CHAPTER 2

TRANSFORMATION, CHANGE AND INNOVATION IN HIGHER EDUCATION AND THEIR IMPLICATIONS FOR STAFF DEVELOPMENT

2.1   Introduction

In the previous chapter, an outline of the research design, methodology, research questions, problem statement and an overview of the rationale for the study were given. The clarification of certain nomenclature (namely, change, educational transformation, innovation and staff development) were also included to orientate the reader towards the context in which this study was conducted and to offer a better understanding of the concept of staff development. In this chapter, these terms are explained further and a connection made with how they relate to the research problem and impact on staff development, by offering a review of the relevant literature.

In subsection 1.4.3.1, it was indicated that the objectives of the literature search were to examine which factors are contributing towards educational transformation in higher education, how they influence the professional tasks of academics and what impact this influence will have on the nature and character of academic staff development. This chapter addresses and identifies the predominant elements that drive educational transformation and ultimately academic staff development.

Similarly, according to the discussion in the problem statement given in subsection 1.2.4, the problem that needs to be addressed is that the dynamics of educational transformation have presented numerous challenges for academics and they would need training and development in the implementation of the ideas of policy makers. The dilemma therefore, lies in deciding on the nature of academic staff development that would achieve academic excellence while accommodating the imperatives of educational transformation.

To set the scene for the rest of the chapter, this chapter starts, by critiquing the changing nature of higher education and some of the criticisms leveled against higher education institutions, and briefly argues whether these negative sentiments are warranted. Next, a review of the impact of technological advances on the teaching/learning process and the implications this will have on the professional functions of academics and consequently staff development, is given. Thereafter, the paradigm shift in teaching and learning is explicated and the influence on the development of staff is outlined.

Additionally, in response to the concerns that the focus of conventional tertiary education might not be the most effective or relevant preparation for future professionals, curricula have had to be reinvented to produce graduates with skills that are more relevant and with a higher utility value. In this regard, the philosophies and practices of two major innovations, namely OBE and PBL are discussed. The implications of these curricula innovations on staff development are covered wherein a review and analysis is attempted. Following this, an overview of the change process and how individuals might respond to change, as well as strategies to effect change, is explained.

Finally, that higher education institutions are undergoing radical change and transformation, not only in South Africa but world-wide, is well documented in the literature. Therefore, this chapter highlights the concept of educational transformation from a national and international perspective, using the examples of South Africa, New Zealand, the United Kingdom (UK) and Australia.

2.2   The changing nature of higher education

The technology revolution, the expansion of knowledge, innovations in education and socio-economic changes are exerting a major influence on the way in which higher education institutions are being managed. While higher education institutions are being lambasted for not changing fast enough and in tandem with the demands of a rapidly fluctuating society, the literature also shows that concerted efforts are being undertaken to effect changes that would better prepare graduates for their role in a postmodern, technocratic society.

To support this argument, an analysis of how certain parameters (technology, the teaching/learning process and curricula transformation and innovation) directly affect higher education, are given. These changes will have an impact on the training and development of staff since they are the ones directly involved with the implementation of the innovative programmes. Therefore, this issue cannot go unattended.

2.2.1   Criticism against the slow pace of change

The Education White Paper 3 on higher education transformation in South Africa (Department of Education 1997a:9) describes one of the main purposes of higher education institutions as providing the labour market "with high-level competencies and expertise necessary for the growth and prosperity of a modern economy". Therefore, universities have been transported to the marketplace and unless they can meet the educational and market needs of society, they stand to lose their relevance.

As knowledge changes and new technologies are introduced, new jobs are created, new training and some updating in existing knowledge is required. Although much of this occurs in the workplace, where it does not, universities have to respond quickly (Jarvis 2000:57-58). Moreover, many employers are taking the initiative to "train" their own employees because they feel that universities have been slow to acknowledge the dramatic transformations in the economic, social and technological environments in which their graduates will work. To this effect, universities have to reinvent themselves and redefine their role in the production, preservation and dissemination of knowledge. They have had to rethink their missions and become entrepreneurial, more managerial and more flexible (Candy 2000:275).

Despite these changes required of universities, Jarvis (2000:54) criticises universities for still operating as if they were functioning in a pluralist society, almost free from commercial pressures. They still regard themselves as creators and disseminators of that knowledge, rather than the respondents to wider societal pressures. This demonstrates their inability to change rapidly while sometimes even resisting change, although they may appear to be autonomous and innovative when adapting their programmes.

As a testimony to this, employers increasingly lament that the education system in not producing graduates prepared to fill the kinds of jobs created by a new economy. Having made this point, Swenson (1998:2) warns that if qualified workers aren't coming from tertiary institutions, employers will look elsewhere or attempt to prepare them on their own.

Does this mean that there is a risk that the redundancy of tertiary education institutions is imminent? Hardly so. This is the postulation of Candy (2000:276) who advances a strong argument that universities have a distinctive and enduring educative role in the production of lifelong learners. Far from being considered redundant by the move to an information-based society, universities are in fact needed more now than ever. In a world dominated by knowledge, they represent knowledge at its highest. The following quotation reflects this sentiment:

"There is a unique and distinctive role for universities in developing in their graduates the ability and predisposition to take the values of scholarship to the organizations and communities which they serve" (Candy 2000:275).

Emphasizing the importance of HEIs in the development of society, is this assertion by Ajayi, Goma and Johnson (1996:199, 205) that: "The priority of the university must be first and foremost to ensure that it gives credible education". If the training of graduates is poor in quality and substance then

their contribution to society will be mediocre and this will impede real national development and progress. Indeed, the standard and quality of life in any country depends increasingly upon the power of knowledge, and socio-economic development is becoming more knowledge-intensive.

Furthermore, the purpose of higher education is manifold: 1) It meets the learning needs and aspirations of individuals through the development of their intellectual talents and enables them to use opportunities presented by society, 2) It provides the labour market with people possessing high level skills and knowledge necessary for the growth of a modern economy, 3) It is responsive for producing citizens who are enlightened and responsible (Department of Education 1996:5).

It is with this tone that the rest of this chapter will be written. In this writer's opinion, notwithstanding the criticisms, governments and higher education institutions around the world are making concerted efforts to transform and be innovative because they recognize the importance of higher education in a rapidly changing, knowledge-driven technological world. This is so that learners can develop attitudes and skills for a lifetime of learning. Note also that the Dearing report (Dearing 1997a:par 4.2) acknowledges that higher education has become central to the economic well being of nations and individuals. This is largely because knowledge is advancing so rapidly that a modern competitive economy depends on its ability to generate that knowledge and use it effectively.

Further, that HEIs are changing in tandem with the demands of a technocratic society is attested to by Davies (1998:175) who purports that higher education has become internationalised as students travel to learn and as providers "export" themselves through distance methods of delivery and new communication techniques such as the internet, satellite broadcasting, video-conferencing and other mechanisms that use virtual technology.

The following subsection is concerned with the changing trends in higher education which are in tandem with the nuances of a knowledge-based, technologically driven society.

2.2.2   Changing trends in higher education

While universities might be criticized for not changing fast enough to meet the demands of a technocratic, knowledge-based society, by no means are they immune to the pressures of change.

What impact, then, does globalisation, technological advances and a changing, knowledge-driven society have on higher education? A review of the literature reveals that the changes that are occurring at higher education institutions are in response to the changes that are taking place in

society. For example, technology has influenced the teaching/learning process (Gilbert 1995:47, Rogers 2000:22-23, Millis 1994:456 and Kishun 1998:63). That we live in a knowledge-driven society which requires learners to be self-directed, life-long learners, capable of thinking critically and creatively and who possess adequate problem-solving skills, has demanded that there be a shift from a traditional approach to teaching and learning to a more student-centred approach (Swenson 1998:1-6 and Candy 2000:271-275).

It must be remembered that knowledge in a changing society is perishable. What is learnt today is forgotten tomorrow. The contemporary person has to assimilate and interpret vast amounts of disconnected information all the time. This places an enormous burden on his/her limitations to receive, process and remember information at a faster pace. Education, at tertiary level, especially, should teach the individual to classify information, to be critical and to look at problems from different directions. Learners have to be able to manipulate data and know when and how to replace it (Toffler 1971:374).

Another factor contributing to changes in higher education relates to a changing student population. More "non-traditional" students, namely disadvantaged, older and women students are seeking a tertiary education. This would entail a change in the way educators would need to handle these students (Cross, in Millis 1994:456).

Also, in the future, universities will have to become embedded in a process of knowledge production which will involve many more participants. This will entail more alliances and partnerships with different institutions and businesses, namely collaborative arrangements. Thus, knowledge production is becoming less and less a self-contained activity and is no longer the preserve of tertiary institutions (Gibbons 1998:76). In fact, the development of the "corporate university" is currently under way. In the USA and UK, large companies like Motorola and Uniport are seeking accreditation for "in-company" learning in an attempt to develop industry-located knowledge (Davies 1998:176).

Additionally, greater accountability is being demanded of tertiary institutions as the paying public want to know what returns they are getting for their investment while businesses and industries expect that graduates be adequately prepared for an increasingly technical and competitive world of work in terms of being competent in certain skills, knowledge and characteristics (National Science Foundation, in Licklider et al.1997:121).

To add to that, technological advances, new demands for instructional methods and distance learning create both opportunities and challenges for faculty. Also, the multi-age, multicultural classroom is becoming the norm while understanding diverse learning styles is critical for effective learning

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(Lawler and King 2000:12). Cranton is quoted in Licklider et al. (1997:121) as saying that it is evident that the knowledge and skills required of faculty to support students' learning in these changing times, is substantial.

Therefore, in this writer's opinion, these factors are considered important enough to warrant further discussion, which will be set out below. Also, in the context of this study, the implications of these parameters on staff development will be illustrated.

The next subsection gives an account of the impact of technological advances on teaching and learning in higher education.

2.3 Technological advances

Technology has definitely had an impact on the teaching process and will continue to exert its influence in the classroom, in the future. It may not even be necessary to be in a classroom to receive an education as more and more courses are being offered online. The implications for educators is that they will need to receive training in the implementation of technology to bring about more effective and efficient instruction and learning.

2.3.1 The impact of technology on higher education

It is an undisputed fact that if universities are to remain competitive in the new millennium, they must effectively integrate technology into the classroom (Rogers 2000:25). Surry and Land (2000:145) also acknowledge the value of technology and are optimistic that the problems facing higher education, namely, increased competition, greater numbers of non-traditional students, ageing facilities and decreased government funding can effectively and radically be changed by technology. By the same token, Hannafin and Land, cited by Surry and Land (2000:146) concede that technology can be used to redefine the experiences available to learners and to overcome the many pragmatic constraints faced by higher education.

In a similar light, this quotation by Gilbert (1995:47) highlights the high expectations that educators

> "Academic leaders are striving harder than ever to improve the quality and accessibility of teaching and learning in higher education, while controlling costs and integrating new instructional applications of information technology. Many of these leaders are hoping that by embracing major new uses of technology to deliver instruction (such as distance education) they can simultaneously solve economic problems and learning problems".

have for technology as a means for improving teaching and learning:

Gilbert (1995:47) continues by stating that the eventual transformation of higher education and the integration of instructional technologies is inevitable. Also, developments in technology, like the virtual classroom, is likely to revolutionize tertiary education since students will be able to earn a degree from a university almost anywhere in the world without leaving their home (Kishun 1998:63). There is no question that information technology has already become an integral part of campus life at most institutions of higher education (Shapiro and Cartwright 1998:50).

The invention of the world wide web (www) in 1992 made online education increasingly accessible because the web is easy to use and capable of presenting multimedia. The telecommunications and knowledge revolution enabled greater and faster communication and collaboration and led to the production of the knowledge economy and the required basic changes in education (Harasim 2000:42).

Therefore, in the subsection to follow, this writer investigates how technology is being/can be used to enhance the teaching/learning and research process.

2.3.2 Specific applications of technology in the classroom

This subsection gives an overview of the various technological techniques that can be applied in the teaching/learning situation.

2.3.2.1 The use of electronic mail (e-mail) as a teaching/learning instrument

Electronic mail can be utilized as a teaching tool, a research tool and a productivity tool. Besides its widespread role of facilitating communication, e-mail is a potentially valuable tool for creating non-classroom based instructional interactions. In this way it could be used as a tool to complement face-to-face classroom interaction (Surry and Land 2000:147) and allow for more one-to-one interaction between educator and learner (Beidas, 2000:670).

As a specific example, Beidas (2000:670) describes the use of e-mail as a tool for teaching ethics to internal medicine residents. Prior to a scheduled conference, a description of an ethics problem was sent to residents via e-mail and their comments on how to best resolve the clinical dilemma was solicited. The e-mails received in advance allowed the author to focus the discussion on particular deficits in resident's knowledge and attitudes and thus ensure an informed discussion.

2.3.2.2 The merits of web-based teaching

The www has been utilized in higher education as a course supplement or online syllabus with course assignments, schedules and self-assessments posted online (Surry and Land 2000:147). In the context of medical education, web-based teaching has incorporated fundamental educational principles such as peer assessment (Freedman, Lehmann, Ogborn and Hopkins 2000:539), case-based learning (Rawn, Davidson and Andries 2000:540), vertical and horizontal integration plus self-directed learning (Youngblood, Stringer and Moreno 2000:541). It is evident, therefore, that the utilization of technology is very amenable to the application of novel principles of teaching and learning including curriculum design.

For example, Freedman et al. (2000:539) describe a web-based project that was designed to support peer-review and internet-publishing skills in the curriculum. The objectives were to make students' work available to peers and future classes to advance knowledge, teach students how to evaluate their peers' work critically and how to publish material on the internet.

Additionally, Rawn et al. (2000:540) write about their web-based case presentations to supplement a surgery clerkship curriculum. This teaching tool linked case-based learning with web-based teaching. Each case displayed the patient's history and physical examination together with pertinent patient and anatomic images. Following that was an interactive questionnaire and cross referencing guide with possible diagnoses. Additional questions, clinical tests and treatment options were offered in an interactive questionnaire format. Also, relevant video clips of the major surgical steps were available with stepwise text and diagrams.

Furthermore, a web-based nutrition curriculum that focuses on clinical applications, while achieving both vertical and horizontal integration across the years of the medical curriculum and which can be completed entirely through self-study, was reported by Youngblood et al. (2000:541). Students could navigate through material linearly as presented or by using hyperlinks to move through the material in a more exploratory way. In this way, they could explore other course material and additional resources through the links that were provided.

While web-based teaching might have its merits, what do students (who are central to this process) feel about the switch from a traditional approach to one that is technological? At the School of Nursing Faculty at Ball State University, when a redesign of the courses from a traditional classroom approach to www delivery, was undertaken, it was revealed that some students preferred classroom contact to working in isolation. The advantage of the virtual classroom, is that when responding to

www modules, each student has to respond independently to assignments. Another benefit is that students living further away from campus experience a reduction in travelling time and cost (Ryan et al. 1999:277).

In a similar study, at the University of Minnesota Medical School, where web-based technology was used to facilitate peer tutoring and promote alternative teaching methods, students described the value and convenience of web-based access to study materials. They particularly liked the web-based anatomy practice practicals which provided an alternate method for studying anatomy. Also, the remote access to the web site allowed students to budget their time better since they could use the programmeme's study resources at their convenience (Shanks, Silver and Harris 2000:539).

2.3.2.3 E-learning initiatives

Henry (2001:1) defines e-learning as: "The appropriate application of the internet to support the delivery of learning, skills and knowledge in a holistic approach not limited to any particular courses, technologies or infrastructures".

The application of e-learning in higher education is well documented. Harasim (2000:46) explains how the exponential growth in the use of the internet by universities world-wide has resulted in learners and staff relying on the internet to find sources for their research, to connect with peers and experts in various fields through online journals and newsletters. Online courses use the web as the primary environment for course discussion and interaction.

Also, Mason (2000:63-74) reports on the transition from distance education to online education undertaken by the UK Open University. In particular, Mason (2000:63) describes the use of computer conferences and the web for course delivery and support of learners. For example, the first large scale undergraduate course delivered on the web was offered in pilot form to 800 learners in 1999 and to over 12000 learners in 2000. The course is supported entirely online with no face-to-face tutorials and the course content is almost entirely on the web.

The importance of support to ensure that the implementation of e-learning is effective has been recognized by authors in this field. To paraphrase Alexander (2001:7):

> "For any e-learning initiative to be successful, a number of support mechanisms must have been developed. The most sophisticated learning design will not help students to learn if the technology does not work, if faculty are overloaded and cannot do or know how to provide

support to students".

So, from the review of the literature, what has become evident is the fact that implementing high technological skills in higher education calls for the training and development of staff if the benefits of using technology are to be realized. Thus, the implications of using technology, on staff development are explored next.

2.3.3 The implications of technology on academic staff development

Just how far we have advanced technologically is illustrated in this quotation:

> "As recently as a decade ago, it was unusual for a development center to offer faculty help in using technology in their teaching. Today, it is rare to find such an organization that does not include in its mission some reference to teaching with technology" (Shapiro and Cartwright 1998:50).

Indeed, the validity of this quotation is evidenced by the writings of many authors (Millis 1994:456, Surry and Land 2000:145-153, Rogers 2000:19-20, Schlesinger 1999:95 and Ryan et al. 1999:277) who have put forward a strong case in favour of developing, training and motivating staff to cope with the challenges that technology would present in the teaching learning process.

For example, Surry and Land (2000:151) note that the design, development, evaluation and utilization of technology are time consuming, laborious and often frustrating activities. Fuelling these problems is the observation that most staff with the demands of research and teaching might view this time spent on technology as less relevant or they might simply not be motivated enough or aware of available technology. In this respect, confidence-building strategies will seek to provide faculty with the hands-on training and other supporting resources needed to become proficient with the use of technology.

Adding his commentary on the need for staff development, Rogers (2000:19) asserts that for universities to remain competitive in the new millennium, they will need to develop cohesive training programmes with an emphasis on learning and provide adequate technical support to assist educators with integrating technology into instruction.

For clarification on his argument, Rogers (2000:20, explains that since most educators conduct a teacher-centered classroom, the successful use of technology (in cyberspace or a traditional setting) will require behaviour modification of faculty focusing on a shift from "teaching" to "learning".

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Alexander (in Rogers 2000:22) claims that successful use of technology involves virtual classes that are different from the face-to-face class. It requires a shift from being a teaching franchise to being an enterprise that emphasizes "learning".

More to the point, Millis (1994:456), stresses the importance of staff development in the light of technological advances and how they have changed the face of education. Indeed, faculty will have to be trained to integrate and enhance their syllabi, lecture notes, typical handouts, transparencies or slides through the new digital technology by creating richer, more interactive materials. Also, teaching in a distance education environment, for example a television studio, demands new preparation, teaching and support skills. Inexperienced faculty would require coaching in these novel methods.

