the Strategic Priorities and the Academic Focus Areas. The NMMU has developed a set of eight Institutional Academic Focus Areas (IAFAs), which will support its vision and mission of contributing to sustainable development on a regional, national, continental and global basis. These focus areas are:

• Health and wellness.

• Economic and business development with a focus on job creation and entrepreneurship.
• Materials, infrastructure and process development for industry and manufacturing.

• Emerging Information and Communications Technology (ICT) for development.

• Environmental and natural resource management.

• Culture, communication and language.

• Leadership, governance and democracy.

• Educational development through excellence in teaching, learning and assessment.

These IAFAs imply that the NMMU will foster expertise in certain academic fields or areas. The NMMU should become known for its excellence in selected academic programmes that specialise in one or more of these focus areas. Opportunities should be explored for developing new academic programmes and reconfiguring existing ones, so as to achieve an adequate alignment between the PQM and the IAFAs. This means that the institution should make every effort to support existing academic programmes with well-established reputations in these areas and to further strengthen other programmes in these areas. Selectivity in support of excellence also means that the profile of the PQM should be weighted towards programmes in one or more of the identified areas, while the availability of modular choices in broader formative programmes will be restricted by available expertise. Concentrating on the IAFAs requires careful consideration of curriculum design, so that the learning experience provides for the optimal development of knowledge, skills and values in these areas. For instance, curriculum design may revolve around the systematic exploration of a certain theme or field of practice.

The process of programme review and consolidation at the NMMU affords an opportunity for assessing how far the identified academic focus areas present a realistic assessment of the institution’s unique strengths and opportunities in terms of factors such as geographical location and the reputation of its current research, academic and community engagement programmes. Academic planning at the NMMU also has to take into account national priorities with respect for education and training in specific academic fields.

7.2 Programme focus of comprehensive universities

As for all comprehensives, the NMMU must strike a balance between various types of programmes ranging from the technical and vocational to the general formative, and between the qualifications it will offer in various types of programme. Here it should be noted that the Ministry of Education reaffirmed the National Working Group’s proposals that the primary intention behind the creation of comprehensive institutions was ‘to strengthen the provision of technikon programmes through ensuring that
technikon programmes are available throughout the country, in particular, in rural areas, which are currently inadequately serviced in terms of technikon provision’ (DoE, 2002: 24). This is a one-dimensional view of the purpose of the comprehensive universities that have been created through the restructuring process in South African higher education. It fails to capture the potential of an institution such as the NMMU that has been created through the merger of a university and a technikon, and that is located in a vibrant urban growth area.

It is certainly important to guard against academic drift towards ‘university type’ programmes to the detriment of the technical and vocational programmes that have traditionally been associated with technikons. It would therefore be a serious mistake for the NMMU to underplay the continuing need for well-designed academic programmes with a vocational and technical orientation. However, career focused and professional programmes are the major area where the NMMU should exploit the potential of the synergies provided by the merger. The University’s mission statement says the institution will offer ‘a comprehensive range of academic programmes emphasising professional and technological education’. This clearly implies that the NMMU identifies professional, career oriented and vocational education as priority or growth areas, although it does not discount the importance of general formative qualifications.

At a recent NMMU planning workshop, the Vice-Chancellor of the NMMU outlined a possible model for the programme framework of a comprehensive university. It makes provision for analysing the types of academic programmes currently offered by the NMMU (Figure 2) and identifying areas where programmes can be consolidated or where there are opportunities for increased articulation (Figure 3).

**Figure 2: Types of programmes that the NMMU is currently offering**

![Programme Types](image)

- **PG**
  - General university track degrees
  - More professionally oriented university track degrees
  - Professional university track degrees
  - Professional technikon track degrees/diplomas
  - More professionally oriented technikon track degrees/diplomas
  - Vocational and technical (more specific career-directed) technikon track certificates/diplomas

