2

CURRICULUM TYPES AND MODELS

A THEORETICAL INQUIRY

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INTRODUCTION

There is no common understanding of what the concept 'curriculum' entails. Academics at higher education institutions view, interpret and implement curricula within the same field in different ways. Reports on the evaluation of programmes at higher education institutions in South Africa over the past few years confirm this statement (CHE 2010). Master's degrees in business administration and education as well as initial teacher education qualifications were some of the programmes evaluated at the majority of higher education institutions by the quality assurance body (HEQC) of the Council on Higher Education (CHE). Explicit levels of progression linked to theoretical depth, articulation between modules and overlapping content, the adherence of the programmes to a shared vision and the alignment of models were some of the typical areas of concern emanating from the evaluation of a number of these programmes. A point of concern in the programmes in education, for example, was the obsession with compliance with the existing policy directives at the time.

Thoughts on and theory of education, also at higher education institutions, are concerned with curriculum as the centre of all education (Pinar 2003:14). Therefore, the challenge is to deal with the concept of curriculum as viewed differently by educationists and non-educationists while the curriculum serves as impetus for the interaction between three actors, namely the lecturer, the student and the learning content.

For the 'average' university academic, answers to the following questions usually inform the teaching of any subject or module:

- WHAT can be taught and learned?
- WHY should we teach and learn in a particular way?
- HOW can we teach and learn?

Answers to these questions depend of course on the type of curriculum being implemented, but equally they will also influence the functions and roles of the role players in the teaching and learning situation at any higher education institution.

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

Lecturers at higher education institutions are subject specialists and not necessarily educationists, or more specifically, curriculum science specialists. It is however expected that lecturers design and implement a curriculum at least on the micro-level. Lecturers to a certain extent have to become curriculum agents that can act autonomously and interdependently in the teaching learning situation, which *inter alia* implies that they must give meaning to the concept 'curriculum'.

In the sections to follow, the concept 'curriculum', the sources that influence curriculum development and various curriculum models developed over the last century in the field of curriculum studies are explored.

CURRICULUM AS CONCEPT

Ross (2000:8) views 'curriculum' simply as what needs to be learned or, phrased differently, what is worth knowing. The word 'curriculum' originates from Latin and can be translated as 'racetrack' or 'a course to be run'. In the educational context, 'racetrack' can be interpreted as a course of study (Ross 2000:8) or, metaphorically, as a journey of learning (Parkey & Hass 2000:15). *Currere*, the verb form of *curriculum* (the noun), emphasises the experience of the journey in an educational context (Pinar 2010:177). Curriculum "deals with what is worth experiencing, doing, and being" (Parkey & Hass 2000:15). Prior to 1998, the term 'syllabus' was used more often in South Africa among educators and non-educators, but this changed in 1998 with the implementation of Curriculum 2005 in South African schools. Through the ages, educators and non-educators used the terms 'syllabus' and 'curriculum' interchangeably. In the 1800s, curriculum was even equated with graded textbooks (Parkey & Hass 2000:15). According to Eash (1991b:71), "syllabi by definition are the organizing documents in areas of instruction". Syllabi contain a list of contents, outcomes and/or objectives and, in some instances, also explain how assessment must take place. They serve as blueprints for textbook writers and lecturers at higher education institutions when designing study guides. Textbooks and/or study guides provide the means whereby the teaching-learning situation is conceptually organised so that "it [content] can be transmitted in a more efficient, consistent manner by many teachers [lecturers]" (Eash 1991b:71). The notion that knowledge cannot be transmitted requires further debate and is addressed at a later stage in this chapter.

Various authors (Beane, Toepfer & Allessi 1986:30-33; Graham-Jolly 2009:247-250) have different opinions as to what exactly the concept 'curriculum' entails. There is no agreement as to an explicit definition for 'curriculum', but it is interesting to note that there is little difference between the various definitions (Brealt & Marshall 2010:179). Definitions are not rigid and can change because the meaning captured in the definition will depend on the person, the place and the time of formulation (Davis & Hersh 1980:8). For example, noticeable trends in the definitions of the concept 'curriculum' by educationists and non-educationists provide insight into interesting movements in this field over the past 11 decades. Glatthorn, Boschee and Whitehead

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

(2006:4-5) classify these definitions as either prescriptive or descriptive. Prescriptive definitions portray how things ought to be, whereas descriptive definitions portray how the curriculum should materialise in action. Beane *et al* (1986:30-33) classify these definitions into four broad categories, each determined by whether the focus is on products, processes, intended learning (*what* and *how* are separated) or the experiences of the students (things do not always happen as planned).