Nevertheless, from the change literature in higher education, many theories for encouraging faculty to use technology suggest that providing access to powerful technologies is sufficient even when combined with a minimal support infrastructure, to bring about meaningful change (Surry and Land 2000:145). A key element in the effective utilization of any innovation in higher education, however, is promoting faculty buy-in and it would not automatically follow that if it is there, it will be used (Surry and Land 2000:152).

To this end, an example of a staff development programme that utilizes the www was reported by Schlesinger (1999:95). At Lehigh Valley Hospital, staff were introduced to a programme entitled "web course in a box". It is a faculty development tool that allows for faculty to create personalized web courses without any knowledge of hypertext mark-up language (html). Features included the ability to customize the programme's appearance, discussion groups, student home pages and various options for presenting course content. As part of the workshop, faculty were given the opportunity to discuss the usefulness of these tools and the maximizing of the potential of the www in their teaching.

Shapiro and Cartwright (1998:51, 52) describe a similar workshop that emanated from a collaborative network between the Ohio Foundation of Independent Colleges and Ameritech. The workshop explored learning and learning styles, learner-centered curricula and the use of technology to enhance learning. Participants worked collaboratively in teams to explore techniques and tools for using the www to enhance student learning and collaborative work in the virtual classroom. Web-based projects were created, pressed onto CD-ROMs and distributed to the workshop participants. Supplementing this, a workshop on distance education offered guidance in the use of various instructional methods for online learning, for example, the use of chat and discussion groups on the web as well as video conferencing. Another component of the workshop involved working with the multimedia elements of graphics, sound and digital video files for presentations and courseware. Web

page designs, e-mail use and discussion groups for faculty-student collaboration, were also addressed.

Therefore, for faculty to buy-in to the idea of enhancing the use of technology in their teaching and research, a carefully orchestrated plan needs to be put in place. In this regard Surry and Land (2000:150) discuss four strategies namely, attention gaining strategies, relevance gaining strategies, confidence building strategies and satisfaction strategies which would need to be used (refer to table 2.1).

Table 2.1: Strategies for enhancing faculty buy-in

Type of strategy	Method of action of strategy
Attention gaining strategies	These would showcase the practical uses of different types of technology to make faculty aware of what is available to them to demonstrate the power and potential of these technologies.
Relevance gaining strategies	Technology would need to be made relevant to the needs, hopes and desires of the individual staff member
Confidence building strategies	These would focus on providing opportunities to master various types of technology.
Satisfaction strategies	These should be designed to reward faculty who use technology and to provide incentives to those who do not.

Therefore, from an analysis of the resources on technology in higher education, the application of technology in the teaching/learning situation has been identified as one of the imperatives of a technologically driven society and hence educational transformation. Most academics, however, do not have adequate expertise to be able to implement technology in the teaching/learning context. This is one reason that ICT should become an important component of staff development programmes and in this way would contribute towards shaping the character of staff development in an era of educational transformation.

Technology is not the only parameter influencing higher education. Much change has occurred in the arena of teaching and learning. In fact a "paradigm shift" has occurred from an emphasis on teaching to that of learning. More about this "paradigm shift" follows.

2.4   Changes in the process of teaching and learning

Traditional practices of teaching and learning are no longer adequate in a post modern, knowledge-based society. The reasons are glaring. Society is demanding new skills of graduates who would have to cope with the complexity of change, be able to think critically and laterally, learn continually

and solve problems while also being good team players. It is hardly surprising, therefore, that a paradigm shift is occurring from a teacher-centred approach to one that is more student-centred, enabling students to take more responsibility for their own learning and to become self-directed learners.

2.4.1 The paradigm shift from teaching to learning

Swenson (1998:1) maintains that since knowledge doubles every seven years, it no longer seems possible for a person to learn the "body of knowledge" of a discipline. Instead, learners need to understand the foundation of a subject and how to access and use new knowledge as it becomes available. Institutions need to be mindful of this fact and to recognize that preparing adults to have these skills will require a change in some traditional practices.

Other skills identified as essential for students to become productive as knowledge workers include the ability to write clearly and persuasively, to articulate and present ideas to others orally, to work capably in a group and team settings and to analyze and think critically (Swenson 1998:4). Thus, they will need high levels of communication, collaboration, interpersonal and leadership skills. Why? According to major studies, effective working teams that can collectively discover and solve problems are the hallmarks of the information age (Snyder, in Spady 1999:32).

Further demands that are being placed on workers is the ability to constantly change, adapt, learn and innovate while maintaining quality in a complex, high-technology, competitive, unpredictable and interdependent marketplace (Spady 1999:32). Preparing graduates to work in this complex, fluid and unpredictable environment is a challenge for educational settings (Candy 2000:271). At the same time higher education institutions must ensure that they contribute to society by providing graduates with skills that can both enrich society and enhance its development. This is dependent on higher education's ability to develop higher levels of intellectual rigour, a high level of analytical capacity, self-motivation, independence of thought, basic research skills and a capacity and aptitude for innovation (Department of Education 2000:24).

Indeed, societal and economic changes have filtered through to tertiary institutions and in turn are beginning to have an impact on what happens in the classroom. To this end, Barr and Tagg (1995:14) refer to a paradigm shift taking place in education from the instruction paradigm to the learning paradigm where the new mission is to produce learning. Barr and Tagg (1995:17) refer to the traditional curriculum as the instruction paradigm and the novel curriculum as the learning paradigm. Changes in the role of the educator are required if student-centered learning/teaching strategies are to be effective (Rideout 1994:149). "The actions necessary for teachers are movement from roles of

transmitter and authority figure to roles of model, guide and facilitator" (Bevis and Watson, in Rideout 1994:149). Moreover, they are required to facilitate learning for students of different intellectual abilities (Buchner and Hay 1999:19).

Endorsing this notion of student-centered teaching and learning are other authors who advise that it is no longer enough to teach students every single thing about a particular subject. "They should be able to learn how to learn, how to select and integrate appropriate information in the most effective and efficient way" (Kaufman 1985:17) and to construct their own understanding of what they have discovered (Buchner and Hay 1999:19). This reasoning has given rise to the shift to a more student-centered, self-directed approach to learning and teaching (Kaufman 1985:17).

Therefore, it is now necessary for students to take responsibility for their own learning and an environment should be created to allow learners to discover and construct knowledge for themselves, to make discoveries and to solve problems (Barr and Tagg 1995:15). The aim is to gear students towards becoming more actively involved, to become more critical and to develop the ability to apply knowledge and skills in real life situations (Buchner and Hay 1999:19). Building on this viewpoint, Candy (1991:xiii) maintains that this self-direction is important if peoples' hunger for new skills and information is to be satisfied in this era of technological change and information explosion. These self-directing individuals "will most likely improve the quality of democratic participation of life in general as they become more self-determining citizens".

It can be argued that without proper training, academics might perceive this shift to a more student-centered approach as a shock to the system. The role of the educator has undergone a metamorphosis. Never before has it become so imperative that staff be trained and developed to face these challenges. Subsection 2.4.2 outlines the impact of the paradigmatic shift from teaching to learning, on the development of the academe.

2.4.2   The impact of change in the teaching /learning process on staff development

During the first half of this century, teaching expertise was congruent with content expertise and teaching was construed almost entirely in terms of lecturing. It was perceived that if a faculty member acquired the knowledge of the discipline, he could teach (Barr and Tagg 1995:16. Recently, teaching has come to be recognized as a skill associated with but separate from content expertise (Wilkerson and Irby 1998:388). There has also been an increased emphasis on the connection between teaching and learning and how learning can be enhanced in the classroom to meet the needs of a changing student body (Knapper, in Lawler and King 2000:13).

Unfortunately though, educators at tertiary institutions are required to assume these new academic duties for which they have received no formal training. It is a widely held belief that in order to succeed at these new teaching tasks, faculty development is essential. It would improve the educational vitality of academic institutions through attention to the competencies needed by every individual to promote academic excellence (Wilkerson and Irby 1998:387). Barr and Tagg (1995:16) endorse this assumption by stating that in order to implement the ideas and innovations of new paradigm thinkers, institutions will have to realize that training of educators in novel methods and philosophies of facilitating and learning is of paramount importance.

In fact, that faculty development is a crucial feature of this change of focus, from teaching to learning, enjoys wide coverage in the literature (Wilkerson and Irby 1998:387, Rideout 1994:149, Nieman, Donohue, Ross and Morahan 1997:504 and Carter 1997:174). Strategies should aim towards clarification and modification of the values and attitudes of faculty as they adopt a new approach and philosophy towards education (Rideout 1994:149). Nieman et al. (1997:504) advise that when implementing an institution-wide faculty development plan, it is important to acknowledge that whilst the old systems of training faculty served us well in the past, they do not work in the current environment of change. As Lawler and King (2000:12) so poignantly put it: "Higher education is changing and faculty are caught up in these changes".

For example, educators need to be trained in the implementation of co-operative, collaborative learning experiences. Educators need to appreciate that co-operative learning does not imply simply putting learners into groups and expecting optimum learning to occur. Guidelines need to be followed and certain principles adhered to (Barr and Tagg 1995:15). Additionally, over the years, self-directed learning has risen to prominence and thus the study of self-direction has also been included in the programme of many staff development efforts (Candy 1991:xiv).

Other key concepts underlying the new approaches to faculty development are reflective practice, transformative learning and teaching as community (Licklider et al.1997:122), including training educators as facilitators of the teaching/learning process (Holthausen 1998:33).

It can be concluded from this subsection that the paradigm shift from teaching to learning is yet another component of educational transformation which would influence the modus operandi of academics in their educational functions. This paradigm shift will also contribute to the character of academic staff development in that programmes would need to prepare educators to become facilitators rather than transmitters of content. They cannot be expected to make this transition on their own without proper guidance and support. If left on their own, educators might adhere to using traditional methods of teaching with which they are more familiar.

It is not only the teaching/learning process that is so fluid though; the traditional curriculum has come under attack as no longer being relevant to a changing society. In the following subsection curricula transformation and curricula innovations are addressed.

2.5 Examples of curricula transformation and innovations

The information age, increasing globalization and technology have changed society and our roles within the new social structure. To meet these changing needs, curriculum and instruction design for former times are no longer sufficient (Baron and Boschee 1996:574). Van der Vyver (1999:5) goes a step further by arguing that curriculum renewal has always been a recurring theme in tertiary institutions. Curricula are constantly undergoing evaluation, modification and updating in tandem with the demands of changing circumstances. Educators, reflecting on their practice and the impact of the curriculum on their students, have adapted the course content and material to be more appropriate and relevant to the needs of learners and challenges of meeting international standards.

An essential criterion for a new curriculum is that it must reflect an environment structured to facilitate the emergence of a set of dynamic ideas that would ensure progressive education suited to a new era. This is in conjunction with recognizing that the fundamental objective of education is to enable the individual to function fully in his environment, to see himself as an important contributing member of society and to help shape the direction of its development (Mungazi 1991:103).

To this end, two major curricula innovations are examined, namely OBE and PBL, which have been designed to meet society's changing needs and advancing knowledge. Firstly, OBE is an innovative curriculum because educators are innovative and create their own learning. Curriculum design is leaner centered and starts with outcomes which are determined largely by the future driven demands of a rapidly changing technological world. Outcomes-based education also emphasizes a holistic, integrated approach towards learning (Claasen 1998:36, 37).

With a shift from a content-based curriculum to one which is based on the achievement of outcomes, comes the adoption of a different epidemiological approach to teaching and learning, namely constructivism. A constructivist approach to teaching and learning emphasizes the "creation" of knowledge rather than the receipt of knowledge. At the pragmatic, the focus is on ideas such as inquiry, co-construction of knowledge, student-centeredness, problem-based angragogies and discourse-based interactions. Therefore, constructivism contrasts the role of the facilitator with that of the traditional lecturer whose teaching methods can be viewed as positivist (Gruender, Holt-Reynolds, in Venter 2001:91).

2.5.1 Outcomes-based Education (OBE)

Here, an elucidation will be given of the principles and semantics of OBE. To augment that, the implications of implementing OBE for staff development will be addressed.

2.5.1.1 What is Outcomes-based Education (OBE)?

The logic used in OBE is that the intended learning results are the start up points in defining the system (Spady 1993:2) and thus, the curriculum design process starts with the intended learning achievements, namely the outcomes (Olivier 1998:2). This, Spady (1993:19), refers to as "designing down"- working back from the set of "ultimate culminating outcomes" that have been set out. That is, beginning curriculum and teaching planning where educators want students to ultimately end up and building back from there (Spady 1999:27). Another way of explaining this is that educators start with a "clear picture of what is important for students to be able to do, then organize curriculum, teaching and assessment to make sure this learning ultimately happens" (Spady 1999:24).

Central to this type of learning is that learners must demonstrate the achievement of an outcome as well as involvement in the learning processes (Olivier 1998:2). Olivier (1998:23) further points out that an outcome is not the mastering of a course, a module, a chapter, a competency or an output. For example, mastering content such as the knowledge embedded in the subject communication can never be an outcome since the content alone is inert and sterile. Spady(1993:3-5) endorses this viewpoint with this clarification: "An outcome is a culminating demonstration of learning"-"an actual demonstration in an authentic context". Curriculum content is not the outcome, the demonstration of the content is the outcome. To paraphrase Spady (1999:24): "Outcomes are actions and performances that reflect learner competence in using content, information, ideas and tools successfully".

Why is there an emphasis on competence? According to Westera (2001:75), "competence transcends the levels of knowledge and skills to explain how knowledge and skills are applied in an effective way". Competence is easily identified with valued capabilities, qualifications and expertise. Remember that employers demand graduates who are able to cope with ill-defined problems, contradictory information, informal collaboration and abstract, dynamic and highly integrated processes and the concept of competence is closely associated with the ability to master such complex situations. This is why competencies are now being embraced by educators for curriculum design and staff development.

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Further, OBE learning programmes are seen as guides as opposed to the rigid, non-negotiable prescribed syllabus of the traditional curriculum. Adding to this is that OBE provides opportunities for students to think critically and creatively and to be involved in problem-solving exercises in a learner-centered environment. The pedagogic, teacher-centered nature of the traditional curriculum often deprives learners the opportunity to think creatively and critically (Olivier 1998:34,39).

The closed nature of the traditional curriculum, its unidirectional way of transmitting knowledge to "passive recipients", the examination driven assessment that it propagates and its teacher-centered approach are factors that can readily be viewed as belonging to the modernist project (Claassen (1998:36,37). A modernist curriculum imposes "boundary conditions", that is it operates as a closed system, preventing constant inputs from the outside which leads to static degeneration. Outcomes-based education on the other hand is flexible and open to its environment, allowing for inputs from the outside.

Therefore, OBE rejects the modernist roots of the conventional curriculum and is not a mere reform of the traditional curriculum but in its pure form represents a radical paradigm shift. Outcomes-based Education is concerned with an outcome from the learner's point of view, which is why curriculum design is learner-centered and problem-centered as opposed to the subject-centered design of the traditional curriculum (Claassen 1998:36).

Spady (1993:6-11) and Spady and Marshall (1991:67-72) categorize OBE according to the extent to which the curriculum has deviated from the traditional curriculum and in this regard, three major forms of OBE were identified (see table 2.2).

Table 2.2: Three major forms of OBE

Form of OBE	Description
Traditional OBE	The curriculum content and structure remains constant but the focus is on the outcomes that do not relate to real life (Spady 1993:7).
Transitional OBE	This curriculum lies in the "twilight zone between the traditional curriculum structures and planning processes and the future role priorities inherent in transformational OBE". The curriculum is designed around higher order exit outcomes (Spady 1993:8-9 and Spady and Marshall 1991:69).
Transformational OBE	This is future orientated and focuses on students' life long adaptive capacities. It is a collaborative, flexible, transdisciplinary and empowerment-orientated approach to schooling (Spady and Marshall 1991:68).

Therefore, we can see that while traditional OBE represents the lowest level on the evolution scale, transformational OBE represents the highest evolution of the OBE concept. In planning a transformational OBE curriculum, the conditions of life that students are likely to encounter in the future, serve as the starting point (Spady and Marshall 1991:70-71).

Furthermore, according to Spady (1993:21), the main purposes of OBE are: 1) to equip all students with the knowledge, competencies and orientations needed for future success and 2) to implement programmes and conditions that maximize learning success for all students. How do educators equip students for "future success"? Spady (1993:23) refers to the process of "strategic design" which involves studying the literature and available data about future trends and conditions to ascertain what students will be facing in the world. A set of performance outcomes are then derived that would best represent effective adult functioning.

Additionally, Olivier (1998:2,29) explains that when one needs to attain an outcome (for example in employment), one would start formulating and sequencing the preparation steps and identifying the knowledge and skills needed. That is, specific areas of learning are identified.

For each learning programme, a series of specific outcomes are formulated which then form the template to establish that knowledge and processes must be mastered. Training programmes, courses or unit standards will form the basis of qualifications. The training programmes are derived from the job description and the knowledge and skills needed to achieve the outcomes are derived from the required outcomes. Therefore, the training is outcomes-based and related to real-world situations and not directed by simply mastering textbook information (Olivier 1998:2). In fact, content is integrated and linked more to the quality of life experiences (Spady 1993:24).

In the following quotation, Baron and Boschee (1996:576) sum up what OBE entails:

> "OBE is both a philosophy and an instructional process designed to educate the whole child and to give each learner the maximum opportunity to prepare for a successful future in a changing society. The underlying beliefs and principles of OBE create a flexible approach to instruction that recognizes and responds to the changing educational and social needs of our children".

This is probably why the South African government (like others) decided to adopt OBE as a major curricula innovation when it undertook to transform the education system that was inherited from the apartheid government. Next, OBE in the South African context is discussed.

2.5.1.2 Outcomes-based Education (OBE) in South Africa

When the White Paper on Education and Training (WPET) of 1995 heralded a fundamental transformation in the system of education and training in South Africa, OBE was deemed appropriate for the integration of education and training needs in this country. The WPET proposed that demands for equity and redress and for access to quality education for all could be met through this type of educational transformation. Outcomes-based education within a NQF would be able to respond to demands for growth and development by preparing a proper workforce for the country's future human resource needs (Kruss, in Morrow and King 1998:66). In this regard, McGrath (1998:117) argues that if OBE is to live up to the highest principles and ambitions of the "new South Africa", then major methodological and attitudinal shifts will need to take place that empower learners and educators to become real subjects of the reform process.

Additionally, McGrath (1998:116) poses the question "Does the emphasis on outcomes necessarily empower individuals to a greater extent than was the case with knowledge-based education"? He answers this by stating that this depends to a large extent on what OBE means in practice.

In OBE, the intended outcomes should be explicitly stated and should serve as a guide in the teaching /learning process and makes possible the evaluation of these processes. If applied correctly the focus on outcomes should encourage the development of flexible, relevant programmes of learning. If applied too narrowly, it could be reduced to a narrow statement of measurable behavior and lead to many programmes that are fragmented and irrelevant. Thus, the way in which outcomes are formulated is crucial (Curriculum Development Working group 1999:9).