- **UG**
  - Present articulation arrangements? Largely ad hoc

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These figures illustrate the possibilities for consolidation in the areas of professional and career focused programmes, and suggest that a focus on these types of programmes should be a distinctive characteristic of the NMMU as compared to the universities of technology and the traditional universities. Such a model also suggests that in a comprehensive university it may not be possible to adopt a single curriculum model for all programme types and that a differential approach may be required. Firstly, the most appropriate curriculum model for vocational/technical programmes and general formative programmes appears to be one that works on the basis of separate tracks, given the distinctive nature and outcomes of these types of programmes. Secondly, in cases where there is complete or high correspondence, such as the programmes that lead to the BEd and BTech in Education qualifications, the programmes could be fused to form one programme, as has been done at the NMMU. The selection of modules that make up the fused programme may be based on existing modules from constituent programmes or new models may be developed on the basis of the programme’s learning outcomes. On the other hand, a variety of curriculum models may be considered for professional and career oriented qualifications, namely the shared stem, Y- or inverted Y models. These models present different approaches for accommodating the more theoretical and applied contents of programmes.
The choice of curriculum models raises important questions about curriculum design, such as what the requirements will be for articulating between different types of programmes and whether they will be consistent. For instance, will the same articulation requirements apply to all students who want to articulate from a diploma to a four-year professional degree or a three-year general bachelor’s degree, or will different academic fields be allowed to develop different articulation requirements?

It is essential to ensure that the curriculum model(s) and articulation arrangements enhance the institution’s capacity to respond to its broader societal context, the priorities of the national developmental agenda, and also maintain its unique institutional strengths and niche areas. This requires *inter alia* careful consideration of the impact of enrolment planning on curriculum responsiveness in each higher education institution.

### 7.3 Impact of enrolment planning on curriculum responsiveness

The consolidation and further development of the NMMU’s PQM should be guided by a clear understanding of the range of programmes that the institution will offer in the broad fields of Science, Engineering and Technology (SET), Business and the Humanities (including Education), levels of study and alignment with the IAFAs. The NMMU will need to consider whether it is feasible and desirable to change its institutional shape from the current approximately 60 percent of FTE enrolments in SET and Business and Management to the 65 percent enrolment proposed by the Department of Education (DoE). The NMMU has indicated to the DoE that more time should be granted to move to this enrolment distribution. Such a move, which accords with the NMMU’s targeted growth strategy, needs to take the DoE’s enrolment capping mechanisms into account.

However, the NMMU’s challenge for the immediate future does not lie in DoE enrolment capping, but rather in the implementation of a sustainable growth strategy focusing on its identified growth areas, supported by a process of academic programme consolidation and renewal that will lead to increased student enrolments. While there is sufficient room for growth in SET and Business and Management, further attention needs to be paid to the growth strategy in these areas. Should it entail a change in the distribution of enrolments at undergraduate certificate/diploma and degree and postgraduate levels? What are the knowledge fields within these broad areas in which the NMMU has existing capacity and strength, and where is there a need for new curriculum development to address the IAFAs?

As far as the Humanities are concerned, there is room for continual enrolments but also for targeted growth. The DoE’s enrolment planning parameters do not curtail the maintenance and further development of strong Humanities programmes that contribute to the responsiveness of the NMMU’s academic programmes. Again, academic planning with respect to the Humanities must take place in the context of consolidating areas of strength and addressing identified institutional academic priority areas.

In sum, the consolidation of the NMMU’s academic programme structure during 2006–2007 should be based on a strategy for stabilisation that will largely maintain
the status quo of the main academic fields of study and levels of study, but also
provide planning parameters that define the NMMU’s character as a comprehensive
institution.

7.4 Fostering multi- and interdisciplinarity through appropriate academic
structures

Naude (2003: 70) points out that, in the recent past, the average South African
university would organise academic structures around discipline based departments in
tightly confined faculties. However, the current situation reflects an array of
pluralistic institutional arrangements, from maintaining discipline based departments
to a loose configuration of multi- and interdisciplinary programmes in schools and/or
colleges. Furthermore, faculties themselves are reconfigured and merged (in some
cases renamed) to reflect complex academic relations due to their increasingly
complex and diverse compositions.