When these four categories are projected as a continuum with the 'product' category on the right end of the continuum, and the 'experience of the students' category on the left end of the continuum, it provides an indication of whether a 'curriculum' is more 'concrete' (i.e. more institution-centred) or more 'abstract' (i.e. more student-centred).

These two ends of the continuum therefore represent two opposing views (Scott 2008:31-40). The one end concerns what is intended or planned, while the other end concerns what in reality materialises in practice. Grundy (1987, cited in Graham-Jolly 2009:250) likewise acknowledges the different ways in which 'curriculum' is defined. He differentiates between three forms of curricula: he describes *curriculum as product*, in other words as a document used to teach. This is also known as the official or intended curriculum and is considered a concrete presentation of the curriculum. *Curriculum as practice* refers to what is happening in the classroom. This is known as the experienced or implemented curriculum. When the curriculum is constructed by those involved, it is known as the 'curriculum as praxis' or as the 'curriculum as social construct'. The latter is an extension of the experienced or implemented curriculum. It attaches meaning to the experienced curriculum and is more abstract. The way in which educationists and non-educationists perceive the form of a curriculum will determine its design.

The fact that 'curriculum' is viewed differently by various groups implies that there are different ways in which a curriculum can be designed. According to Doll (1974:66-82), there are three major representative curriculum designs. First, curricula can be designed around subjects, disciplines or broad fields. The clustering of two or more subjects is an example of a broad-field curriculum design. Natural sciences, where chemistry, physics, botany and zoology are clustered, are one such example. Secondly, a curriculum can be designed around students. Student-centred and experience-centred curricula are examples of these types of curricula. Thirdly, a curriculum can be designed around social problems such as poverty, social justice, health-related issues or real-life situations.

To emerge as lifelong learners, students at higher education institutions should become more accountable for their own learning. This naturally leads towards a curriculum designed around the student. However, the importance and value of knowledge (subject content knowledge) and social issues (such as social justice, environmental and health-related issues) impacting on the curriculum cannot be ignored and should be strengthened, meaning that the boundaries between the three mentioned designs should not be clear-cut.

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS**EPISTEMOLOGY AND THE CURRICULUM**

Higher education institutions are concerned with different forms of knowledge 'production' and it is necessary in the context of this book to elaborate on knowledge and its impact on the curriculum.

Plato, Descartes, Kant and Hegel offered various versions of rationalist epistemology, but they shared the same certainty, namely that true knowledge can only be obtained through rational mind independent of senses. True knowledge, according to them, is God-given and is independent of the knower. Knowledge is thus objective and independent of time, societies, cultures or human beings. They supported an absolutist theory of knowledge. John Lock, the founder of the epistemology of empiricism, objected to this view on human knowledge, stating that one cannot be dogmatic about knowledge. According to him, knowledge can only come into one's mind through one's senses, although the evidence of one's senses might be unreliable. Further resistance to this view on human knowledge came from the pragmatist movement of John Dewey, who views knowledge as hypothetical and therefore subject to constant change, modification and evolution. He highlighted the importance of experiences in the building of knowledge with the result that knowledge is personal and subjective. Dewey valued scientific knowledge on condition that hypotheses are formulated and adapted according to publicly agreed-on criteria. According to Dewey, such knowledge has no permanent status but is objective in so far as it is at least accepted by everyone who agreed on the criteria and provides intellectual freedom. In his influential work *Knowledge and control*, Young (1971) points out that knowledge is socially constructed and thus not God-given. Muijs and Reynolds agree that knowledge is not viewed as a truth that needs to be discovered but rather as something that needs to be socially constructed by every person within him-/herself (2005:61-62). Those involved in the process must be active participants in the construction of their own knowledge and not merely passive receivers of knowledge. If they are not involved in the construction of own meaning, the interpretations and reinterpretations of own experiences and the opportunity to develop own values are lost. Socially constructed knowledge can be negative in that it can be misused to promote an ideology, leading to indoctrination instead of education (Kelly 1999:26-29,31-32,38).