In South Africa, SAQA (1995:2-3) has tried to capture the notions of "know", "do" and "be" while encompassing broad cross-curricula, generic outcomes with specific learning outcomes, by distinguishing three kinds of outcomes (see table 2.3).

Specific outcomes are informed by the critical outcomes but formulated within the context in which they are to be demonstrated. They relate to the competence which the learners should be able to demonstrate in specific contexts and certain areas of learning. These outcomes would serve as the basis for assessing the progress of learners and concomitantly the effectiveness of learning processes and learning programmes (Curriculum Development Working Group 1999:11). The twelve critical cross-field outcomes as outlined by SAQA (1995:5) are tabulated in table 2.4.

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Table 2.3: The types of outcomes used in OBE

Type of outcomes	Achievement of outcome
Specific outcomes	The contextually demonstrated knowledge, skills and values for a particular university course or module.
Exit-level outcomes	The outcomes which are to be achieved by a qualifying learner at the point of leaving a learning programme in order to obtain a qualification. These outcomes should be stated in terms of holistic capabilities (competencies).
Critical outcomes (or critical cross-field outcomes)	These are broad and generic and applicable to all kinds of qualifications. They are called critical because they are critical for the development of the capacity for lifelong learning in learners.

Table 2.4: SAQA's twelve critical cross-field outcomes (Adapted from SAQA 1995:5)

Critical outcomes	Developmental outcomes
Problem-solving skills Identifying and solving problems in which responses display that responsible decisions using critical and creative thinking have been made.	**8) Learning skills** Reflecting on and exploring a variety of strategies to learn more effectively.
2) Teamship Working effectively with others as a member of a team, group, organization and community	**9) Citizenship** Participating as responsible citizens in the life of local, national and global communities.
Self-responsibility skills Organizing and managing oneself and one's activities responsibly and effectively.	**Cultural and aesthetic understanding.** Being culturally and aesthetically sensitive across a range of social contexts.
Research skills Collecting, analyzing, organizing and critically evaluating information.	**Employment seeking skills** Exploring education and career opportunities.
5) Communication skills Communicating effectively using visual, mathematical and/or language skills in the modes of oral or written persuasion.	**12) Entrepreneurship** Developing entrepreneurial opportunities.
Technological and environmental literacy Using science and technology effectively and critically, showing responsibility towards the environment and health of others.	
7) Developing macro-vision Demonstrating an understanding of the world as a set of related systems by recognizing that problem-solving contexts do not exist in isolation.	

These critical cross-field outcomes are not restricted to any specific learning context. Their importance is underpinned by the fact that they serve as guidelines in the drawing up of specific outcomes in individual areas of learning for all learners at all levels on the NQF. They are working principles and should direct the teaching, learning and training process and help in the development of learning programmes and materials. Within this broad frame of reference, a special contribution can be made as regards the development of basic knowledge, skills, understanding, ability and values necessary for functioning in a changing modern society (Curriculum Development Working Group 1999:9-10).

These critical cross-field outcomes might be theoretically acceptable, but do students subscribe to the competencies associated with these outcomes? An empirical investigation was undertaken at the Rand Afrikaans University to ascertain to what extent first year students wanted to develop each of the competencies outlined by SAQA. The results showed that 90% of the respondents require these competencies to be developed excellently during their forthcoming year, indicating the high demand for these competencies to be addressed and developed properly during their years at university (Jacobs 1999:140).

As previously stated, a crucial issue in the OBE process is the attainment of outcomes. Therefore, it should necessarily follow that a kingpin in OBE, is assessment, since assessment is used to determine whether or not these outcomes have been achieved. A learner's progress will be measured against criteria that indicate attainment of learning outcomes rather than against other learner's performances. That is, assessment will be criterion- rather than norm-referenced (Curriculum Development Working Group 1999:12).

Essentially, assessment could take different forms. Continuous assessment is important in monitoring learner's achievements of outcomes and in providing information to educators about problems which learners may be experiencing at given stages in the learning process. This formative assessment could be teacher-, peer- or self- driven. Summative assessment is used to determine whether specific outcomes have been achieved and whether credits or qualifications can be awarded (Curriculum Development Working Group 1999:12).

In the assessment of learners, three elements have been identified (see table 2.5). These elements should contribute to assessment which stimulates, motivates and supports learning, giving all learners an opportunity to experience achievement. Thus, there is an emphasis on assessment that is developmental rather than judgmental (Curriculum Development Working Group 1999:13).

Table 2.5 The three elements of assessment used in OBE (Tabulated from the Curriculum Development Working Group 1999:13).

Type of assessment	Purpose
Formal summative	For the awarding of credits, qualifications and year marks
Formal continuous	For the formal recording of results: awarding of marks or grades which can be included in summative assessment and which is accompanied by feedback.
Informal formative	To monitor and encourage learning progress and to provide guidance to learner.

It could be argued that, having (critical and specific) outcomes and assessment strategies outlined in print is all very well, but the challenge is being able to apply the philosophy of OBE in the classroom-at grassroots level, which would lead to these competencies being attained in practice and being able to assess whether they have been achieved. On this note, Claassen (1998:39) writes that it is unclear what form of OBE will take on in practice in South Africa. Even though the official interpretation emphasizes a transformational approach, there is no assurance that this will be the case. This is because educators trained in the transmission approach may simply adopt OBE to fit their traditional teaching styles and content. Of greater significance is that strong support for OBE is the life-blood for its successful implementation (Dlugosh, Walter, Anderson and Simmons 1995:182).

Goode and Thomen (2001:194-198) present a case study to illustrate the process of developing an outcomes-based approach essay writing course in an Economics course at Rhodes University (Grahamstown). These authors maintain that tertiary educators need support in the process of changing curricula to meet OBE policy and course requirements. They argue further that policies made at national and institutional level which requires educators to adopt an OBE-approach to their teaching and courses, assume that all educators will be able to meet these policy requirements. "In reality educators do not have the expertise and knowledge to write course outcomes, develop appropriate assessment criteria and/or teach in a way that develops the learner's ability to demonstrate the required outcomes". They warn that without the support of staff development units, there is a possibility that the transformation envisaged by implementing OBE might not materialize.

Similarly, at another South African university, an account is given of the frustrations that educators encounter when redesigning their programme. In attempting to address the inadequacies of their old curriculum and in conforming to the requirements of SAQA and the NQF, at the University of Durban-Westville, a new Bachelor of General Education and Training degree was introduced in 1999 (Samuel 2002:406-407). Samuel (2002:397) concluded that the process of transformation at their

institution is "characteristically messy, contradictory and complex" and uses the metaphor of educators having to "work in the rain".

2.5.1.3 Outcomes-based Education (OBE) and staff development

What can be gleaned from the literature is that one thing is unanimous: proper training and development of staff is essential if OBE is to be implemented successfully. Claassen (1998:39) brings up the important point that educators trained and well versed in the transmission approach may simply adapt OBE to synchronize with their traditional teaching styles and content. There could be an element of truth in this as revealed by a study carried out in the Netherlands. Van Driel et al. (in Entwistle 1998:190) showed that there is a link between conceptions of teaching and attitudes to innovation. The investigation found that staff who view teaching as "transmitting information" were least likely to change their methods. Only educators who saw teaching in terms of "encouraging learning" were ready to adopt the innovation in the way it was intended.

To circumvent this problem and to ensure that OBE is successful, the suggestion of Dlugosh and colleagues (1995:180) is useful when they remark that schools need to be substantially reorganized with educators using new instructional strategies pertinent to the outcomes. What do these "new strategies" entail?

A shift to OBE from the traditional curriculum, according to Van der Westhuizen (1999:23-24) includes:

1)   Adopting a more facilitative role instead of transmitting information.
2)   Becoming innovative and creative in facilitating learning.
3)   Inculcating problem-solving skills, creativity and critical thinking in learners.
4)   Focusing more on assessment methods.

Acknowledging Van der Westhuizen's (1999:23-24) suggestions, this writer is of the opinion that it is important for staff to be trained as facilitators of learning, in inculcating creative and critical thinking, and problem solving, and not to assume that the change will take place automatically. If they lack the necessary skills, the innovation could fail.

Another mitigating factor against the proper implementation of OBE is staff attitude towards OBE, which is sometimes negative (Dlugosh et al. 1995:182). Some also fail to understand what the terminology of OBE is all about thus negating the innovation altogether. Therefore, it is essential to

try and "convert" such educators to OBE through certain staff development activities. The administrators in the study conducted by Dlugosh et al.(1995:182) came up with some suggestions, namely school visitations, conference attendance and increased planning time.

In this writer's view, any educational innovation would require that those who are going to implement the change also be "converted" into accepting the new ways of performing their tasks. Staff development, however, should not only focus on changing attitudes but on coercing people into acquiring new knowledge and skills which for the most part should be educational. That most higher education educators have not even received training in implementing the traditional curriculum and yet are expected to implement curricula innovations and teach in ways they have never taught before, have been so extensively complained about in the literature that it has become a cliché.

Therefore, it is indisputable that staff development in this era of reform is necessary, but at the same time should extend beyond mere support for the acquisition of new skills and knowledge. It should encompass creating opportunities for educators to reflect critically on their practice and to design new knowledge and beliefs about content, andragogy/pedagogy and learners (Prawat, in Darling-Hammond and McLaughlin 1995:1).

What staff development strategies can one use to ensure that educators are better prepared for educational reform and that ultimately students stand to benefit from the initiative? Darling-Hammond and McLaughlin (1995:3) explain that staff development must create opportunities for educators to share what they know and what they want to learn and to connect their learning in the context of their teaching. They encourage co-operative reflective practices as strategies in any staff development effort and recommend collaborative efforts between educational institutions. Building portfolios was also deemed highly valuable in the professional development of educators.

In short, structures that eradicate isolation, that empower educators with professional tasks and which allow for reflection about standards of practice, are paramount to this kind of professional growth (Darling-Hammond and McLaughlin 1995:3). In this writer's interpretation, all of this points to the fact that staff must be instrumental in acquiring certain competencies, skills and knowledge to better prepare themselves for educational reform and curricula innovations. This is because they will need to educate or direct learners to achieve certain outcomes as envisaged by reform policies and/or by the innovation itself.

For example, if it is the aim (outcome) that students become self-directed, lifelong learners, then obviously educators should have the knowledge and skills to inculcate these attributes in their learners, while also emulating these qualities themselves. Therefore, it makes sense that a staff

development programme should endeavor to provide opportunities for participants to become self-directed, lifelong learners. As Darling-Hammond and McLaughlin (1995:3) so succinctly puts it: "They will also have an appreciation for the fact that learning about teaching is a lifelong process".

In a nutshell, there are certain outcomes that any staff development programme should aspire towards and these are derived from the outcomes that we want students to achieve. Hence, since the intended outcome becomes the point of departure for learning, one can argue that staff development programmes should be essentially outcomes-based in nature.

Taking this point further, in OBE, the emphasis is on student outcomes. "But just what kind of staff development is effective in improving student outcomes", is the burning question that Asayesh (1993:24) poses. Showers (in Asayesh 1993:25) answers this, saying that it is the kind that allows people to develop new knowledge and skills, which can then be transferred to the workplace and training environment. In this way, training continues even when the participant in a staff development programme has returned to the workplace, reinforcing what was learnt in the training sessions.

The problem at MEDUNSA as pointed out in subsection 1.2.4 is that most educators have only a faint idea of how to implement OBE in the classroom and are often overwhelmed by the complexities of the curriculum. If training and development focussed on the implementation of OBE within the context of a particular filed of study, it would help in the transfer of knowledge and skills and possibly reduce the feeling of uncertainty and lack of competence among staff.

Showers (in Asayesh 1993:25) is also a proponent of peer coaching study teams largely because it is conducive to working on problems of implementing the innovation and assessing student outcomes. For Saxl (in Asayesh 1993:25), self-reflection and self-evaluation are other essential components as they enable educators to "shape their own growth". In this writer's opinion, this kind of development will automatically be "passed" onto learners who in turn will become reflective about their own learning, grow, develop and improve.

Asayesh (1993:26) quotes Guskey as citing that the best staff development programmes are those that provide for opportunities for collaboration and joint planning. That is, they are collaboratively planned by administrators and educators; and promote collegiality. The notion of having educators working in teams is important as expertise can be shared. (Note how a hallmark of OBE is being propagated in the training of educators, namely collaborative learning).

Also, just as OBE focuses on what a student is able to do with what he has learnt, so too, in this writer's estimation, is it important that participants of a staff development programme be able to

demonstrate and apply what they have learnt regarding the teaching/learning process. Having a knowledge of educational theories alone is unlikely to help them implement a novel curriculum. This has been attested to by numerous reports in the literature which highlights the problem that many participants are clueless about how to apply/transfer what they have learnt, in the context of the classroom, albeit having attended workshops or being informed about the innovation (Kruss 1998:107, Nicholls 1983:50, the Professional Committee of NAPTOSA (NAPTOSA 1998:11-15) and Nakabugo and Sieborger 2001:59).

To date, in South Africa, there are not many documented examples of OBE and staff development at HEIs. Reports of training and development as regards OBE have occurred mainly at school level. Le Grange and Reddy (2000:22-23) report on a curriculum development programme run in the Western Cape area involving school educators. In the first workshop, they introduced the principles and terminology related to the NQF and OBE. This was done by first giving a lecture followed by group activity that required educators to match key concepts of the new curriculum with their associated definitions. This assisted educators in making sense of the new terminology and technical jargon. In the second workshop, the concept of curriculum development in the context of rapid social and educational change was critically discussed. In workshops three to five, aspects relating to Environmental Education learning programmes within the proposed curriculum 2005 framework was covered.

A further element of educational transformation that was identified through the literature review was curriculum development, especially OBE. By adopting the principles of OBE, HEIs would produce graduates who would be in a position to make a better contribution towards our knowledge society. Hence, OBE is another factor that would influence the dynamics of staff development in a milieu of educational change.

Another novel curriculum, juxtaposed with OBE and which is a proponent of many innovative thinkers, is PBL. The following subsection focuses on the principles and methodology of PBL and the implications for staff development.

2.5.2   Problem-based Learning (PBL) in higher education

For the sake of clarity and orientation, a definition of PBL is offered and the principles and processes described. Also, PBL in medical education is discussed for two important reasons. First, this approach is most widely used in the teaching and learning of medicine. Second, this research is conducted at a medical university (MEDUNSA)- hence the interest in what is predominating being

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used in medical education and the impact this will have on the enhancement of knowledge and skills of staff.

More generally, vital skills like problem-solving, critical thinking, self-directed learning, collaborative learning and better communication are more easily developed when PBL is used. These skills are essential not only in a transforming higher education environment, but in a changing society.

2.5.2.1 What is Problem-based Learning (PBL)?

Problem-based learning refers to educational methods that use problems in the instructional sequence for achieving certain objectives (Barrows 1986:481). By taking on a student problem as a basis for learning, the student not only acquires an integrated body of knowledge related to the problem but also the development of problem-solving skills (Colliver 2000:259 and Walton and Matthews 1989:550).

Therefore, PBL is defined as learning that results from the process of working towards the understanding or resolution of a problem. Margetson (1994:16) cites that:

> "The structure and process of PBL is open and encourages self-directed learning and group work systematically and in an increasingly coherent experience of educative learning".

This concept of teaching/learning has its roots in Dewey's and Bruner's ideas on the discovery method of learning, the inquiry method, self-directed learning or problem-solving learning (Knowles 1988:88-89). Margetson (1994:11) explains that the process of PBL is structured so that students learn well, not by being told things but by learning to pursue inquiry effectively. Following on this, Kaufman (1985:57) states that tutors in a PBL track do not act as sole bearers of knowledge by answering all the questions they are asked but appropriately throw them back to the group.

Additionally, with PBL, there are close associations with small groups of learners in tutorials emphasizing interpersonal and group skills (Kaufman 1985:49) while stimulating active learning among learners (Bligh 1995:323). Tutorials provide an opportunity for learners to listen critically, compare their own performance with that of their peers and recognize and discuss their emotive reactions to ethical issues (Kaufman 1985:19). Problem-based learning also enables learners to interact more co-operatively, especially during tutorials when they can engage in dialogue, discussion and sharing of knowledge. Learners and tutors interact as colleagues and a hierarchy of status is non-existent (Mennin and Martinez-Burrola 1986:193).

Therefore, PBL provides a student-centered learning environment and encourages self-directed learning (Schmidt, Dauphinee and Patel 1987:305). Learners are weaned early in their training to gain independence and responsibility for their own education. They are encouraged to generate their own learning objectives based on their limitations in knowledge, as part of the self-directed learning process. The student decides what he is to learn, how he is going to learn it and whether he has mastered it properly (Walton and Matthews 1989:551). Moreover, educators do not prescribe what learners have to learn and do not formulate rigorous course objectives (Boshuizen, Van de Vleuten, Smidt and Michiels-Bongaerts 1997:115).

Having generated the relevant learning objectives for a particular case, the next stage is for learners to engage in self-study by consulting the relevant resources and making up their own reference notes. Thereafter, they return to the problem loaded with new information during their individualized study, for analysis and synthesis of a problem (Barrows, 1985:73-75). The structure, function, concepts and terminology of the disciplines under study need to be learnt during self-study (Barrows, 1985:80).

In PBL there are two approaches to integration namely, horizontal and vertical integration. In the former, boundaries between parallel points of the course are removed. In vertical integration, subjects studied in different years of a student's training, are merged (Lowry, 1993:33).

For the purposes of a summary then, PBL encompasses learning that starts with a problem. The main hallmarks of any PBL programme are problem-solving, self-directed life-long learning, teaching/ learning in small group tutorials, co-operative learning, student-centeredness, vertical and horizontal integration of disciplines and active learning.

Since PBL is most widely used in medicine, PBL in medical education will be discussed in further detail in the subsection below. In this way the specific process of the PBL approach can be more closely understood within a clinical setting. This setting has significance since this study was conducted at MEDUNSA which is a medical university.

2.5.2.2 Problem-based Learning (PBL) in the context of medical education

Problem-based learning started at McMaster University in 1969 where medical teachers shifted the emphasis of the undergraduate curriculum away from the individual disciplines such as Biochemistry, Anatomy and Physiology towards an integrated approach involving learners in problem solving and independent learning (Bligh 1995:323 and Campbell, in Bhattacharya 1998:407. To date, the

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integration of subject disciplines is emerging as an increasingly important element of PBL in action (Lloyd-Jones, Margetson and Bligh 1998:494).

Additionally, the University of Maastricht in the Netherlands is renowned for its pursuit of the PBL concept in the medical curriculum and in the Faculty of Law. Their choice for PBL is based on current insights in concepts of learning. Collaborative and contextual learning are the basis for optimizing the process of learning (University of Maastricht 2003). The University of Newcastle in Australia also adopts PBL and has a PBL Assessment and Research Center for the co-ordination, development and research around PBL (University of Newcastle 2002).