At the NMMU, an extensive consultative and planning process was undertaken to
debate and finalise academic structures that would protect the integrity of academic
disciplines while simultaneously fostering the movement towards and growth of
multi- and interdisciplinary programmes. To this end, intra-faculty structures make
provision for both departments and schools to ensure that this movement significantly
improves the quality and integration of the curriculum and that the curricular
advances generate additional opportunities for synergy in teaching, learning, research,
and community engagement within and across faculties.

In addition to the abovementioned academic restructuring, various other initiatives
have been undertaken at the NMMU to enhance the institution’s capacity to support
curriculum responsiveness. Some of these initiatives include:

- The adoption of institutional strategic priorities that articulate with the vision,
  mission and values of the NMMU and translate these broad directional
  statements into more concrete actions at an operational level. These strategic
  priorities form the basis of decisions taken within the parameters of the
  resource allocation model as to which activities and programmes are
  strategically important and worth resourcing, particularly in a context of
  financial constraints.

- Specific interventions to ensure closer alignment between the institutional
  strategic priorities, academic focus areas and resource allocation. It is
  envisaged that institutional operations and budgeting practices will
  increasingly be geared towards supporting and enabling the institutionalisation
  of the academic focus areas to ensure that the institution pursues academic
  excellence in a targeted manner.

- A multi-faceted approach to post-merger academic programme review and
  consolidation using criteria that simultaneously measure quality and inform
  further planning with respect to institutional strengths, the desired academic
  structure, required articulation arrangements, and appropriate curriculum
  models in the context of a merged comprehensive university.
• A dedicated and integrated focus on access, academic development and support for students as one of the strategic priorities of the NMMU. A division named Higher Education Access and Development Services (HEADS) has been established to provide for access, placement and admission research, foundation programmes, student counselling and academic development for staff and students. This division works closely with academic staff to ensure that pedagogical and learning responsiveness receives the attention it deserves, particularly in the light of the pending introduction of the National Senior Certificate in South Africa.

• The adoption of a comprehensive approach to multi-campus management to promote synergies between similar academic programmes by situating them on the same campus in support of a campus-specific niche that articulates with the overall vision and mission of the institution. In this way, it is envisaged that the allocation of academic activities to the eight campuses constituting the NMMU will encourage and foster multi- and interdisciplinary curriculum developments across the historical binary divide that was previously perpetuated by operating similar ‘university type’ and ‘technikon type’ programmes on different campuses. The approach to the allocation of academic activities to campuses will also serve to enhance social and economic responsiveness by situating academic programmes and other engagement initiatives close to the primary constituencies or stakeholders that they serve.

A number of other initiatives are under way to ensure that the NMMU’s goal of being an engaged and people centred university is realised. However, the above initiatives have been highlighted as specifically directed towards enhancing curriculum responsiveness with its various dimensions at the NMMU.

8. CONCLUSION

The days when universities could live in a world apart, if ever they truly existed, are long since over. No independent nation in the modern age can maintain a civilised way of life unless it is well served by its universities; and no 21st century university can succeed in its double aim of higher education and the pursuit of knowledge without the goodwill and support of government and other societal stakeholders. Governments are therefore bound to give universities the assistance they need to perform their proper functions; but in turn universities are bound to be vigilant to see that they give the services to the community that are required by the necessities of the age. Universities should, in drawing on national resources to fund their activities, keep clearly in mind the national interests which are bound to weigh with societal stakeholders, and with those considerations in mind seek to present these stakeholders with a coherent picture of what the universities are doing, and seek to do, for the South African community.

Key to demonstrating their relevance to society is the need to ensure that universities are responsive to the country’s developmental agenda and that they produce graduates
in sufficient numbers with the requisite skills to enhance national competitiveness and productivity in a global context. However, it would be irresponsible of higher education to narrow its focus to merely responding to labour market requirements and it is thus essential that curriculum responsiveness is viewed as a multidimensional concept with economic responsiveness as a subset of other equally important imperatives such as social, institutional, cultural, disciplinary and pedagogical and learning responsiveness.

In sum, South African universities are confronted with a variety of challenges in enhancing curriculum responsiveness, but success in addressing these will only serve to enhance their survival and ensure that they thrive as vibrant contributors of knowledge generation and dissemination in a knowledge economy.

REFERENCES