The acquisition of disciplinary knowledge and the acknowledgement of everyday knowledge and its place in curriculum development are thus knowledge 'forces' that must be taken into account in the process of curriculum development at higher education institutions (Scott 2008:79-81). These types of knowledge should not be viewed as monoliths, but rather as being horizontally and vertically integrated.

Deeper knowledge increases students' ability both to act as responsible citizens and to add value to society, the economy and political life. This type of knowledge contributes to the empowerment of students to solve complex, high-priority problems encountered in the real-world situations of work, society and life (UNESCO 2008:7).

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

Knowledge creation is a human activity that empowers students to become lifelong learners contributing to a curriculum that goes beyond mere disciplinary knowledge. The specific skills required to create new knowledge in the process of developing a curriculum are problem solving, articulation, collaboration, experimentation and critical thinking (UNESCO 2008:8).

Knowledge – the WHAT that needs to be learned or discovered – is central to the curriculum and thus needs to be considered during the planning of a curriculum. Effective learning is the answer to the HOW question regarding learning. De Corte (1996:35-37) provides a definition for effective learning based on international research on learning. In this definition, effective learning is considered a constructive, cumulative, goal-directed, situated, collaborative, self-regulated and individually different process. This process can be expected to result in knowledge building when students make meaning of the curriculum.

OTHER SOURCES INFLUENCING CURRICULUM DESIGN

Olivia (1988, cited in Carl 2009:22-23) refers to disciplines such as philosophy, sociology, history, subject areas and psychology as well as technology as sources that might influence the process of curriculum design. From the perspectives of these 'disciplines', the curriculum inquirer will thus engage with relevant concepts, applicable methods and research methodologies (Ornstein & Hunkins 1998:14-15). These sources exert their influence on the design of a curriculum, as borne out by examples such as Galileo Galilei (Flewelling & Higginson 2003:130), who already stated in the 16th century: "You cannot teach a man anything; you can only help him find it within himself".

In the 19th century, Jules Henri Poincare (1854-1912) mentioned the following about the learning of science (Flewelling & Higginson 2003:41): "Science is built up with facts, as a house is with stones. But a collection of facts is no more a science than a heap of stones is a house". It is evident that such views will impact on curriculum development and more specifically on the design of a curriculum.

In the previous section on epistemology and the curriculum, it was evident that philosophers' views influence the way in which we conceive knowledge and in which it impacts on a curriculum. The philosophy underpinning outcomes-based education (OBE) in South Africa is constructivism (Du Toit & Du Toit 2004:11-12). Piaget (1951, 1971) and Vygotsky (see Kozulin 1990) were two of the forerunners who, as radical and social constructivists (without claiming to be such), contributed towards establishing constructivism as a force that influences curriculum development at both school and higher education institutions. The power of philosophy, more specifically in education, lies in its ability to empower educationists to deliver social critique and to lead the way in transforming the curriculum.

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

UNESCO (2008:1) highlights the importance of technology and, in particular, information technology as a force that influences the curriculum, as well as the challenges it poses to teachers and lecturers in an increasingly complex, information-rich and knowledge-based society. Information technology should not only be used as a tool but rather as a methodology – a means to an end. In the teaching and learning situation the emphasis must be on learning with the aid of computers as heuristic devices and not on learning how to use computers.

Various psychological forces influence the curriculum. Students learn in different ways because their learning styles differ. Lecturers need to address this reality when developing the curriculum at the micro-level. The way in which lecturers and curriculum developers understand the concept 'learning' will also influence both the design of learning activities, learning content and the construction of a learning environment. Some lecturers view learning as a process involving stimulus and response. Others view effective learning as a process whereby students build knowledge through meaning making (see the definition of effective learning by De Corte). The works of Piaget, Vygotsky, Bruner, Ausabel and Gagné and the impact of their ideas on curriculum construction and development are well known (Du Toit 2010:2).