It must be appreciated that PBL is interpreted in several different ways and "PBL in action" is characterized by many different strategies. What is happening at Liverpool may be quite different from that at Southern Illinois, Maastricht or Flinders. Thus, the findings from one PBL institution may not be applicable or relevant to another employing the PBL approach (Lloyd-Jones et al. 1998:492).

That sweeping changes are occurring in the context and style of medical education enjoys wide representation in the literature. Emphasis on active learning instead of a passive lecture dominated format and early exposure to clinical medicine are some of the features of this change process (Bernier, Adler, Kanter and Meyer 2000:595 and Windish 2000:90). Problem-based learning in particular has had a profound influence on thinking and practice in medical education for the past 30-40 years. The PBL approach has been deemed more effective for the acquisition of basic knowledge and clinical skills (Colliver 2000:259). Barrow and Tamblyn (1980:13) continue in the same light by asserting that "this approach is tailor made for medicine". This is probably why it forms the basis of the curricula of many newly established medical schools throughout the world (Bligh 1995:323). Additionally, the challenge of integrating experiences, previous knowledge, skills and activities with new knowledge and using this to solve clinically related problems is stimulating for many learners and very appropriate in a community setting (Bligh 1995:323).

Small group tutorials are the engines that drive the PBL process (Bligh 1995:324) and usually two facilitators are present- a clinician and a basic scientist (Dahle, Forsberg, Svanberg-Hard, Wyon and Hammer 1997:418 and Hassan 1996:104) who according to Bligh (1995:324) do not need to be subject specialists but who act as guides helping learners progress through the discussion and decision making required to find a solution to the problem. These tutorials are supplemented by regular lectures, laboratory sessions, conferences, computer-aided learning, visits and projects in the hospital or community, as deemed appropriate (Bligh 1995:324).

Problem-based learning in medicine starts with a problem in the form of a clinical scenario. Once the scenario is outlined, direct questions are asked. A few more clinical details are given and another question asked. Answers (or hypotheses) to these questions are modified according to clinical data or laboratory results about which therapeutic strategies are discussed (Stein, Neill and Houston 1990:193 and Windish 2000:90). Therefore, based on history, laboratory and clinical data and with the aid of scientific information, the initial list of diagnoses is reordered until there is agreement about a diagnosis (Maleh 2000:522).

This general problem-solving process in medicine has often been described as the "clinical reasoning process" (Barrows and Tamblyn 1980:19) and has been the subject of several investigations. The results of these studies provide evidence of a general mental strategy, a process which has been labelled "the hypothetico-deductive method" since it represents deductive reasoning (Elstein et al., in Norman 1988:280). This is an important ability for a physician as this pertains to the cognitive process that is essential for evaluation and management of a patient's medical problem (Barrows and Tamblyn 1980:19).

The advantage of the clinical reasoning process is that the student has a good idea of where he is going in the investigation of the patients' problem. Barrows and Tamblyn (1980:34) complain that there are too many clinicians or learners who cannot thoroughly interpret a patient's problem, who miss important findings because they lack good working hypotheses or problem formulations. In PBL, however, the student learns clinical reasoning skills which are paramount to being an effective clinician (Windish 2000:90). Furthermore, learners learn relevant basic science information in the context of a particular clinical problem and this information is more likely to be easily retrieved and applied later in their careers when a similar problem is met (Walton and Matthews 1989:544 and Barrows and Tamblyn 1980:13).

Another advantage is that since learners search for their own knowledge, this gives experience in the process of searching for appropriate literature (Dahle et al. 1997:416), laying the foundation for self-directed lifelong learning which is one of the major hallmarks of PBL (Boshuizen et al. 1997:115). The reasons for this are two-fold. First, since knowledge often becomes redundant by the time a student enters professional practice, it is important for educators to ensure that their learners are equipped with self-directed learning skills in order to cope with ever increasing knowledge. Also, it is essential for physicians in clinical practice to have lifelong learning skills to ensure that their clinical decisions are based on evidence in the medical research literature (Rhyne 2000:523).

How do we know that what a student has learnt through the PBL process was what was intended in the first place? For this reason, reliable and valid assessment techniques that test medical problem-solving

abilities are essential to determine what a student knows and what he is likely to do in practice. Thus, the assessment of the ability to apply medical knowledge in practical situations, leads to evaluation procedures related to performance in practice (De Graaf 1988:49). Various assessment methods are used in PBL to achieve this, namely, the objectively structured clinical examinations (OSCE), the individualized process assessment (IPA), the modified essay question (MEQ) and self- and peer-assessment.

The OSCE is an objective method of assessing a student's clinical competence in which the areas being examined are carefully planned by the examiners. During the examination the student rotates around twenty stations spending about five minutes at each station. At the sound of a bell, the student moves to the next station. A specific component of clinical competence, for example, taking the blood pressure of a patient or interpreting an electrocardiogram is tested at each station. The OSCE is perceived to be more valid than the traditional approach to clinical examinations because the emphasis can depart from testing factual knowledge alone to testing a repertoire of skills. Moreover, since different stations are used, a larger measure of the student's skills are tested (Harden and Gleeson 1979:42).

The OSPE (objectively structured practical examination) has also been used at a medical school in Saudia Arabia (Dissanayake, Ali and Nayar 1990:300), to test competence in physiological laboratory skills. These authors found a marked improvement in the performance of learners taking the OPCE as compared to the old traditional examination. The staff were also better able to evaluate achievements of the objectives of the laboratory classes by using the OSPE.

The MEQ is produced in the form of a booklet. the front page of which consists of a list of instructions. The second page has a brief clinical scenario. At the end of this a series of questions are set out with enough space for the student to write an answer before turning to the next page. Additional information is given which is related to the same scenario. The student may be required to recall factual information or to interpret clinical/laboratory data in the specific situation. Each question is set on a different page and the student is required to move progressively through the scenario as it is developed, without turning back (Knox 1989:52).

Yet another type of evaluation used in PBL is that of self- and peer assessment. To understand the rationale for self- and peer- assessment, one needs to take cognizance of the fact that self-directed learning is a process whereby learners not only take the initiative in diagnosing their learning needs and goals and implementing appropriate learning strategies, but are also involved in evaluating their performance and getting feedback from other group members about their progress (Ryan 1993:54-56).

Also, one of the aims of PBL is to create lifelong learners and self-assessment is an important parameter in this process. Learners will be able to evaluate the extent of their progress, in mastering information in later life when formal evaluation is no longer existent. Further, in the workplace one is constantly being assessed by ones peers and this provides a valuable contribution as to how ones abilities are perceived and whether there is room for improvement (Stefani 1994:69).

By way of a summary, the assessment methods used in PBL are shown in figure 2.1.
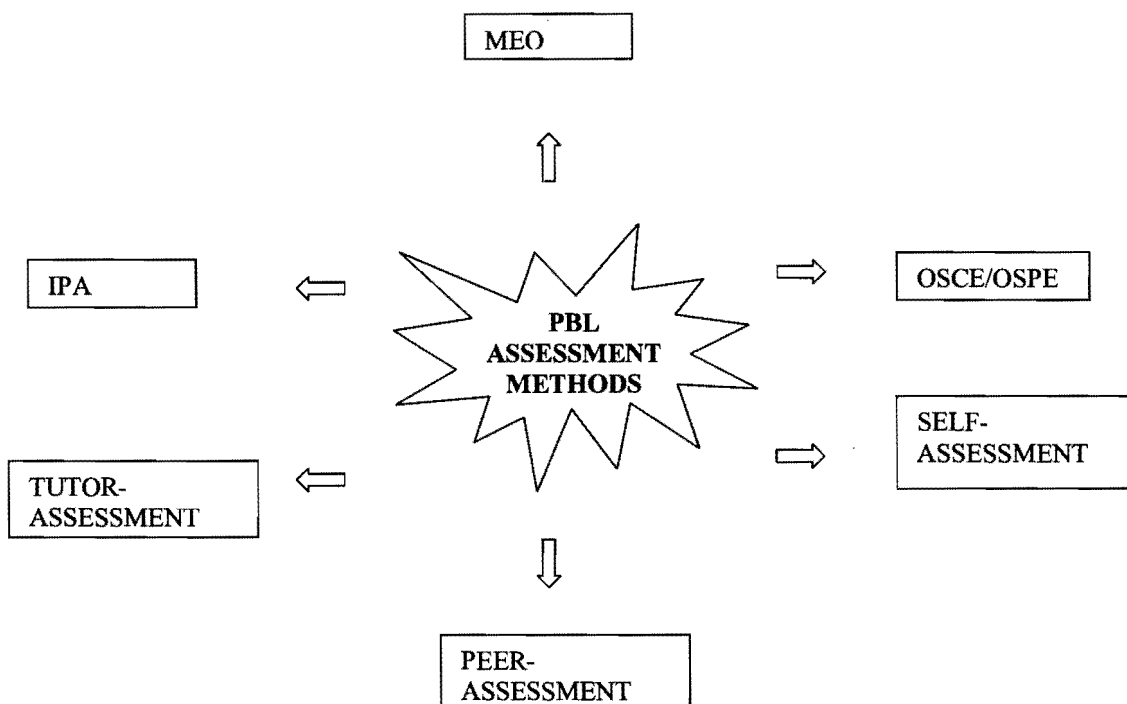
Figure 2.1: Assessment methods used in PBL

2.5.2.3 The implications of Problem-based Learning (PBL) for staff development

In this writer's view, before one can train and develop staff in the implementation of PBL, one needs to have a thorough understanding of what the staff member's duties are in that process. In this respect, a redefinition of the role of the PBL educator is examined, followed by a review of some literature reports of tutor/facilitator training in order to obtain an idea of the modus operandi of some institutions regarding training in PBL. It is interesting that Wolff (1979:396) writes that, even medical educators who were interested in PBL were daunted by the complexities and obstacles and

were unable to introduce it in their own teaching. This highlights the need for staff development before PBL can be implemented, because ignorance can make anything seem very complicated.

Most people who are recruited to teach adults have not been taught in this innovative way themselves and this places a heavy burden on academic staff. Many are inexperienced and unacquainted with the task of facilitating. Some teachers would prefer to teach as they were taught- in the traditional way, and would have to be taught how to teach in the novel curriculum (Lowry 1993:34). Problem-based Learning is concerned more with the growth of the individual than the presentation of facts which is why tutors must be capable of learning and not just teaching (Knowles 1980:17).

Remember that the task of the student in the PBL process is not merely to listen, write and memorize but to become involved, think and learn by trial and error. He is expected to learn cognitive reasoning skills and to identify learning issues appropriate to the problem. Within this context, the educator's role is seen as a guide or facilitator and not as a dispenser of knowledge (Barrows and Tamblyn 1980: 83).

Therefore, the tutor should take cognizance of the clinical reasoning process and should allow the learner to learn by experimentation and inquiry. S/he should monitor and stimulate the discussions by asking leading questions and raising thought provoking issues. In short, s/he should help learners to help themselves (Barrows and Tamblyn 1980:83).

According to Neufeld and Barrows (1974:1044), the tutor must understand the general goals and methods of the programme and should be skilled in managing small-group interaction. He/she should also help the group become gradually more responsible for its own activity. The co-ordination of effective and meaningful evaluation is another task of the tutor. S/he should him/herself be a member of the group and be an example of self-directed learning and problem solving.

While PBL has many features that make it an ideal learning method in medical education (Hay and Katsikitis 2001:22), from personal experience, it is this writer's perception that this can only be possible if tutors are adequately trained as facilitators of self-directed learning, in small group dynamics and in integrating the appropriate disciplines in a vertical and horizontal manner.

Using the facilitating approach, the tutor tries to help the student in his learning progress. This is achieved by encouraging, reinforcing, shaping and hinting (Neufeld and Barrows 1974:1044) and acting as a flexible resource person (Rogers, in Knowles 1988:76-77). In PBL, the tutor should use the principle of "guided discovery", that is, allowing the student to learn from his own mistakes but not letting him become totally frustrated by lack of progress. According to Rogers (in Knowles 1988:76), the facilitator should help clarify the purpose of individuals within the group and the aims of the group itself.

Another consideration for educators is that PBL means less lecturing and more student contact in the form of small group tutorials and self-directed learning (Bligh 1995:323). Thus, PBL uses an adult type of learning model (Hay and Katsikitis 2001:22). This calls for different skills especially those of group leadership.

Furthermore, on the issue of adopting the new role of facilitator, the contention of Mennin and Martinez-Borrola (1986: 193) is that, since lecturers serve as facilitators of the learning process in the PBC, there is less time spent in preparation for tutorials. From personal experience at the University of Transkei, this was not the case since tutors in the second year MBChB course needed to have a thorough understanding of three subjects, namely, Anatomy, Biochemistry and Physiology, to be able to facilitate the learning process efficiently. This was compounded by the fact that tutors had to apply this knowledge to a clinical case. This meant extra preparation and tutor/facilitator burn out was a common phenomenon. Hence, this is an important issue to be addressed when training staff in PBL methodology.

Also, what Bligh (1995:325) says about facilitators not having to be content specialists does not necessarily hold true. Once again, from this writer's experience facilitators need to be able to understand what learners are saying and to guide them, or they could easily be misled. Therefore, it is essential that facilitators be self-directed learners themselves and so, part of any staff training process should include the inculcation of self-directed learning, since facilitators would need to learn other subjects as well and not just focus on their own areas of specialization. Getting to the actual process of developing staff to become facilitators of PBL, how does one come up with an effective strategy or programme for such an endeavour? An obvious starting point would be to see what others are doing; which is why a review of the literature was imperative in this regard.

McDermot and Anderson (1991:778-779) report that at the University of Hawaii, four workshops (held over three consecutive days) were run in order to train faculty in the PBL method. Two weeks prior to each workshop, faculty trainees received a brochure describing the philosophy and strategies of PBL tutoring. At the same time each trainee also received a questionnaire aimed at testing the trainee's knowledge of the principles and techniques involved in facilitating a small group. The questionnaire (pre-test) covered four areas: facilitation, problem solving, student-focused learning and group centered learning. At the close of the workshop, each participant completed the same questionnaire again (post-test).

The outcome of this study showed that respondents displayed knowledge of PBL philosophy and strategies on the pre-test, and acquisition of skills in implementing these strategies on the post-test. The post-test results, however, highlighted the need for additional emphasis on certain problems encountered

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by the small group facilitator. These were: 1) Problem's in the tutor's role; reverting from facilitators to content experts and 2) Problem's in the tutor's function; avoidance in the identifying and confronting issues involving the behaviour of learners (McDermot and Anderson 1991:779).

McDermot and Anderson (1991:779) maintain that it is not surprising that educators had difficulty maintaining the new role of tutor-facilitator. The role of facilitator was novel to faculty who were experienced content experts and facilitating learners' searches for answers was more difficult than providing the answers themselves. To counteract these difficulties, the researchers elected to build commonly encountered PBL problems as scenarios, into the workshop experience.

Hattingh and Killen (2003:42, 44) describe a study that involved the training of pre-service teachers in the application of PBL principles, in which they also demonstrate how difficult it is to train educators to make the adjustment from dispensers of content to facilitation of learning. Twenty students had undergone training in PBL for three hours per week over a period of six months prior to teaching in the classroom situation. The researchers concluded that these student educators were "reasonably successful" in transferring new knowledge and skills to the actual practice of teaching and learning.

What was also found, however, was that some of the prospective educators were not completely equipped with skills to facilitate co-operative learning in groups and to make the switch to facilitators of learning. From their findings, Hattingh and Killen (2003:44) suggested that training programmes need to focus on developing competencies in the facilitation of complex teaching/learning situations where learners have a cacophony of learning styles, abilities and prior knowledge.

When PBL was initially implemented at the University of Transkei in 1993, most of the staff were unfamiliar with PBL or what the facilitator's role entailed. Therefore, educators were the recipients of a crash familiarization course. This took the form of an intensive week long workshop, spending two hours over three days working through a clinical problem which was presented in the same format as would be implemented in the classroom. Prior to this workshop, a couple of lectures were given on the philosophy of PBL. Additionally, ongoing workshops were held annually (Hassan 1996:123).

In this writer's opinion, an important consideration for staff development strategies is not only to look at facilitation on the cognitive level but on the affective level as well. Being able to handle problems among learners in the group and to possess effective group dynamic skills, is crucial for the effective implementation of PBL. This was verified in a study undertaken at the Universty of Maastricht, by Dolmans, Wolhagen, Scherpbier and Van de Vleuten (2001:473-476), when it was shown that the performance of facilitators with group dynamic skills were rated higher by learners than were tutors who lacked these skills, irrespective of the quality of a tutorial group's performance. Dolmans et al.

(2001:474) maintain that tutors whose performance skills are weak may lack certain competencies, especially group dynamic skills, that are needed to deal with unproductive groups and to improve co-operation within the group.

Further, Maxwell and Wilkerson (1990:513) cite that the success of a curricula innovation will depend on the acceptance of those who will use it. Research has shown that innovations often fail because of resistance from those required to implement them. Mennin and Kaufman (1989:10) maintain that in the context of PBL, faculty who were accustomed to controlling the curriculum experienced fear that they had lost control when PBL was introduced. Previously they had determined what, when, where, how much and in what format learners were to be taught. They perceived this challenge as a threat to their status.

The introduction of any innovation or change and is likely to be met with resistance and this should not be ignored when planning staff development programmes. For this reason, the next subsection addresses the issue of change and staff development at some length.

2.6 Change and considerations for staff development

An introductory commentary on the phenomenon of change was outlined in subsection 1.8.4. This subsection merely expands on the nuances of change and draws a parallel with considerations for the development of staff in the context of a changing higher education environment.

The literature contains a wide array of information on the change process, types of changes and how change affects individuals, and strategies to effect change. In this writer's opinion, this information will have implications when planning a staff development programme and therefore deserves discussion in this chapter.

Moses (1988:120-121) maintains that those involved in the innovation must receive a clear payoff. Individuals should understand the purpose of the innovation and should facilitate their personal goals. Also, innovations need one or several people who are wholly committed to it. That is, people who personally and professionally strive to ensure the adoption and institutionalization of the innovation.

Some of the characteristics of change which emanated from the research of Hard et al. (in Zepeda 1999:120-121), are that change is not affected by groups of people or programmes but through the efforts of individuals. Each person reacts to change in a different way. An educator, for instance, will react to change in terms of the impact it will have on their teaching, planning, time and learners.

Therefore, change must focus on the people who will implement it, not on the materials to be used, since materials do not affect change but people do.

2.6.1 Strategies employed to effect change

Chin and Benne (in Rutherford 1982:178-180) offered a useful classification of strategies to effect change, grouping them as follows: 1) Power/coercive strategies, 2) Empirical/ rational strategies and 3) Normative/re-educative strategies (see table 2.6).

Table 2.6: Strategies to effect change

Strategy	Characteristic of strategy
Power/coercive strategies	Characterized by the application of superior power from those in authority to secure compliance of those in subordinate positions. It runs the risk of inviting resistance but is nevertheless used by universities and governments to implement change in universities (Chin and Benne, in Rutherford 1982:178). To influence people to accept change, laws may be passed to alter a situation, organization and practice. In order for that change to work, however, re-education of people is necessary (Chin and Benne, in Moses 1988:117).
Empirical /rational strategies	Stresses the value of research and development and produces ideas and proposals for change that can be rationally justified. This has a strong appeal to the academic mind. Success depends on readiness of the audience to accept the suggested innovations (Chin and Benne, in Rutherford 1982:179). People are guided by rational self-interest and will adopt change if it is shown to be desirable, effective and in the self-interest of the person (Chin and Benne, in Moses 1988:116). This strategy is based on the assumption that man as a thinking creature will act rationally when faced with the facts. There is a relationship between research, training and action in solving problems. Also, the need for change is identified and plans of actions evaluated to accomplish the desired changes (Chin and Benne, in Tobin et al. 1979:93).
Normative/ re-educative strategies	Emphasizes that change cannot be imposed externally but from within the individual as they recognize and seek to solve their own problems. Experience-based learning is seen as an important means for promoting an innovation. Here the developer assumes a collaborative, participative role. Chin and Benne (in Rutherford 1982:180) claim that this strategy is likely to be the most effective in implementing change. Here, man must participate in his own re-education which is normative , cognitive and perceptual change. Individuals may welcome the intervention of a change agent who will assist them in this process (Chin and Benne, in Tobin et al. 1979:94). This strategy stresses the client system and the involvement of the client in working out programmes of change and development. For example, the problem may lie within the client system, in attitudes, values and relationships, and these may require re-education before a solution can be worked out (Chin and Benne, in Moses 1988:117).

2.6.2 The change process in the context of education

The Concerns-Based Adoption Model (CBAM) provides a useful reference for understanding the change process (Hall, Wallace and Dossett, in Blair and Lange 1990:154). It highlights how people develop in their feelings and skills as they are introduced to and implement something new. The following concerns should be considered in programme planning:

1) Initial concerns are self-focused: "What is it and how will it affect me?"
2) Later concerns will be directed towards changing to wanting to master new practices and getting organized to use it comfortably.
3) Lastly, when the practice has been mastered, concerns will be focused on how it affects the learners and what changes can be made so as to enhance its impact.

2.6.3   Typical responses to educational change

Doyle and Ponder (in Bradley 1991:65-66) describe three categories of people according to their response to change (refer to table 2.7).

Table 2.7: Categories of people in response to change

Category	Action taken
Rational adopters	People who try to clarify the goals of the proposed innovation and deliberate on various ways of solving problems.
Stone age obstructionists	People who deliberately oppose change.
Pragmatic skeptics	People whose main concern is with immediate consequences rather than long term goals and outcomes. Their preference is for the real and concrete rather than the abstract.

Bradley (1991:66) explains that this model would aid in the understanding of why different proposals for handling innovation will emerge at staff development programmes. It would also help to think up strategies for implementation.

According to Barott and Raybould (in Zepeda 1999:81), change implies leaving "what we are" and becoming "what we are not". The unknown can be daunting since we are leaving behind a comfort zone. Fullan (in Zepeda 1999:82) is of the opinion that "all real change involves loss, anxiety and

struggle". Zepeda (1999:82) postulate that when educators resist change, it could be because of the following reasons:

1) The perception that change is a personal/ professional attack.
2) The history of change at the institution.
3) The community reaction.
4) The possibility of added individual responsibility and accountability.

It is cited by Basom and Crandall (in Zepeda 1999:122) that when change in regarded as unmanageable and when educators are ill-prepared for the complexity of change (as they often are), this can serve as barriers to change. Another mitigating factor is when educators and administrators become so deeply attached to the way they believe the institution should be, that change can be very painful. Additionally, insufficient resources and lack of time and money can derail the change process.

Individuals will resist change when they see it as threatening to their status or well-being. Common psychological roadblocks to change emanate from a person's dependence on the familiar, need for order, fear of risk and need to conform. It is usually those who are insecure who will fear the consequences of change most. They will be unwilling to admit weaknesses and have a fatalistic expectation of failure and will cling to any satisfaction (s) that exists in their current zone of comfort. People can also oppose change simply because of the sheer pleasure of resisting. They gain "recognition and status by posing as champions of the system" (Poole 1979:95).

Zepeda (1999:121) gives an account of change as being a difficult concept for all people. Change implies a loss of control. Almost everyone wants some control over matters such as health, happiness and professional stability. Change is difficult because it is multi-dimensional. One dimension of change is the use of new materials. Another includes the implementation of new strategies. Yet another involves the acceptance of new beliefs (Fullan, in Zepeda 1999:121). Zepeda (1999:122) suggests that perhaps the most personal dimension of change is the alteration of beliefs. Each person has his/her own paradigm- the way they see the world (Covey, in Zepeda 1999:122). Challenges to this paradigm would lead to fear and consequently resistance to change.

For educators, the use of novel methods can be unnerving. Some educators have fallen into the trap of employing the same teaching strategies and evaluation techniques year in and year out. The suggestion of implementing new practices can be construed as an attack on one's competence. This apprehension can trigger a defense mechanism inherent in all people (Zepeda 1999:122).

Poole (1979:95) advises that understanding the process of reversal of resistance is important to staff developers. These resistant forces that work against change will most likely be experienced by programme developers, since staff development is concerned with change. Hence, it is important for the programme developer to set the stage for staff development by setting a climate for the elimination/ dispelling of fears and allowing for opinions and feelings to be ventilated.

The subsection that is covered next deals with educational transformation in South Africa and three other international countries. Prior to the next subsection, a diagrammatic summary or mind map of the discussions of the literature review provided up to this stage is illustrated in figure 2.2, in order to depict a Gestalt view of what was covered. In addition, a schematic summary on the generic concepts of educational transformation (see figure 2.3) is inserted immediately thereafter to prepare the reader for the review on the global and regional transformation in higher education that follows.

One of the objectives of the literature survey was to: "Examine the factors that are contributing towards educational change at tertiary institutions from an international and national perspective" (see subsection 1.4.3.1). While the analysis of the literature throughout the preceding chapters and subsections of this dissertation dwelled on this objective, the following subsection (2.7) zooms in specifically on the processes of educational transformation in South Africa and three international countries.

2.7 Transformation in higher education: A national and international perspective

There are several factors that have influenced the transformation of higher education, locally and globally. It is clear from the literature that there are similarities with the educational change processes in many countries. This subsection analyses educational transformation in four different countries, extracting some of the similarities among them.

2.7.1 Transformation of higher education in South Africa

When South Africa was released from the grips of apartheid domination, one of the top priorities of the new government was to transform higher education. This was initiated in 1997 and through the release of several government documents the principles underpinning this transformation process was revealed. Essentially, the need to transform was linked to the urgency for South Africa to enter and compete in the global arena. Another pressing need is to address the imbalances and injustices of the past and to afford all South African citizens a better life in a democratic society through "national reconstruction and economic and social development". Therefore, the reason (s) for educational
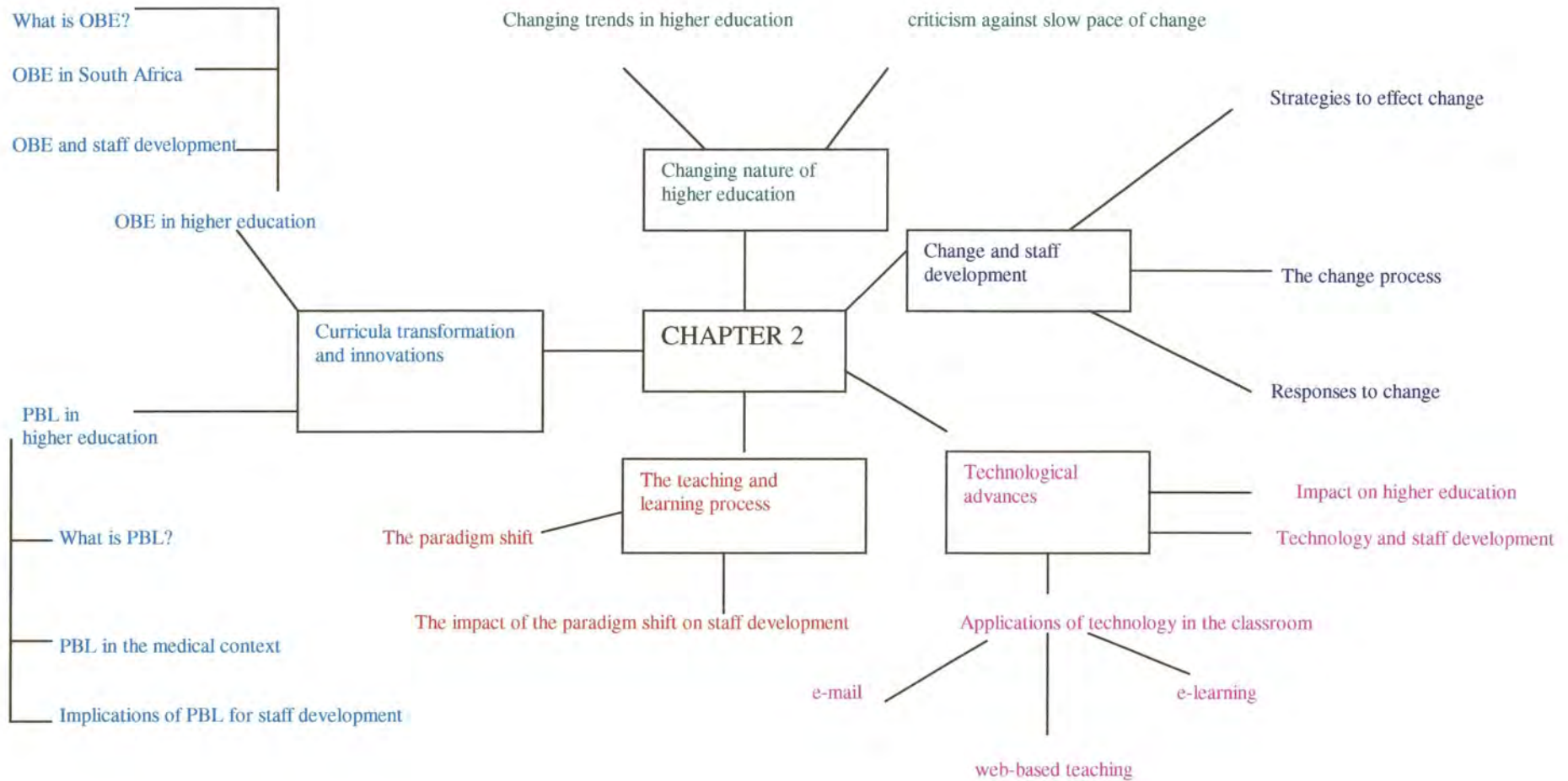
What is OBE?

OBE in South Africa

OBE and staff development

OBE in higher education

Changing trends in higher education

criticism against slow pace of change

Strategies to effect change

Changing nature of higher education

Change and staff development

The change process

Curricula transformation and innovations

CHAPTER 2

Responses to change

PBL in higher education

What is PBL?

The teaching and learning process

Technological advances

Impact on higher education

The paradigm shift

Technology and staff development

PBL in the medical context

The impact of the paradigm shift on staff development

Applications of technology in the classroom

Implications of PBL for staff development

e-mail

e-learning

web-based teaching

Figure 2.2 :   A Mind map of the partial contents of chapter 2
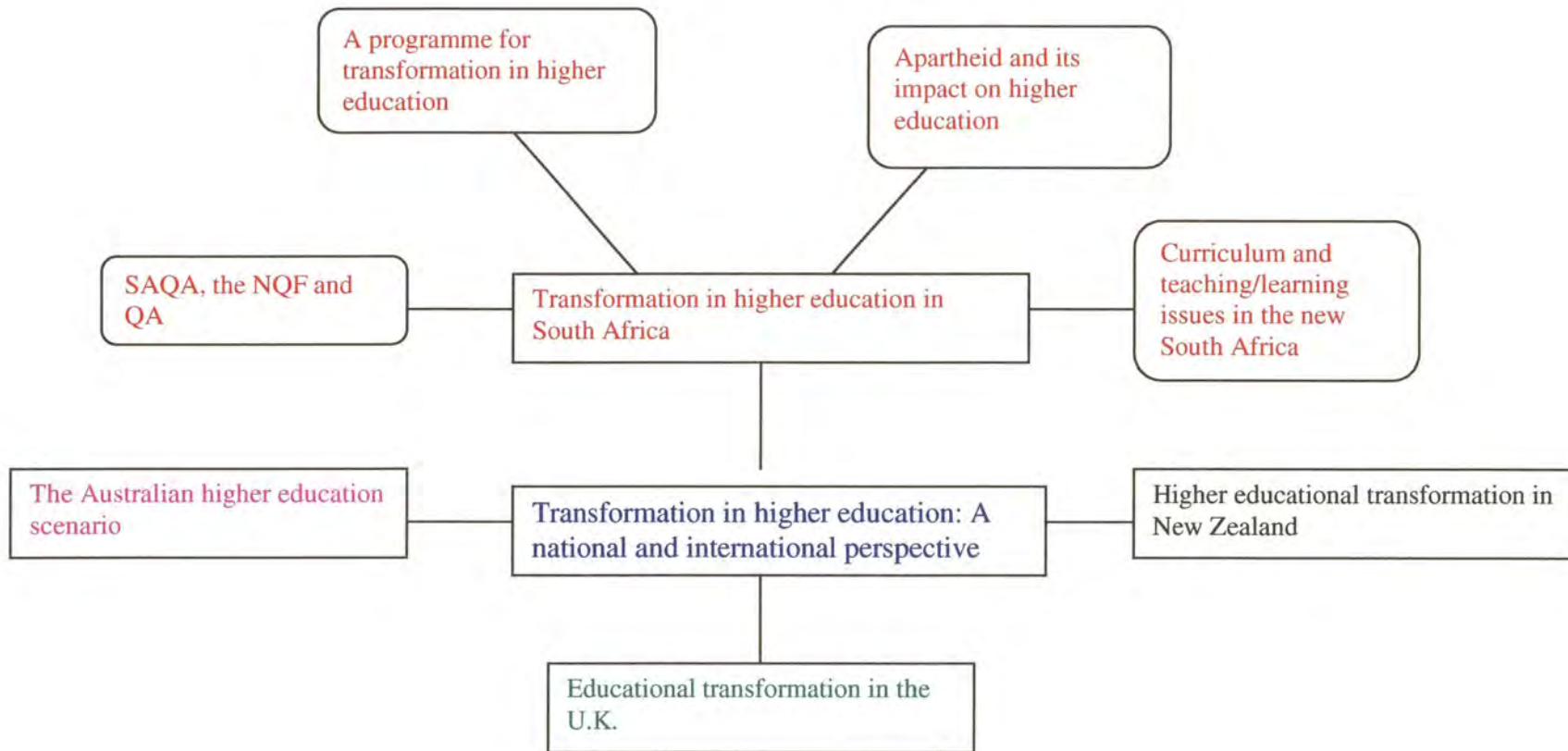
Figure 2.3: A schematic diagram of a national and international perspective of higher educational transformation.

transformation in this country is explained by this statement in the Green Paper (Department of Education 1996:11):

> "The need to transform higher education in South Africa stems from two sets of factors. Firstly, an historical legacy of inequity and inefficiency which inhibits its ability to meet moral, social and economic demands of the new South Africa and secondly, a context of unprecedented national and global opportunities and challenges".

2.7.1.1 Apartheid and its impact on higher education

A brief exposition is necessary of some of the factors that preempted the drive to transform the higher education system in South Africa. Of great significance was the discontentment with the previous apartheid education. South Africa's rapid pace of re-integration into the global arena, was another contributing factor to transform higher education.

Over the past forty years, education in South Africa has been the center of contention and bitter struggles between the apartheid government and the democratic movement. The various phases of struggle have been encapsulated in slogans such as "Equal Education", "Education towards democracy", "Education for liberation" and "People's education for people's power". The form and content of struggles concerning education have been determined by social structure and severe economic and social inequalities of race, class, gender and geography (Badat 1997:14-15).

Furthermore, in the report of the South African Department of Education Task Team on Education Management Development (Department of Education 1996:18), it is explained that:

> "Apartheid led to an education system characterized by racial, regional and gender inequality as well as ideological distortions in teaching and learning. The neglect of the quality of African education, combined with the rapid increase in the numbers of learners, led to the disintegration of the learning environment and the death of a culture of learning in many black schools. The demise of a learning culture was exacerbated by curricula which had little relevance to the lives and aspirations of the learners. Moreover, rote learning and examinations-driven teaching methodology were emphasized at the expense of student participation, problem-solving and critical thinking".

Chrisholm (1997:58) further explains that apartheid stamped on education an enormous legacy of educational inequality. It was resistance to apartheid that gave rise to a rich history of ideas and approaches to the transformation of education. After 1990, a new phase under new historical conditions was entered into.

Now, as South Africa locates itself in the global arena, higher education will have to produce the skills and technological innovations necessary for economic participation. Also, it must socialize a new generation with the requisite cultural values and communication competencies to become citizens of an international community (Department of Education 1997b:5).

Kishun (1998:58) reports that higher education has been impacted by some of the most powerful forces of globalization, including the domination of a "market ideology"(the comodification of knowledge which can be manufactured, bought and sold), the process of massification, the technology revolution and the emergence of a socially distributed knowledge production system (knowledge produced in organizations of different types). These trends are expected to have a major influence on the manner in which a democratic country achieves its goal of reconstruction and development while aiming to be a global player in the new world order.

Without belaboring the point, it is clear that the apartheid system of education was ineffective and had to go to make way for a relevant progressive one that would allow the education and training system to keep pace with international standards. Phillips (1996:2) maintains that to develop the sound, high quality education and training system required to produce high levels of skills and knowledge, what is needed is a revolutionary change in the mindset of education providers regarding learning and assessment. In what follows is an overview of the creation of a policy framework which was designed to support the shift to quality.

2.7.1.2 A programme for transformation in higher education

The major thrust of the higher education transformation process in this country was to create a policy framework within which the educational system would be transformed in the context of the unprecedented national and global opportunities and challenges. Therefore, in response to the needs for educational transformation the government, private sector and academia were invited to be the major stakeholders in the development of the 1996 National Commission of Higher Education (NCHE) report, initiated by the minister of education. Together with the Green Paper on Higher Education Transformation (Department of Education 1996), the NCHE demonstrates a commitment

to directing higher education towards South Africa's entry into a global economy and the basic needs of the majority of the population (Kishun 1998:60).

Adding to this, a programme for higher education transformation was released in the Education White Paper 3 (Department of Education 1997a). According to the then minister of education, this transformation must reflect the changes that are taking place in South Africa and should also strengthen the values and practices of the new democracy. The new framework for a higher education system must be planned and managed as a single national co-ordinated system so as to overcome the "fragmentation, inequality and inefficiency of the past" (Bengu, in The Department of Education 1997a:2). The challenge, therefore, is to redress past inequalities and to transform the higher education system to serve a new social order, to meeting pressing national needs and to respond to new realities and opportunities (Department of Education 1997a:3).