The importance of education to achieve political goals is well known. Plato was most probably the first to recognise that educational provision is the key to achieving the kind of society he wished to see established (Kelly 1999:13). Bernstein (1987, cited in Ensor & Galant n.d.:287) formulates the role of social forces as a question: "How does the outside become the inside and does the inside reveal itself and shape the outside?" This implies that the social world needs to structure consciousness in the curriculum and that consciousness structured in this way needs, in turn, to structure the social world (Ensor & Galant n.d.:288).

The lecturer as curriculum inquirer should view the design of the curriculum from a holistic and a multi-disciplinary perspective. The interrelatedness of various disciplines and their influence on the curriculum as well as the influence of the broader social context of a higher education institution must be acknowledged in directing the curriculum-design process.

DIFFERENT KINDS OF CURRICULA

The 20th century saw a continuous battle between the so-called traditionalist and progressivist educationists. The suggested black-and-white distinction between the traditionalists and the progressivists as portrayed in Table 2.1 does not really exist, but gives an idea of what the groups stood for. These typical characteristics are portrayed in the discussions of the various kinds or models of curriculum of those who were instrumental in their designs.

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY**TABLE 2.1** Traditionalists versus progressivists (adapted from Doll 1974:16)

Traditionalists	Progressivists
What is learned may be worthy because it is inherently good.	What is learned may be worthy because it is good for something.
Subject matter is important in itself.	Subject matter is important as a medium for teaching skills, intellectual processes, attitudes and appreciations.
Subject matter should mainly be taught for deferred use.	Subject matter should mainly be taught for immediate use.
Because all people are basically the same, they should have basically the same curriculum.	Because individuals differ markedly from each other, they require widely differentiated curricula.
Curricula are differentiated to cultivate intellectual elite.	Curricula are differentiated to develop the uniqueness of each human being regardless of his/her lack of promise and potential.
Accept the world as it is and then conform to it.	Believe that they can remake the world into an environment that approaches ideal conditions.

The contributions of various curriculum theorists were mainly aimed at curriculum development in schooling, but educationists, non-educationists and curriculum planners at higher education institutions have used these models or variations of them in their curriculum planning, as portrayed in Carl (2009:70-75) and Geyser (2004:148-154).

The following curriculum theorists were instrumental in the design of models that paved the way for curriculum practitioners and researchers who advocated and/or supported the traditionalist or the progressivist view on curriculum design.

John Franklin Bobbitt

In 1918 Bobbitt published *The curriculum*, the first and most cited book on curriculum in the educational history of the USA. The technique of designing a curriculum along scientific lines (Bobbitt 2004:10) was adapted from the work done by Taylor in an industrial context, which was published in his book *Principles of scientific management* (1911). Taylor followed an input-output approach, which is reflected in the *Scientific method in curriculum-making* designed by Bobbitt. The cultural and utility perspectives of this method compete for control over schooling (and also higher education). From the perspective of culture, Bobbitt argues that the goal of education should be to cultivate citizens to enable them to make a living. The emphasis should be on the cultivation of reason and thus the development of the student's intellectual powers. This is in line with the school of thought of the perennialists (Doll 1974:18). The utility value or practical outcome of schooling (and higher education) is of little concern to educationists with this perspective. From the perspective of utility, the goal of education is to prepare students to be productive in civil life by performing daily activities, enabling them to work effectively and co-operatively with fellow citizens in everyday life. This is

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

to a certain extent in line with the school of thought of the realists, who believe that the truth is a given that must be discovered (Null 2010).

The *Scientific method in curriculum-making* consists of five steps:

- The daily activities of an efficient adult are studied to determine all (e.g. knowledge, problem-solving skills and ambitions) that is needed to be efficient in that specific work environment.
- The collected information is prioritised into objectives.
- Students are identified (by means of tests, etc.) on the basis of ability and interest to prepare them for roles which they will most probably fulfil on graduation.
- The curriculum is differentiated for each group of students in order to train them for their roles in adult life.
- Curriculum specialists are to study students once they have become adults to assess whether or not the curriculum they completed prepared them efficiently for their daily activities (Null 2010:188-189).