What is more, the Education White Paper 3 (Department of Education 1997a:4), describes a pressing need for transformation based on the deficiencies of the present system of higher education. The limitations described are the inequitable distribution of opportunity for learners and staff along lines of race, gender, class and geography. Additionally, there is a lack of synchrony between the output of higher education and the needs of a modernizing economy which has been detrimental to social and economic development. Our present education system has been criticized as favoring academic insularity and closed-system disciplinary programmes. The governance of higher education is fragmented, inefficient and ineffective with little co-ordination. This challenge requires that the higher education system must be planned, governed and funded as a single co-ordinated system.

Also, in the report by the Commission on Higher Education (CHE): "Towards a new higher education landscape" (Department of Education 2000:10), it is stated that higher education must help erode the inherited socially structural inequalities and provide opportunities for social advancement through equity of access and opportunity. It must produce the knowledge and person-power for national reconstruction and economic and social development to enable South Africa to participate in a highly competitive global economy. This would require the development of professionals and knowledge workers with globally equivalent skills.

Therefore, the Education White Paper 3 (1997a:7-8) is clear and explicit that the fundamental principles that will guide the process of transformation are those that are tabulated in table 2.8.

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Table 2.8: Principles that will guide the process of transformation

Principle	Implementation of principle
Equity and redress	All individuals will have a fair opportunity for a higher education.
Democratization	The governance of the higher education system should be democratic and representative.
Development	Conditions must be created to facilitate transformation in higher education.
Quality	High academic and educational standards must be maintained and renewed if necessary.
Effectiveness and efficiency	Institutions must function optimally so that desired outcomes are achieved.
Academic freedom	This is a prerequisite for critical experimental and creative thought.
Institutional autonomy	This refers to administrative independence with respect to student admissions, curricula, methods of teaching and research.
Public accountability	Institutions are answerable for their actions and decisions to governing bodies and broader society.
Diversity	This is important in enabling choice and developing responsiveness to varying needs and circumstances.

In a nutshell, the overall objective is the development of a higher education system characterized by quality and excellence, equity, responsiveness and effective and efficient provision, governance and management (Department of Education 2000:11).

The main purposes of planning at the national level are to ensure that (Department of Education 1998:2):

1) The higher education system achieves the transformation objectives set out in the Education White Paper 3.

2) There is coherence with regard to the provision of higher education at the national level.

3) Limited resources are used effectively and efficiently.

The purposes of planning at the institutional level are to ensure that institutions achieve their objectives and that they contribute to the achievement of national goals. At institutional level, the planning framework deals primarily with planned student enrolments, a strategic plan, a quality improvement plan, student equity and development plans, academic development plans, research development plans and a capital management plan. Therefore, each higher education institution is required to come up with a comprehensive strategic plan which takes cognizance of the unique mission of the institution which is informed by student demand, labor market requirements, societal equity and development needs as well as by the new demands of knowledge production in the context of technological innovation and globalization. It is intended that through these "three year rolling" plans, stability within the higher education system will be achieved (Department of Education 1998: 1-3).

2.7.1.3 Curriculum and teaching/learning issues in the "new" South Africa

It has become common knowledge that learning deficits are so widespread between school and higher education that systematic changes in higher education programmes will be needed to alleviate this problem. Academic development structures and programmes are needed at all tertiary education institutions to enhance teaching skills and improve curricula and courses. Together with the CHE, the Ministry of Education is responsible for assessing the broad curriculum in terms of content, relevance, design and delivery. In addition, it was decided to implement a programme-based approach to planning and development to ensure greater articulation between the different higher education sectors and to encourage flexibility and co-operation (Department of Education 1997a:14-16).

Regarding curriculum planning in South Africa, there are several broad new curriculum principles that should guide this process. This is according to the National Curriculum Development Committee who wrote up the "Curriculum Framework for General and Further Education and Training" document. Several principles form the structure in informing curriculum design (Gultig, Lubisi, Parker and Wedekind 1999:4-8). These principles are shown in table 2.9.

Table 2.9: Principles that would guide the process of curriculum planning

Teaching/learning principle	Curriculum design
Lifelong learning	The process of learning and expanding the boundaries of knowledge should occur throughout the learner's life.
Learner centered-ness	Learner's should be put first; their knowledge and experience recognized and their needs responded to.
Relevance	Curricula should be relevant and appropriate to current and anticipated future needs of the individual, society commerce and industry.
Integration	An integrated approach to education and training is one that rejects a separation between academic and applied knowledge, theory and practice or between knowledge and skills.
Differentiation, redress and learner support	Learning programmes should afford opportunities for all learners to strive towards the attainment of similar learning programmes, notwithstanding that there are differences in learner's interests and abilities.
Nation-building and non-discrimination	This should promote the development of a national identity and an awareness of South Africa's role with respect to Africa and the rest of the world. Therefore, learning programmes should encourage the development of mutual respect for diversity.
Critical and creative thinking	The learner's ability to think logically and analytically as well as holistically and laterally, should be promoted.
Flexibility	Learning programmes provide an increasing range of learning possibilities, offering learners a choice in what, where, when, how and at what pace they want to learn.
Progression	An integrated approach to education and training linked to the NQF will be based on a system of credits for attaining outcomes. Learners should be able to move ahead on the basis of learning outcomes.
Credibility	For a country to be internationally competitive, its education and training system should be comparable to those of other countries, in addition to being valid, relevant and of high quality.

Furthermore, according to the White Paper on Education and Training (Department of Education, 1995:13), South Africa stands to gain from "open learning principles", namely, that of learner-centeredness, lifelong learning, flexibility of learning provision and removal of barriers to access learning, the recognition of learner support, the construction of learning programmes in the belief that learners can succeed and the maintenance of rigorous quality assurance over the design and delivery

of learning materials.

2.7.1.4 SAQA, the NQF and quality assurance (QA)

In 1995 the SAQA Act was legislated, outlining the functions of SAQA as follows:

1) Oversee the development of the NQF: a) Formulate policies for the registration of bodies responsible for establishing education and training standards or qualifications and b) Accredit bodies responsible for monitoring standards or qualifications.

2) Oversee the implementing of the NQF: a) Be responsible for the registration of national standards and qualifications and b) Ensure that standards and registered qualifications are internationally comparable (Office of the President 1995:3).

Also, with the establishment of SAQA, an outcomes-based approach to university education has been adopted. Outcomes-based education requires universities to focus their attention on the desired end results of learning and teaching/learning processes that will guide learners to these end results (Jacobs 1999:136). Outcomes-based education has already been discussed in subsection 2.5.1.

To reiterate, the promulgation of the SAQA act of 1995, led to the NQF being established to provide for the registration of national standards and qualifications. The objectives of the NQF are to:

1) Create an integrated national framework for learning achievements.
2) Facilitate access to, and mobility and progression within education, training and career paths.
3) Enhance the quality of education and training.
4) Accelerate the redress of past discrimination in education and employment opportunities.
5) Contribute to the full personal development of each learner and the social and economic development of the nation at large (SAQA 1995:1).

Initially it was decided that the NQF shall consist of eight levels: levels one to eight, and each level shall be open-ended and shall accommodate three sublevels for Adult Basic Education and Training for which certificates of achievement may be awarded. Level eight shall be open-ended. The eight levels of the NQF shall be grouped into three bands, which shall be defined as follows:

1) Level 1: and below: General Education and Training band.
2) Level 2-4: Further Education and Training (FETC) band.

3) Level 5-8: Higher Education and Training band.

In the recent NAP document (which has not been promulgated yet), it has been proposed that there shall be ten levels on the NQF as depicted in table 2.10.

Table 2.10: The National Qualification Frameworks (Adapted from the NAP 2002:4-5)

NQF level	General qualification
10	Doctor of Philosophy
9	Masters (research and structured)
8	Honours Degree/Postgraduate Diploma or Certificate
7	General Bachelors degree
6	General Diploma
5	Foundation Certificate
4	FETC

This development of a NQF which advocates an integrated approach between theory and practice in education and which is based on a system of credits for learning outcomes achieved will encourage creative work on the design of curricula and the recognition of learning attainments wherever education and training may be offered (Department of Education 1995:10). This quotation extracted from the White Paper on Education and Training (Department of Education 1995:10) further highlights the advantages of the NQF:

"It will open doors of opportunity for people whose academic or career paths have been needlessly blocked because their prior knowledge (acquired informally or by work experience) has not been assessed and certified or because their qualifications have not been recognized for admission to further learning, or employment purposes".

Elaborating on the integrated approach, the White Paper on Education and Training (Department of Education 1995:10) reiterates that integrated approaches toward education and training are fast becoming a major international trend in curriculum development and reform of qualification structures. While the integrated approach will not in itself create a successful economy and society in South Africa, it is considered a prerequisite for successful human resources development and may contribute significantly to social and economic reconstruction and development.

Furthermore, an important idea of the NQF is the principle of lifelong learning. The rationale behind this is that learning does not cease on completing ones formal education but recurs as one adds to one's skills and knowledge throughout one's lifetime. The recognition of prior learning and the

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"Record of Learning" (a personalized document listing of all the unit standards and qualifications each individual receives on the NQF) are designed to encourage the formal recognition of learning (Phillips 1996:52).

Additionally, the NQF presents educators and policy makers with the opportunity to examine critically the "critical outcome" in the global context. In this way curriculum development and change could occur within a framework that nurtures the democratic ideals of South Africa while stimulating the expertise needed to compete in the global context (Kishun 1998:66).

Moreover, Van der Vyver (1999:5) purports that although many educators have been disillusioned with the impact their courses had on learners, they did not always know how to modify their courses to make them more appropriate and significant in providing real and challenging learning experiences. The NQF has provided a new playing field and the opportunity to experiment and discover new games that can appropriately be played in this framework. Therefore, the establishment of a NQF represents an attempt by the state to impose curriculum change on tertiary institutions, creating a climate through which more appropriate programmes, instructional strategies and courses could germinate and flourish.

Also, the main advantage in the development of the NQF is that qualifications are based on clearly defined national standards. This will allow people to be measured against the standard to earn a credit, and not against each other. The system will recognize competence irrespective of where it was gained- whether formally or informally. Thus, learning will be able to take place on the job, at tertiary institutions and in private training establishments (Phillips 1996:36).

Additionally, the emphasis is on what the learner knows and can do rather than how long it takes to complete a programme of learning. In this way the South African education and training industry will be in a better position to compete on the international market by showing the standard of its qualifications. These qualifications will have to meet quality criteria specified by SAQA (Phillips 1996:11).

For this reason, the NQF requires providers to have quality management systems (accreditation and quality audit, registered assessors and moderation) to ensure national and international credibility. Quality assurance and quality control is devolved to providers under the authority of Education and Training Quality Assures (ETQAs) (Phillips 1996:11). National Standard Bodies (NSBs) and their Standard Generating Bodies (SGBs) are responsible for the quality of the product or outcome. The quality of inputs and process is the responsibility of ETQAs which are accredited to safeguard and

improve the delivery and achievement of NQF-registered standards and qualifications (SAQA 2000:10).

Expanding on the point of quality, according to the Green Paper on Higher Education Transformation (Department of Education 1996:28), one of the principles underpinning the vision of a transformed higher education system is the improvement of quality. Quality is linked to the capacity and commitment of the educator, the appropriateness of the curriculum and the way standards are assessed. A single qualifications framework (SAQA) linked to the NQF is one of the main mechanisms for ensuring and promoting quality. Also, the higher education sector is expected to be accountable and able to fulfil the changing needs of society (fitness of purpose). The issue of accountablity and "fitness for purpose" have emanated in the inception of quality and QA (Kistan 1999:125).

Following on the recommendations of the White Paper on Higher Education, the Higher Act of 1997 makes provision for the CHE to establish a permanent sub-committee, the Higher Education Quality Committee (HEQC) with the mandate to:

1) Promote QA in higher education.
2) Audit the QA mechanism of HEIs.
3) Accredit programmes of higher education.

This formal QA system is intended to ensure that higher education in South Africa is responsive to the needs of learners, employers and society at large (HEQC 2002:1, 3).

Vroeijenstijn (1995:34), one of the canons on the subject of QA, explains that the aims of QA are to:

1) Improve teaching and learning.
2) Promote public accountability. Higher education can shape the responsibility towards society with the help of the outcomes of quality assessment.
3) Contribute to the planning procedures of an education system. Differences in quality become visible and play a role in the development of higher education.
4) Inform society about the state of higher education, for example informing students about the quality of programmes.

Continuing on the same track, documents such as the (National Commission on Higher Education (NCHE), the White Paper on Higher Education and the Higher Education Act imply fervently that the state has a responsibility to ensure that money is well spent, that is, it is accountable towards its

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various stakeholders. The implications of implementing these two acts will result in every academic staff member being involved in quality assurance (Brink 1998:4).

What is quality in higher education? From a perusal of the literature it is clear that quality is a concept that defies a universal definition and many authors on the subject have varying views on what constitutes quality in higher education. For Steyn (2000:47), quality education is not only about certain levels and standards but also about empowering learners. Astin's (1985:19) definition also focuses on the individual: "Excellence (quality) should be defined to reflect on the individual's ability to center significant educational benefits on students and faculty". Brink (1998:5) defines quality in higher education from an institutional slant: "A flexible concept which is adopted by each institution to suit its own unique purposes and which is continually altered in accordance with changing circumstances".

For Brink (1998:6), QA has an intrinsic and extrinsic dimension. Intrinsic QA refers to procedures such as curriculum review, external examinations, staff appointment criteria, financial planning, infrastructure development and academic support. Extrinsic QA is one that is introduced by external QA and serves to complement intrinsic QA practices by:

1) Amalgamating all the separate QA activities in the institution.
2) Obliging the institution to engage in self-evaluation of its QA practices in a structured manner.
3) Encouraging staff members to think about quality and QA and to aim at quality improvement.
4) Satisfying stakeholders that adequate quality is being ensured in the institution.

The CHE has been established, not only to address matters relating to the transformation and development of higher education in South Africa, but also to manage QA promotion in the higher education sector (Department of Education 1997a:27). The CHE established a Size and Shape task team which has a commitment to transforming higher education so that it is "responsive to the needs of learners of all ages and the intellectual challenges of the twenty first century, while also encompassing the principles and values as outlined in the Education White Paper 3. These principles are, equity and redress, quality, development, diversity including effectiveness and efficiency" (Department of Education 2000:2). The additional responsibility of this task team is to focus on the reconfiguring and reconstructing of the South African higher education landscape (Department of Education 2000:25).

Therefore, important mechanisms have been established namely, the NQF, SAQA and the CHE to facilitate transformation and a shift to quality in higher education (Phillips 1996:1). The NQF helps to explain what the South African nation wants from learning in the context of transformational changes

that are taking place in higher education. The most important qualities are expressed as "critical outcomes" which would require that educational objectives such as the development of analytical and critical thinking, creativity and problem-solving skills be taught to all learners (Kishun 1998:66). See subsection 2.5.1.2.

More specifically, quality will be ensured through the establishment of NSBs which will: 1) Ensure that the work of SGBs meets the requirements for the registration of standards and qualifications as determined by SAQA, 2) Liase with ETQAs regarding the procedures for recommending new standards and qualifications or amending registered standards and qualifications and 3) Define requirements and mechanisms of moderation to be applied across ETQAs (SAQA 1998:16).

According to Chrisholm (1997:50), education policies for a new South Africa are parallel with international trends. This country's commitment to poverty alleviation, education for lifelong learning and the integration of formal and non-formal education is mixed with emphases on the need for educational development to support economic growth, choice, community responsibility, relevance and flexibility. She claims, however, that these policy goals constitute a "global" language about education and are not only pertinent to South Africa.

The purpose of this discussion on educational transformation in South Africa was to illustrate how sophisticated and complex the process is. It would be difficult for academics to research this information on their own given their demanding schedules. Featured in paragraph 1.2.4 is the problem at MEDUNSA, where the dissemination of information on educational transformation to academics, is not very effective. If educators are to implement educational transformation policies at grassroots level, then surely they should be knowledgeable about the literature on the topic. Training and development programmes should accommodate this necessity.

In terms of identifying variables that would be integral to educational transformation, it is recommended that QA, equity and redress including curriculum development be selected. These variables would help mould the nature of staff development owing to the fact that being under-prepared, academics would need training and development in these areas.

At this juncture, it would be opportune to discuss the developments in higher educational transformation in other countries in order to examine transformation in higher education from other perspectives. Such a discussion follows. New Zealand, the UK and Australia have been selected because of the similarities of educational transformation in those countries, with what is happening in South Africa. For example New Zealand has adopted an OBE-approach and in Australia programmes are written in an outcomes-based format.

2.7.2 Higher educational transformation in New Zealand

Since the 1980s there has been much concern about the slow growth rate of the New Zealand economy. In response to this concern, the government took the initiative to embark on a programme of macro and micro-economic reform, designed to improve productivity. One of these reforms is the transformation of tertiary education (Abbott 2000:90).

An analysis of the literature on educational transformation in New Zealand shows that there are many overlaps with educational transformation in South Africa. For example, the idea of a National Qualifications Framework (NQF) is not unique to South Africa, New Zealand has also embraced it. In 1990 the New Zealand Qualifications Authority (NZQA) was established to bring together all qualifications in education and training in a framework in which:

1) All qualifications have a purpose and relationship to each other, that learners and the public can understand.
2) There is a flexible system for gaining qualifications, with recognition of prior learning (Phillips 1996:53).

To this end, since 1990, the NZQA has been developing the NQF in consultation with specialists from education and industry. Unit standards, national certificates and national diplomas are registered on the framework which provides a structure for existing and new qualifications. Framework qualifications are registered at eight levels- from grade 11 of schooling and entry to vocations to postgraduate level. An education provider must be registered and accredited by the authority to be able to award credits for unit standards (NZQA 2001:1).

In its statement of intent, the NZQA proposed that it will continue to play a role in fostering lifelong learning. Its actions will also be aimed at the continuing enhancement of the quality of education. "A qualifications body which provides quality assurance and is responsive to the demands of a society, is vital to New Zealand's future posterity"(NZQA 2000:3).

Furthermore, strategic priorities for the years 2000-2003 have been set by the NZQA (NZQA 2000:6):

1) Qualifications for a knowledge society: Strengthen links among national interest groups to ensure qualifications are relevant to learner aspirations and the country's future economic and societal needs while maintaining confidence in the quality and credibility of New Zealand's nationally registered qualifications.

2) Quality assurance of educational provision: Enhance standards of educational provision and assessment through QA audits.

3) National assessment (secondary and tertiary education): Maintain the quality of current qualifications and examinations while also implementing decisions of government.

4) Future-orientated partnerships with industry, professional and community groups: Develop future orientated partnerships with above groups and other stakeholders to ensure that New Zealand has a world-class national qualifications system.

5) International benchmarking for performance: Ensure that New Zealand's qualifications and national examinations are benchmarked to the world's best and underpinned by rigorous QA.

6) Enhanced achievement for Maori: Increase Maori participation and retention in education and training and raise achievement rates of the Maori.

Additionally, the Quality Assurance Authority of New Zealand (QAANZ) pre-establishment team was established in 1999 to provide advice on how to implement the new quality regime for tertiary education that was outlined in the government's Tertiary White Paper of 1998. Fundamental to this quality regime was the establishment of QAANZ to oversee the quality of government funded tertiary education (QAANZ Report 1999:4).

The Tertiary White Paper proposed that to be eligible for government assistance, tertiary providers and qualifications would need to be approved through an authorized Quality Validation Body (QVB). The key role is the specification of quality in tertiary education. The QAANZ will authorize and monitor QVBs that carry out quality approval of courses, qualifications and providers (QAANZ Report 1999:5).

Furthermore, the Tertiary White Paper covered five aspects of tertiary policy (QAANZ Report 1999:8). These were:

1) Subsidizing the cost of tertiary education.
2) Quality assurance, protected terms and financial viability.
3) Research.
4) Information.
5) Governance and accountability of public tertiary education providers.

In addition, when outlining the characteristics of a quality culture in tertiary education, the QAANZ report (1999:10-11) suggested that the quality regime embody the following:

1) Participants should be involved in the planning and the implementation and feel a sense of ownership of the regime.

2) Quality, which is regarded both locally and overseas, as being of an international standard should be achieved so that courses and qualifications are of an international standard.

3) Autonomy and academic freedom of providers should be preserved.

4) Achievement and improvement of quality requires effective communication between educators, quality agencies and stakeholders to ensure that qualifications are fit for purpose.

5) The most efficient and economic way of assessing quality should be used which minimizes compliance costs for participants.

As regards staff at tertiary institutions, the QAANZ Report (1999:24), states that providers should maintain a staff complement with the necessary knowledge, skills and cultural background through staff selection, appraisal and development. Also, providers should have a system for developing coherent teaching programmes and their evaluation should include evaluation by learners. Moreover, good teaching should be recognized and rewarded and a supportive and effective learning environment that takes account of different population groups and learning styles should be provided. Where research is carried out, its quality should be attested through internationally accepted means.

As regards student needs, the recognition of prior learning and credit transfers are to ensure that learners have the maximum possible flexibility available to them. Providers should also ensure that learners' should have access to appropriate guidance and support systems (QAANZ Report 1999:25).

Therefore, to summarize, the education system in New Zealand is committed to the promotion of quality to ensure that qualifications are not only recognized internationally but that they are relevant to the country's socio-economic needs while also being responsive to the demands of a knowledge society. The NZQA, together with the established NQF has been put in place to promote the quality of tertiary education in New Zealand. The NQF supports the notion of lifelong learning and the recognition of prior learning. Further, a priority of the NZQA is to establish partnerships with industry, professional and community groups so that they can be included in the planning and implementation of quality programmes. To facilitate transformation, the QAANZ recognizes that this cannot happen without staff development and recognizing the importance of, and rewarding teaching. Thus, educational transformation in New Zealand looks very similar to that in South Africa.

2.7.3 Higher educational transformation in the United Kingdom

The transforming nature of HEIs in the UK have been influenced by several external factors:

1) Knowledge of an academic subject is no longer sufficient; students have to gain skills to enhance employability.

2) There is a need for the population to be flexible and prepared for a lifetime of change and development to cope with the "learning society" (Fallows and Steven 2000:76).

In the UK, a National Committee of Inquiry into Higher Education (NCIHE), under the chairmanship of Ron Dearing, was appointed in 1996 to make recommendations on how the purposes, shape, structure, size and funding of Higher Education, including support for learners, should develop to meet the needs of the UK, over the next 20 years (Dearing 1997a: chapter 1, pg.1).

In their vision for higher education for the future, the NCIHE explicitly stated that the UK must create a society committed to learning throughout life (Dearing 1997a: chapter 1, pg.1). The concept of lifelong learning is now central to official UK government thinking within the combined Department of Education and Employment (Fallows and Steven 2000:75). They (NCIHE) also see the historic boundaries between vocational and academic education breaking down with increasing active partnerships between higher education institutions and industry, commerce and public service. What is also emphasized is the pursuit of quality and a commitment to high standards. "Higher education will make a distinctive contribution to the development of a learning society through teaching, scholarship and research". What was predicted was that the national demand for higher education will manifest itself in expansion of student numbers (Dearing 1997a:chapter 1, pg.1).

Higher education must provide its graduates with skills to be able to operate professionally within the environment required for the "learning age". In this regard, the UK National Inquiry into higher education noted that HEIs should develop for each programme the intended outcomes in terms of:

1) The knowledge and understanding that a student is expected to have on completion.

2) Key skills, for example communication, numeracy and the use of information technology and how to learn.

3) Cognitive skills, for example critical analysis.

4) Subject specific skills (Fallows and Steven 2000:26).

Note the above similarities with OBE in South Africa and the different types of outcomes discussed in subsection 2.5.1.

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Additionally, UK tertiary institutions will be required to:

1) Be at the leading edge of world practice in effective teaching and learning.
2) Undertake research that matches the best in the world.
3) Sustain a culture of disciplined thinking which challenges existing ideas and generates new ones.
4) Be part of the conscience of a democratic society (Dearing 1997a:chapter 1, pg.1-2).

It was also recognized that higher education is fundamental to the social, economic and cultural health of the nation, contributing not only to the intellectual development of learners and preparing them for work but also by adding to the world's store of knowledge and understanding (Dearing 1997a:chapter 1, pg.2). Also outlined in the Dearing report (Dearing 1997a:chapter 3, pg. 1) is the vision to build on past achievement and to support existing excellence. (Note the discrepancy with the South African system that is trying to improve higher education after domination by apartheid planners).

In the Dearing report (Dearing 1997a:chapter 3, pg. 1-2), satisfaction was expressed that learners from ethnic minorities are more than proportionately represented in higher education. Some individual ethnic minority groups, however, are still significantly under-represented in higher education. The increase in participation in higher education by women was also noted. Female learners and those from ethnic minorities were under-represented at the highest levels of study, though. Therefore, the Dearing report looks at equity and redress as regards minority groups and women.

In light of the knowledge explosion and an expansion in communications and technology, the changing nature of learning and teaching has necessitated the redefinition of the roles of academic and support staff within higher education institutions. A survey by the NCIHE indicates that the quality of support they can provide is not as high as they would like. Indeed, academic staff experience greater teaching commitments with larger groups, pressure to do research and publish and few opportunities to offer individual support to learners (Dearing 1997a: chapter 14, pg.4).

These factors point to the need for action to improve individual and institutional effectiveness through staff development. Staff should be helped to realize their full potential so that they can respond to the opportunities and challenges facing higher education. To this end, the Dearing report (1997a:chapter 14, pg.2) makes it very clear that higher education teaching needs to have a higher status and be regarded as a profession of standing. In this regard they proposed the establishment of a professional Institute for Learning and Teaching in higher education-whose role it would be to accredit programmes of higher education training. This institute would become a key part of the initial training and continuing professional development of teaching staff.

Therefore, the Dearing report (1997b:chapters 8, 14) made six recommendations to promote an Institute for Learning and Teaching. The most significant are depicted in table 2.11.

Table: 2.11 The recommendations of the Dearing Report for the promotion of an Institute for Learning and Teaching

Recommendation	Modus operandi
Recommendation 13 (Dearing 1997b:par 8.61):	Institutions for higher education begin immediately to develop or seek access to programmes for teacher training of their staff if they do not have them, and that all institutions seek national accreditation of such programmes from the Institute for Learning and Teaching in Higher Education.
Recommendation 14 (Dearing 1997b:par 8.72)	The representative bodies in consultation with the funding bodies should immediately establish a professional Institute for Learning and Teaching in Higher Education, the functions of which would be to accredit programmes of training for higher education educators, to commission research and development in learning and teaching practices and to stimulate innovation.
Recommendation 48 (Dearing 1997b:par 14.30)	All new full-time academic staff with teaching responsibilities are required to achieve at least associate membership of the Institute for Learning and Teaching in Higher Education for the successful completion of probation.

The Dearing report recognizes that the realization of the vision for higher education in the UK is dependent on the people in higher education. With this in mind, their terms of reference include the following principle: "That higher education should be able to recruit, retain and motivate staff of the appropriate caliber" (Dearing 1997a:chapter 14, pg.1).

The UK government's response to the new Institute for Learning and Teaching in Higher Education is that it perceives the institution as having a key role to play in enhancing the professional skills and status of teachers in higher education and spreading good teaching practice more widely. The government's long-term aim is to see all teachers in higher education having a professional qualification. The UK government also wishes to encourage universities and colleges to measure themselves against international standards and develop international partnerships (UK Government 1998:1).

With regard to QA, in the UK, there exists the Quality Assurance Agency (QAA) which consults with institutions about the future framework for QA. The proposed system is based on the articulation of a national credit accumulation system, backed by the definition of threshold achievement standards and

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by detailed specification of each programme. The demands of QA and quality audit are causing institutions to look towards instituting clearer policies, procedures and support mechanisms (Gordon 1999:146).

More recently, Gosling (2001:270) criticized the failure of the QAA for not grasping the notion of credit in the NQF which is a blow to the objectives of the South-East England Consortium. This is a credit consortium representing over 25% of HEIs in the UK and has argued for the importance of credit for a mass higher education system within the wider political context of life-long learning. Gosling (2001:273) maintains that: "Implementing a credit-framework is part of transforming and democratizing higher education by enabling it to become open, flexible and responsive to students".

In summary (given by this writer), the Dearing report focuses on:

1) Equity, redress and accountability to learners and society.
2) An emphasis on lifelong learning.
3) Improving teaching and learning through the enhancement of professional skills and status of educators in higher education.
4) Helping learners cope with the knowledge explosion and preparing them for a democratic, learning society and the world of work.
5) Improving economic and social conditions of the nation so that competition in the global arena can be enhanced.
6) Increasing the accessibility to higher education, noting that the demand for higher education will increase.
7) Encouraging partnerships between universities, industry and commerce.
8) Promoting QA in higher education- which is top on the list of priorities for the 21st century.

Therefore, it is glaring that there are many parallels that can be drawn with transformation in South Africa and that in the UK, especially as regards equity, redress, QA and the emphasis on lifelong learning.

The next subsection is concerned with educational transformation in Australia.

2.7.4   Higher educational transformation in Australia

The Australian National Framework for the Recognition of Training was legislated in 1992 and embraced both the education and training sectors. The need for a nationally recognized framework was highlighted by:

1) An increasing awareness of the importance of training that meets the needs of industry.

2) Industry and award structuring.

3) The need to enhance the efforts of all providers of training, both public and private, in an effort to make the Australian industry more competitive internationally (Phillips 1996:54).

The Australian Qualifications Framework (AQF) was introduced in 1995 and was phased in over five years with full implementation by 2000. Work-based qualifications and academic qualifications are now part of a single system, allowing maximum flexibility in career planning and continuous learning and rendering qualifications that are more transparent and transportable, allowing for credit transfer and articulation between qualifications (AQF 2002 and Wheelahan and Carter 2001:305). The AQF ranks qualification levels from entry level at senior secondary school through to doctorates, and designates which qualifications are generally offered in the secondary, vocational education and training and the higher education sectors (Wheelahan and Carter 2001:305).

The key objectives of the AQF are to:

1) Provide nationally consistent recognition of outcomes.

2) Develop flexible pathways between education and training sectors and to provide for the recognition of prior learning.

3) Integrate the requirements of participating providers, employers, employees, individuals and interested organizations.

4) Improve access to qualifications, clearly defining avenues for achievement and contributing to lifelong learning.

5) Provide for a higher quality education and training, thus contributing to national economic performance.

6) Promote national and international recognition of qualifications offered in Australia (AQF 2002).

On another point, the shift to OBE and vocational education and training has been a vital component of training reform in Australia (Phillips 1996:54). According to Brady (1999:29) outcomes have replaced objectives as the major label expressing educational intent in Australia. The use of outcomes is consistent with a government platform of economic reform which is also expressed in the development of professional work-related competencies. Such benchmarks of achievement in education and the world of work are the means of ensuring accountability.

Additionally, the Australian Curriculum Council Act of 1997 required the curriculum council to develop a curriculum framework that described the "knowledge, understanding, skills, values and

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attitudes that learners are expected to acquire". Implementing the curriculum framework implies that when teaching programmes are designed and developed, it must be ensured that learning opportunities and enriching experiences are included for the learners, aimed at achieving the outcomes set out in the framework (Australian Curriculum Framework 2000a:41).

Furthermore, the outcomes and standards framework comprises the student outcome statements and the statements of standards. The former will enable educators to describe learning achievement and to be clear about the standards of performance required of learners. The student outcome statements support educators in planning, monitoring, assessing and reporting on student performance in relation to learning outcomes. Thus, an outcomes-based approach to education and training is implemented (Australian Curriculum Framework 2000b:43).

2.8 Conclusion

It could well be said that what we are currently witnessing is an evolution-of the educational process. Historically, learning from someone was the main mode of acquiring information. Now information can be gleaned from various sources, namely the internet, magazines, newspapers, journals, books, radio, television and more. Learners need to evolve in the way they learn and educators need to evolve in the way they educate. Why? Because the process of education needs to evolve in order to adapt to a rapidly changing society and the information age. In accordance with Darwinian Law: higher education especially would have to adapt or die. This evolution can be seen in terms of change, transformation and innovation in education, which was what the crux of this chapter was about.

Innovation of curricula, mainly in the form of OBE and PBL was discussed at some length. What came to the fore was that the philosophy and processes adopted in these novel approaches can be used as a basis or underpinning in the design, development and implementation of staff development programmes. For example, both OBE and PBL advocate self-directed, lifelong learning in an integrated way within a collaborative setting. Both approaches also advance the notion of learners becoming creative, critical, reflective thinkers who also possess problem-solving skills. These are the very qualities that are deemed important for an educator to, not only inculcate in learners, but to possess himself. How many educators can profess to be able to demonstrate these skills and what are the implications for staff development? It is this writer's contention that for a transformational staff development model, emphasis should be placed on training staff to be:

1) Reflective in their professional tasks.
2) Problem-solvers

3) Able to apply theoretical ideas in practice.

4) Direct and model self-directed learning.

5) Possess different student assessment techniques.

6) Be able to integrate the content of their subject disciplines with that of other subjects.

7) Promote learning in context.

Further, the transformation of the South African higher education system has ensured that we move away from a rigid, hierarchical, prescriptive approach to one that is flexible, relevant and better able to prepare learners to compete in the national and global marketplace. Through the establishment of SAQA and the NQF, the South African government aims to implement major changes not the least of which is the introduction of outcomes-based education. This idea was borrowed from the experiences of other countries (like New Zealand) as regards transforming higher education. A common thread runs through this transformational scenario: all countries under discussion want their citizens:

1) To be competent and competitive learners and workers on a global scale.

2) To contribute effectively to the socio-economic development of their country.

3) To become lifelong, self-directed learners to cope with the knowledge explosion.

4) To live purposively in an uncertain, changeable environment.

Surely this is evidence that a concerted effort is being made at macro-and meso-level to meet the demands of a changing society? One thing is certain though, without the development of human resources, these plans for innovation and transformation may as well be a "pie in the sky" idea. What is more, the quality of a staff development programme is crucial if educators are to be properly prepared to effect the intended changes. This is why it was deemed pivotal to ascertain the nature of academic staff development that would achieve academic excellence whilst addressing the demands of educational transformation.

Before establishing this, it was important to answer part of the research question stated in subsection 1.3.2 which asks: "What are the key elements driving educational transformation nationally and internationally?" The literature that was provided in this chapter identified the following key variables:

1) The application of technology in teaching and learning.

2) Curriculum development, namely OBE and PBL.

3) Quality assurance.

4) Equity and redress.

5) Innovative teaching/learning practices.

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Also, the objectives were to examine which factors are contributing towards educational transformation and how these factors influence the professional task of academics. This chapter also revealed that most academics are under-prepared and under-qualified to be able to successfully implement the above factors and MEDUNSA staff are no exception. Thus, the nature of academic programmes should focus on providing academics with training and development in these areas.

In the next chapter, the concept of what staff development is and why it is necessary is discussed in greater detail and some models are elucidated. This will extend the literature investigation in determining what other variables could contribute towards the dynamics of academic staff development, in a climate of educational transformation.

References

Abbott, M. 2000. The development of vocational education and training in New Zealand. *Education Research and Perspectives,* 27(1):90-108.

Ajayi, J.F.A., Goma, L.K.H. & Johnson, G.A. 1996. *The African experience with higher education.* Athens: Ohio University Press.

Alexander, S. 2001. E-learning developments and experience. *Education and Training,* 43(4/5):240-248

Asayesh, G. 1993. Staff development for improving student outcomes. *Journal of Staff Development,* 14 (3):24-27.

Astin, A.W. 1985. *Achieving educational excellence.* San Francisco: Jossey-Bass.

Australian Curriculum Framework. 2000a. *Curriculum, assessment and reporting: Policy and guidelines.* www.eddept.wa.edu.au/centoff/outcomes/policy/pg41.htm

Australian Curriculum Framework. 2000b. *Outcomes and standards framework.* www.eddept.wa.edu.au/centoff/outcomes/policy/pg43.htm

AQF. 2002. About the Australian Qualification Framework. www.aqf.edu.au/aboutaqf.htm

Badat, S. 1997. Educational politics in the transition period. Ch.1. In Kallaway, P., Kruss, G., Fataar, A. & Donn, G. (Eds.). *Education after apartheid: South African Education in transition.* Cape Town: University of Cape Town.

Baron, M.A. & Boschee, F. April. 1996. Dispelling the myths surrounding outcomes-based education. *Phi Delta Kappan:*574-576.

Barr, R. & Tagg, J. November/December 1995. From teaching to learning: A new paradigm for undergraduate education. *Change:*13-25.

Barrows, H.S. & Tamblyn, L.M. 1980. *Problem-based learning-an approach to medical education,* Volume 1. New York: Springer.

Barrows, H.S. 1985. *How to design a problem-based curriculum for the pre-clinical years*. New York: Springer.

Barrows, H.S. 1986. A Taxonomy of problem-based learning methods. *Medical Education*, 20:481-486.

Beidas, S.O. 2000. Using e-mail as an interactive teaching tool. *Academic Medicine*, 75(6):670.

Bernier, G.M., Adler, S., Kanter, S. & Meyer, W.J. 2000. On changing curricula: Lessons learned at two dissimilar schools. *Academic Medicine*, 75(6):595-601.