These five steps are clear indications of Bobbitt's belief that students need to be prepared for adult life by means of scientific techniques. Examples of curricula planned at higher education institutions according to these scientific steps can, for example, be the professional degrees for chartered accountants and medical doctors. The professional bodies of these professions are active (often prescriptive) in the process of curriculum development. Kliebard (2004:38) echoes this purpose of education when he refers to Bobbitt's statement in *How to make a curriculum* (1924:8): "Education is primarily for adult life, Its fundamental responsibility is to prepare for the fifty years of adulthood, not for the twenty years of childhood and youth".

Bobbitt changed his view on education two years later when he wrote in the *Twenty-sixth yearbook of the National Society for the Study of Education* that "[i]n a very true sense, life cannot be 'prepared for.' It can only be lived" (1926:43, cited in Kliebard 2004:39).

The scientific way in Bobbitt's curriculum planning is viewed as part of the traditionalist's custom. These curricula are designed top down around subjects and/or disciplines and students have hardly any or no role to play in the design of the curriculum.

Ralph Tyler

The curriculum model developed by Tyler, also known as the *Tyler rationale*, is probably the most popular model used in the planning and designing of curricula at various education levels. This may be due to the simplicity of the model, which makes it easy for both expert and novice to use on micro-level. Content is a crucial element in curriculum planning and, according to Kelly (1999:14), questions need to be asked as to how the chosen content relates to other dimensions. Curricula consist of five widely agreed-upon dimensions or components: a framework of assumptions about the

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

learner and society; aims and objectives; content or subject matter with its selection, scope and sequence; modes of transaction, for example methodology and learning environments; and evaluation (Eash 1991a:67). This is in line with Tyler's view on dimensions in curriculum planning, namely objectives, content or subject matter, methods or procedures, and evaluation. His four questions focus on these dimensions:

- What educational purposes should the school seek to attain?
- What educational experiences can be provided that are likely to attain these purposes?
- How can these educational experiences be effectively organised?
- How can we determine whether these purposes are being attained?

Methods used to study these questions will differ depending on the level of education and the nature of the institution (Wolf 1991:411). The first step will be to formulate temporary purposes depending on information obtained from curriculum sources such as the students, contemporary society and subject specialists. Precise tentative purposes are formulated based on information obtained from these sources and are screened through philosophical and psychological education lenses prior to the formulation of precise purposes. It is useful to note that the tentative purposes were not screened through a social lens, but it can be argued that the tentative purposes are mainly the result of the social nature of the curriculum forces.

Tyler's model is classified as an aims-objective model that is product-driven. It is a means-end model where the end is first decided upon before the means to reach the end is determined. There is a logic sequence in this model that assumes a linear view on means and ends. In addition, content is considered central to the curriculum and concerns the effective delivery of the content (Kelly 1999:14-15; Posner 2010:254). This is the view of most critics of the *Tyler rationale*. Kliebard (1970, cited in Wolf 1991:412) criticises the way in which the objectives are formulated and the narrow approach Tyler seemingly suggests in the evaluation of these objectives. The restriction of evaluation to programme objectives deprives one from judging whether the programme might serve greater interests. Wolf (1991:411-412) has a different perspective of the Tyler rationale. He refers to objectives, learning experiences and evaluation (defined as assessment in the South African context) as the three interrelated and dynamic components in the model, as indicated by the two-directional arrows in Figure 2.1.

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

FIGURE 2.1 Representation of the Tyler rationale

Objectives → learning experiences guide the process of selection and/or creation of learning experiences. Objectives → evaluation designates the evaluation procedures and instruments that need to be developed. Evaluation → objectives show that evaluation procedures can be applied to determine the extent to which the set objectives were obtained. This can also provide information to adapt or eliminate objectives. Learning experiences → evaluation suggests that learning experiences can provide examples for the development of evaluation tasks. Learning experiences → objectives might suggest new objectives based on the outcome of the interaction between teachers (lecturers), students and the learning material, which might lead to a new education programme.

Two strong notions that emerge from this perspective on the Tyler rationale are that of an essential standard against which the success of the programme can be measured and of evaluation as an integral part of teaching and learning (Wolf 1991:412).

The models of both Bobbitt and Tyler are criticised as being ‘adult-centred’ and it is argued that social convention dictates how the institution will form the students. Tyler’s model is objective-driven, implying that the process is not sufficiently valued. Cognitive learning is over-emphasised at the cost of social learning. Tyler’s model is also functional regarding the training of students, but raises the question whether it is suitable at higher education level to educate students holistically in an interdisciplinary manner.