Blair, N. & Lange, R. 1990. Factors that affect learning through staff development, pg. 154. In Burke, P., Heideman, R. & Heideman, C. *Programming for staff development: Fanning the flame*. Hampshire: The Falmer Press.

Bligh, J. 1995. Problem-based learning in medicine: An introduction. *Postgraduate Medical Journal*, 71:323-326.

Boshuizen, H.P.A., Van de Vleuten, C.P.M., Schmidt, H.G. & Machiels-Bongaerts, M. 1997. Measuring knowledge and clinical reasoning skills in a problem-based curriculum. *Medical Education*, 31:115-121.

Bradley, H. 1991. *Staff Development*. London: The Falmer Press.

Brady, L. 1999. Outcomes for accountability in curriculum planning in Australia. *International Journal of Educational Management*, 13(1):25-30.

Brink, J. 1998. Quality assurance in South African universities: The road ahead. *Progressio*, 20(2):2-6.

Buchner, J. & Hay, D. 1999. Action research: a prerequisite for capacity building in higher education institutions. *Vital*, 13(1):18-24.

Candy, P.C. 1991. *Self-direction for life-long learning: A Comprehensive guide to theory and practice*. San Francisco: Jossey-Bass Publishers.

Candy, P.C. 2000. Knowledge navigators and lifelong learners: producing graduates for the information society. *Higher Education Research and Development*, 19(3):261-277.

Chrisholm, L. 1977, Ch. 3. In Kallaway, P. Kruss, G, Fataar, A. & Donn, G. (Eds.) *Education after apartheid: South African education in transition*. Cape Town: University of Cape Town.

Claassen, C. 1998. Outcomes-based education: Some insights from complexity theory. South African *Journal of Higher Education*, 12(2):34-39.

Colliver, J. A. 2000. Effectiveness of problem-based learning curricula: Research and theory. *Academic Medicine*, 75(3):259-266.

Curriculum Development Working Group. 1999. South Africa's new curriculum framework, pg. 3-21. In Gultig, J. Lubisi, C., Parker, B. & Wedekind, V.(Eds.). *Understanding outcomes-based education teaching and assessment in South Africa-Reader*. Cape Town: South African Institute for Distance Education and Oxford University Press.

Dahle, L.O., Forsberg, P., Svanberg-Hard, H. Wyon, Y. & Hammer, M. 1997. Problem-based medical education: Development of a theoretical foundation and a science-based professional attitude. *Medical Education*, 31:416-424.

Darling-Hammond, L. & McLaughlin, M.W. April 1995. Policies that support professional development in an era of reform. *Phi Delta Kappan*. www.middleweb.com/PDPolicy.html pg. 1-10.

Davies, D. 1998. The virtual university: A learning university. *Journal of Workplace Learning*, 10(4):175-213.

Dearing, R. 1997a. Report of the National Committee of Inquiry into Higher Education. www.leeds.ac.uk/educol/ncihe

Dearing, R. 1997b. The National Committee of Inquiry into Higher Education. Summary report. www.ncl.ac.uk/ncihe/index.htm

De Graaf, E. 1988. Simulation of initial medical problem-solving: A test for the assessment of medical problem-solving. *Medical Teacher*, 10(1):49-55.

Department of Education. 1995. White Paper on Education and Training-Part2: The reconstruction and development of the education and training programme, pg.1-24. www.polity.org.za/govdocs/white papers/edu2.html

Department of Education. 1996. Green Paper on Higher Education. Pretoria: Government Printers.

Department of Education. 1997a. Education White Paper 3. Pretoria: Government Printers.

Department of Education. 1997b. Draft White Paper on Higher Education. Pretoria: Government Printers.

Department of Education. 1998. *National and institutional planning framework for the higher education system*. Pretoria: Government printers.

Department of Education. 2000. *Towards a new higher education landscape-report by the Council on Higher Education (CHE)*. Pretoria: Government Printers.

Dissanayake, A.S., Ali, B.A. & Nayar, U. 1990. The influence of the introduction of objective structured practical examinations in physiology on student performance at King Faisal University Medical School. *Medical Teacher*, 12(3/4):297-304.

Dlugosh, L.L., Walter, L.J., Anderson, T. & Simmons, S. 1995. Outcomes-based education: Why are school leaders attracted to its call? *International Journal of Educational Reform*, 4 (2):178-183.

Dolmans, D.H.J.M., Wolfhagen, I.H.A.P., Scherpbier, A.J.J.A. & Van de Vleuten, C.P.M. 2001. Relationship of tutor's group-dynamic skills to their performance ratings in problem-based learning. *Academic Medicine*, 76 (5):473-476.

Entwistle, N. 1998. Teaching for learning as higher education changes, pg. 181-191. In Morrow, W. & King, K. (Eds.). *Vision and reality- changing education and training in South Africa*. Cape Town: University of Cape Town Press.

Fallows, S. & Stevens, C. 2000. Building employability skills into the higher education curriculum: A university-wide initiative. *Education and Training*, 42(2):75-83.

Freedman, J.A., Lehmann, H.P., Ogborn, C.J. & Hopkins, J. 2000. Web-based peer evaluation by medical learners. *Academic Medicine*, 75(5):539-540.

Gibbons, M. 1998. A commonwealth perspective on the globalization of higher education, pg. 70-87. In Scott, P. (Ed.). *The globalization of higher education*. Buckingham: The Society for Research into Higher Education and Open University Press.

Gilbert, S.W. 1995. Teaching, learning and technology: The need for campus-wide planning and faculty support services. *Change,* March/April: 47-48.

Goode, H. & Thomen, C. 2001. Implementing an outcomes-based approach to university essay writing. *South African Journal of Higher Education,* 15(3):194-201.

Gordon, G. 1999. Managing the changes inherent in developing the Learning Society: Issues, choices and strategies. *Quality assurance in education*, 7(3):141-148.

Gosling, D. 2001. Lost opportunity: What a credit framework would have added to the National Qualifications Frameworks. *Higher Education Quarterly*, 55(3):270-284.

Gultig, J. Lubisi, C. Parker, B. & Wedekind, V. (Eds.). 1999. *Understanding outcomes-based education: Teaching and assessment in South Africa. Reader.* Cape Town: South African Institute for Distance Education and Oxford University Press.

Harasim, L. 2000. Shift happens: Online education as a new paradigm in learning. *Internet and Higher Education,* 3:41-61.

Harden, R.M. & Gleeson, F.A. 1979. Assessment of clinical competence using an objective structured clinical examination (OSCE). *Medical Education*, 13: 41-54.

Hassan, S. 1996. *The perceptions of second year medical learners towards the problem-based curriculum as compared to the traditional curriculum.* MEd. Thesis. University of South Africa.

Hattingh, A. & Killen, R. 2003. The promise of problem-based learning for training pre-service technology teachers. *South African Journal of Higher Education,* 17(1):39-46.

Hay, P.J. & Katsikitis, M. 2001. The "expert" in problem-based and case-based learning: Necessary or not. *Medical Education*, 35:22-26.

Henry, P. 2001. E-learning technology, content and services. *Education and Training*, 43(4/5):249-255.

HEQC. 2002. Founding Document of the HEQC. www.medunsa.ac.za/cads/heqc.htm

Holthauzen, S. 1998. The development of facilitators as a prerequisite to the successful transformation of educational change. *South African Journal of Higher Education*, 12(3):33-37.

Jacobs, G.J. 1999. Outcomes-based university education: Do learners really want to be competent. *South African Journal of Higher Education*, 13(2):135-141.

Jarvis, P. 2000. The changing university: Meeting a need and needing to change. *Higher Education Quarterly*, 54(1):43-67.

Kaufman, A. (Ed.). 1985. *Implementing problem-based medical education- lessons from successful innovations.* New York: Springer.

Kishun, R. 1998. Internationalisation in South Africa, pg. 58-69. In Scott, P. (Ed.). *The globalisation of higher education*. Buckingham: The Society for Research into Higher Education and Open University Press.

Kistan, C. 1999. Quality assurance in South Africa. *Quality Assurance in Education*, 7(3):125-133.

Knowles, M.S. 1980. The modern practice of adult education. New York:Cambridge.

Knowles, M.S. 1988. *The adult learner:A neglected species*. (3rd. Edn.) London: Gulf.

Knox, J.D.E. 1989. What is a modified essay question? *Medical Teacher*, 11(1):51-55.

Kruss, G. 1998. Teachers, curriculum 2005 and the education policy-making process, pg. 96-111. In Morrow, W. and King, K. (Eds.). *Vision, and reality-changing education and training in South Africa*. Cape Town: University of Cape Town Press.

Lawler, P.A. & King, K.P. 2000. Faculty development : Leadership strategies for success. *Journal of Continuing Higher Education*, 48(20):12-20.

Le Grange, L. Reddy, C. 2000. Introducing teachers to OBE and environmental education: A Western Cape study. *South African Journal of Higher Education*, 20(1):21-25.

Licklider, B.L., Schnelker, D.L. & Fulton, C. 1997. Revisioning faculty development for changing times: The foundation and framework. *Journal of Staff Programme and Organisational Development*, 15(3): 98-121.

Lloyd-Jones, G., Margetson, D. & Bligh, J.G. 1998. Problem-based learning: A coat of many colours. *Medical Education*, 32: 492-494.

Lowry, S. 1993. *Medical Education*. London: BMJ Publishing Group.

Maleh, D., Burday, M., Collier, V. & Polster, J. 2000. Problem-based learning in the medicine clerkship: A resident-driven strategy for teaching third year learners. *Academic Medicine*, 75(5):522-523.

Margetson, D. 1994. Current educational reform and the significance of problem-based learning. *Studies in Higher Education*, 19(1):5-19.

Mason, R. 2000. From distance education to online education. *Internet and Higher Education*, 3:63-74.

Maxwell, J.A. & Wilkerson, L. 1990. A study of non-volunteer faculty in a problem-based curriculum. *Problem-based learning: issues in retention*, 65(9):513-514.

McDermot, J.F. & Anderson, A.S. 1991. Retraining faculty for the problem-based curriculum at the University of Hawaii, 1989-1991. *Academic Medicine*, 66 (12):778-779.

McGrath, S. 1998. Questioning education and training in South Africa: The challenge of moving from policy to practice, pg. 112-118. In Morrow, W. & King, K. (Eds.). *Vision and reality- changing education and training in South Africa*. Cape Town: University of Cape Town Press.

Mennin, S.P. & Martinez-Burrola, N. 1986. The cost of problem-based versus traditional medical education. *Medical Education*, 20:187-194.

Menin, S.P. & Kaufman, A. 1989. The change process and medical education. *Medical Teacher*, 11(1):9-16.

Millis, B.J. 1994. Faculty development in the 1990s: What it is and why we can't wait. *Journal of Counseling and Development*, 72:454-464.

Morrow, W. & King, K. (Eds.). 1998. *Vision and reality-changing education and training in South Africa*. Cape Town: University of Cape Town Press.

Moses, I. 1988. *Academic staff evaluation and development: A university case study*. St.Lucia: University of Queensland.

Mungazi, D.A. 1991. *The challenge of educational innovation and national development in Southern Africa*. New York: Peter Lang Publishing Incorporated.

Nakabugo, M.G. & Sieborger, R. 2001. Curriculum reform and teaching in South Africa: Making a paradigm shift. *International Journal of Educational Development*, 21:53-60.

NAPTOSA. 1998. A synoptic analysis of the initial implementation of outcomes-base education in grade 1 in South Africa. A report on the research by the professional committee of NAPTOSA.

Neufeld, V.R. & Barrows, H.S. 1974. The McMaster philosophy: An approach to medical education. *Journal of Medical Education*, 49:1040-1050.

New Academic Policy (NAP) for programmes and qualifications in higher education. 2002. www.polity.org.za/govdocs/reports/education/universities/policy/chapter3.html

Nicholls, A. 1983. *Managing educational innovations*. London: George Allen and Unwin.

Nieman, L.Z., Donoghue, G. D., Ross, L.L. & Morahan, P.S. 1997. Implementing a comprehensive approach to managing faculty roles, rewards and development in an era of change. *Academic Medicine*, 72(6):496-504.

Norman. G.R. 1988. Problem-solving skills, solving problems and problem-based learning. *Medical Education*, 22: 279-286.

NZQA: National Qualifications Framework. 2001. www.nzqa.govt.nz

NZQA: Statement of intent, 2000/2001 to 2002/2003. 2000. www.nzqa.govt.nz

Office of the President. 1995. The South African Qualifications Act-no. 58 of 1995. www.polity.org.za/govdocs/legislation/1995/act95_058.html

Olivier, C. 1998. *How to educate and train outcomes-based*. Pretoria: J.L. van Schaik.

Phillips, B. (Eds.). 1996. *Getting to grips with the National Qualifications Framework* (2nd Edn.) Johannesburg: Sigma

Poole, D. 1979. Changing behaviour, pg. 86-97. In Tobin, H.M., Yoder-Wise, P.S. & Hull, P.K. *The process of staff development: Components for change* (2nd Ed.) St.Louis: CV Mosby Company.

QAANZ Report. 1999. Report of the Quality Assurance Authority of New Zealand (QAANZ) pre-establishment team. Proposals for the structure and implementation of a quality regime for tertiary education. www.minedu.govt.nz/

Rawn, C., Davidson, R. & Andreas, M. 2000. Using web-based case presentations to supplement a surgery clerkship curriculum. *Academic Medicine*, 75(5):540.

Rideout, E.M. 1994. "Letting go": Rationale and strategies for student-centered approaches to clinical teaching. *Nurse Education Today*, 14: 146-151.

Rhyne, R.L. 2000. A scholarly research requirement for medical learners: The ultimate problem-based learning experience. *Academic Medicine*, 75(5):523-524.

Rogers, D. L. 2000. A paradigm shift: Technology integration for higher education in the new millennium. *Educational Technology Review* Spring/summer: 19-27.

Rutherford, D. 1982. Developing university teaching: A strategy for revitalisation. *Higher Education*, 11:177-191.

Ryan, G. 1993. Student perceptions about self-directed learning in a professional course implementing problem-based learning. *Studies in Higher Education*, 18(1):53-63.

Ryan, M., Carlton, K.H. & Nagia, S.A. 1999. Evaluation of traditional classroom teaching methods versus course delivery via the world wide web. *Journal of Nursing Education*, 38(6):272-277.

Samuel, M. 2002. Working in the rain: Pressures and priorities for teacher education curriculum design in South Africa: A case study of the University of Durban-Westville. *International Journal of Educational Development*, 22:397-410.

SAQA. 1995. Regulations under the SAQA Act, Act no. 58 of 1995. www.polity.org.za/govdocs/regulations/1998/reg98_0452.html

SAQA. 1998. *Regulations under the South African Qualifications Authority Act, 1995.* Government notice No. 18787. Pretoria: Government Printers.

SAQA. 2000. The National Qualifications framework and quality assurance. Pretoria.

Schmidt, H.G., Dauphinee, W.D. & Patel, W.L. 1987. Comparing the effects of problem-based and conventional curricula in an international sample. *Journal of Medical Education*, 62:305-315.

Schlesinger, J.B. 1999. Meeting the instructional technology challenge: Institutional collaboration and faculty development. *Medical Reference Services Quarterly*, 18(2):91-96.

Shanks, J.C., Silver, R.D., Harris, I.B. 2000. Use of web-based technology in a peer-teaching programme. *Academic Medicine*, 75(5):538-539.

Shapiro, W.L. & Cartwright, G.P. 1998. New ways to link technology and faculty development. *Change*, September/October: 50-52.

Spady, W.G. & Marshall, K.J. 1991. Beyond traditional outcomes-based education. *Educational Leadership*, 49(2):67-72.

Spady, W. 1993. *Outcomes-based education: Workshop Report no. 5.* Belconnen ACT: Australian Curriculum Studies Association.

Spady, W. 1999. Outcomes-based education: An international perspective. Pg.23-36. In Gultig, J. Lubisi, C., Parker, B, & Wedekind, V. (Eds.). *Understanding outcomes-based education teaching and assessment in South Africa. Reader.* Cape Town: South African Institute for Distance Education and Oxford University Press.

Stefani, L.A.J. 1994. Peer, self and tutor assessment: relative reliabilities. *Studies in Higher Education*, 19(1):69-75.

Stein, M., Neill, P. & Houston, S. 1990. Case discussion in clinical pharmacology: Application of small group teaching methods to a large group. *Medical Teacher*, 12(2):193-196.

Steyn, J.C. 2000. Quality education and equality in education: A dilemma for democratic South Africa. *South African Journal of Education*, 20(1):46-49.

Surry, D. W. & Land, S.M. 2000. Strategies for motivating higher education faculty to use technology. *Innovations in Education and Training International*, 37(2):145-153.

Swenson, C. 1998. Customers and Markets. *Change*, 30(5):1-6. In www.aahe.org/change/so981.htm

Tobin, H.M., Yoder-Wise, P.S. & Hull, P.K. 1979. *The process of staff development: Components for change.* (2nd Ed.) St. Louis: CV Mosby Company.

Toffler, A. 1971. *Future shock.* London: Pan Books, Bodley Head.

United Kingdom Government. 1998. Higher education for the 21st century: Response to the Dearing Report. In www.lifelonglearning.co.uk/dearing/dr_intro.htm

University of Maastricht. 2003. About the University of Maastricht. www.unimaas.nl

University of Newcastle. 2002. www.newcastle.edu.au/centre/problarc

Van der Vyver, J. 1999. Outcomes-based education in higher and further education. *South African Journal of Higher Education*, 13(2):5-6.

Van der Westhuizen, A.J. 1999. *Workshop instructional guide: Outcomes-based education and writing of unit standards.* Technikon Northern Gauteng.

Venter, E. 2001. A constructivist approach to learning and teaching. *South African Journal of Higher Education*, 15(2):86-92.

Vroeijenstijn, A.I. 1995. *Improvement and accountability: Navigating between scylla and charybdis. Guide for external and quality assurance in higher education.* London: Jessica Kingsley.

Walton, H.J. & Matthews, M.B. 1989. Essentials of problem-base learning. *Medical Education*, 23 542-558.

Westera, W. 2001. Competencies in education: A confusion of tongues. *Journal of Curriculum Studies*, 33 (1):75-88.

Wheelahan, L. & Carter, R. 2001. National training packages: A new curriculum framework for vocational education and training in Australia. *Education and Training*, 43(6):303-316.

Wilkerson, L. & Irby, D.M. 1998. Strategies for improving teaching practices: A comprehensive approach to faculty development. *Academic Medicine*, 73(4):387-396.

Windish, D.M. 2000. Teaching medical learners clinical reasoning skills. *Academic Medicine*, 75(1):90.

Wolff, S. 1979. Problem-solving. *Medical Education*, 13:395-397.

Youngblood, P. Stringer, J., Moreno, E. 2000. Development and formative evaluation of a longitudinal web-based nutrition curriculum. *Academic Medicine*, 75(5):540-541.

Zepeda, S.J. 1999. *Staff Development-Practices that promote leadership in learning communities.* New York: Eye on Education.