Hilda Taba

Four concepts are at the core of curriculum models by curriculum theorists such as Tyler (1949), Walker (1971), Gagné (1977), Krüger and Müller (1988) and Marsh (1997): objectives, content or subject matter, methods or procedures, and evaluation. This is also true in the case of Taba’s curriculum model (Taba 1932, 1962; Jacobs 2004:48). Her model for curriculum design consists of five steps (Carl 2009:70):

- Design of experimental instructional-learning units
- Testing of experimental instructional-learning units
- Review and consolidation
- Development of a frame of reference (cohesion and rationale)
- Establishment and dissemination of units

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

These concepts also capture the eight-step sequence in the design step of Taba's model. Her model is an expansion of Tyler's model. In the first step she conducts a needs analysis and includes two steps where content is selected and organised and a final step of control for balance and sequence. The models of Tyler and others mentioned earlier are top-down and technical. Taba's model differs in that she follows a bottom-up approach by working inductively with the teachers (lecturers) in the design of the curriculum (Stern 2010:837). She envisages that the curriculum will support students to become critical thinkers who search for meaning in the world in which they live. Her objectives are therefore integrated by addressing not only in-depth content but also skills and attitude. She focuses on 'intergroup education' (known currently as multi-cultural education) and supports the cross-discipline design of the curriculum. The value of action research and the importance of evaluation in the educational process are high on her agenda. She also values both qualitative and quantitative measurement in the evaluation process. The design of a curriculum in gender studies in the humanities and social sciences, for example, lends itself towards this type of curriculum model. Stern (2010:838) echoes the value of Taba's contribution as education theorist in the field of curriculum: "Taba is about balance-integrating curriculum to create critical thinkers and problem solvers by using conceptual content and inductive pedagogies to prepare students for an active, fulfilling life".

Taba is also tagged as a traditionalist or functionalist but her inductive, cross-disciplinary, action research-driven curriculum model in diverse settings implies a shift towards the progressivists. Students do not play a central role in her model of curriculum development, as such role is performed mainly by experts. The value of her work in the field of curriculum is that it challenges lecturers to research and improve on their own practices.

John Dewey

In the early 1900s, John Dewey, a philosopher in education, gave direction and led the discussion of what a curriculum should be, emphasising the importance of the role of education in contributing towards a democratic society (Dewey 2004:17-18, 22-23):

Education is the key to making democracy work since in order to intelligently participate in social and political life, one has to be informed and educated to be able to be a good citizen and competent actor in democratic life.

The relationship between school and society, more specifically a democratic society, is fundamental to his theories of curriculum. He views democracy as the means for diverse groups in society to establish common interests, to interact freely and to succeed in achieving a mutual adaptation (Glatthorn *et al* 2006:39). Dewey also advocates the experimental approach in curriculum development, emphasising that one learns by doing (Carl 1995:51-52; Dewey 2004:19-22). He cautions against activities chosen only on the basis that learners perceive these as interesting and relevant. Learning experiences designed around these types of activities are, in his words, "mis-educative" (Glatthorn *et al* 2006:39).

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

He was a leader of progressivism in education, and more specifically the progressive curriculum, at the beginning of the 20th century, and emphasised the importance of the educational context and the environmental support of learners' educational experiences (Flewelling & Higginson 2003:123). Also, Jean Piaget, in his emphasis on the importance of constructing own knowledge, was instrumental in introducing some of Dewey's ideas into curriculum inquiry in the 20th century (Flewelling & Higginson 2003:124).

In *My pedagogic creed* Dewey (2004:19) describes education as "a process of living and not a preparation for future living". He therefore differs from Bobbitt's original view on education, namely that the purpose of education is to prepare for adult life. Dewey emphasises the importance of both sociological and psychological learning as two aspects of the education process. Both are of equal importance and the one is thus not inferior to the other (Dewey 2004:17, 18):

I believe that the individual who is to be educated is a social individual, and that society is an organic union of individuals. If we eliminate the social factor ... we are left only with an abstraction; if we eliminate the individual factor from society, we are left only with an inert and lifeless mass.

Dewey critiques the subject-centred curriculum designs for the rote-minded methods employed in transmitting traditional subject matter to learners. He believes that the curriculum must be designed by taking the learners and their experiences into account. In an experiential, inquiry-orientated curriculum the learners are actively involved by continuously investigating and constructing meaning to better understand their world. Goal and process is thus one and the same thing (Dewey 2004:21). His vision for education is that it must be holistic, interdisciplinary and developmental (Kelly 2010:107).

The value of Dewey's view on curriculum from a higher education perspective is that it is holistic, transdisciplinary, values both social and cognitive learning and emphasises the importance of student participation in the process of curriculum design.

Lawrence Stenhouse

Stenhouse was instrumental in reshaping curriculum as a field of study in the 1970s. His 1975 book *An introduction to curriculum research and development* is widely regarded as one of the key foundational texts in this field (Cho & Trent 2010:814). The conceptualisation of "curriculum as a means to an end" and the inclusion of standards and authentic assessment can, according to Cho and Trent (2010:814), be traced to the work of Lawrence Stenhouse.

Stenhouse is not in favour of behavioural objectives as cornerstone in the development of a curriculum (Scott 2008:31-32). He believes that knowledge related to and underpinned in the disciplines should be developed by means of inquiry-based learning and that this should drive curriculum development. It is necessary to understand Stenhouse's notion of 'inquiry'. He is not supportive of a didactic form of teaching

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

where the student is the passive receiver of knowledge developed in the disciplines. It must be stressed that the definition of didactics in the Germanic countries is more comprehensive than merely the transmission of knowledge, as stated by Stenhouse. The end product of this process is the outcome of assessment, which will determine whether the students have obtained this knowledge. Stenhouse argues that the didactic way of teaching is mainly concerned with the triviality of the discipline and does not offer students the means to think in the disciplines. On the contrary, according to Stenhouse (1975:38, cited in Scott 2008:33), this is what inquiry-based teaching can offer: “What is characteristic of the advocacy of inquiry-based teaching in this sense is the assertion that one can *think* in a discipline at elementary as well as advanced levels of study.”

An inquiry-based method of delivery necessitates a particular view of the teacher and/or lecturer, to whom Stenhouse refers as the “extended professional” (1975:144, cited in Scott 2008:39-40):

In short, the outstanding characteristic of the extended professional is a capacity for autonomous professional self-development through systematic self-study, through the study of the work of teachers and through the testing of ideas by classroom research procedures.

Extended professionals should together reconstruct educational standards that will hold all students accountable for building knowledge by constructing meaning as they interpret text (Cho & Trent 2010:814). In addition, Stenhouse believes in a hermeneutic process of understanding in inquiry-based education, where meaning exists in the process of interpretation and not in the object of knowledge (Scott 2008:38). The process is central in Stenhouse’s curriculum planning model (1975) (Kelly 1999:15). He therefore opts that process objectives replace behavioural objectives and that other means be found in order to translate aims into practice (Scott 2008:36-37). Stenhouse highlights conditions that need to be met if this process is to work. Teachers must own the knowledge that they develop by actively researching their practice. This must continuously reflect on their own practice, which should enable them to effect change in the teaching and learning situation. In addition, teachers must reflect on the process in order to identify and solve problems they encounter in their classrooms. Stenhouse views learning as a community issue. Teachers therefore need to externalise by observing and studying other teachers’ practice, enabling them to provide alternative views on their own practice (Scott 2008:40).

A great deal may be gained in higher education from Stenhouse’s theory of curriculum. The process-based curriculum concerns understanding and not grading or assessment as product. Stenhouse highlights the interdependence of learning as well as the importance of setting standards and authentic assessment. He advocates the significance of inquiry learning as a means to get students actively involved in knowledge building. Like Taba, he also stresses the importance of action research to improve own practice as well as the essence of learning from colleagues.

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS**Paulo Freire**

Paulo Freire offers a critical perspective of curriculum planning with his *Pedagogy of the oppressed* (Freire 1970, 2004). He describes the technical production perspective of curriculum planning as “banking education” (Posner 2009:258), where the teacher regulates the way the student should conceive the world. Those with more specialised knowledge thus decide on behalf of those with less specialised knowledge. As an alternative, Freire describes the emancipatory approach. In this approach one needs to critique one’s own concrete position, in other words one needs to discern, reflect and judge one’s own naïve consciousness and what is needed to move from naïve to critical consciousness. Students must realise that reality is a process and not a rigid given (Steinberg 2010:383). With problem posing as method in this approach, teachers and students are co-investigators by means of dialogue. Dialogue materialises through words that function in two dimensions, namely reflection and action (Freire 2004:125). Freire believes that teacher and student will be empowered to discriminate critically the way in which they view and live in the world. Students are co-operatively and by means of dialogue involved in the formulation of generative themes to be used in the curriculum. Curriculum planning is not technical, but rather political, ideological and bottom-up. There is no end product such as a learning outcome that a learner must demonstrate, but rather a “critical reflection and action upon reality” (Posner 2009:258-259).

It should be the purpose of higher education to educate students who demonstrate a critical disposition regarding their role in teaching and learning as well as towards the broader social reality in which they will function. The absence of learning outcomes poses a challenge to assessment and the setting of standards.

In my view the essence of the contributions of the curriculum theorists discussed above regarding the type of curriculum can be summarised and portrayed on a continuum as in Figure 2.2.

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY **FIGURE 2.2** Continuum – curriculum theorists' contributions to curriculum design

In the next section the value of these curriculum theorists and their effect on curriculum design in higher education are probed.

CURRICULUM DESIGN AND HIGHER EDUCATION

Geyser (2004:151) refers to four core principles, namely situation analysis, outcomes, teaching and learning, and assessment that guide the design of an Outcomes-based Education (OBE) curriculum at higher education level. These principles form part of the majority of the curriculum models discussed above.

Constructivism is the underlying philosophy of OBE, which became very popular as education strategy in the past few decades. The basic principle underlying the constructivist philosophy is that knowledge is constructed by students based on their experience rather than being perceived by their senses (Muijs & Reynolds 2005:61). This view supports the theories of both Dewey and Stenhouse. An OBE curriculum is thus designed around the student, but it is evident from readings on OBE (Du Toit & Du Toit 2004; Spady 1994a, 1994b; Spady & Marshall 1991) that components of the

PART ONE • REVITALISING CURRICULUM INQUIRY – PERSPECTIVES OF RESEARCHERS

other two curriculum designs (i.e. around subjects and around problems) are captured in the outcomes and thus infused into this design. An OBE curriculum will thus be placed more towards the right end of the continuum portrayed in Figure 2.2.

Biggs and Tang (2007:50) highlight the value of 'constructive alignment' in outcome-based teaching and learning. The two driving principles in this process are the constructivist theory and the alignment between the intended outcomes, learning activities and assessment. Stefanie (2009:48) views 'constructive alignment' as central to curriculum design because it provides for scholarly dialogue on teaching, learning and assessment strategies. This engagement provides the opportunity to ensure that the outcomes are achievable, of the required standard and aligned with the learning activities and assessment.

Figure 2.3 presents a modification by Stefani (2009:53) of the original logical model for curriculum design, also known as the Cowan-model. Learning outcomes is at the centre of this model and should be defined explicitly as supporting students to reflect on their own learning. The learning activity (in verb form), the content (the object), the specification of the context as well as the standard that the student should attain must form part of the learning outcome (Biggs & Tang 2007:53).

FIGURE 2.3 A modified logical model of curriculum development (adapted from Stefani 2009)

The arrows pointing inwards signify the inputs from various sources and/or stakeholders, such as peers, the institution, the community, employers, government and professional bodies. The questions – How? What? Why? – compel lecturers to question and reflect on their classroom practice. Answers to these questions will *inter alia* inform lecturers'

CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

curriculum choices and their approaches to facilitation of student learning. The arrows pointing clockwise and those arrows pointing outwards from the learning outcomes indicate the alignment of outcomes, assessment, teaching and learning. The evaluation of the curriculum-design process informs the decisions to be made in order to improve and/or adapt the learning outcomes.

It seems important that higher education institutions should aim at educating students who demonstrate a critical disposition regarding the students' role in learning processes as well as the broader social reality in which they will function once they enter the workplace. The absence of learning outcomes therefore clearly poses a challenge to assessment and the setting of standards.

CONCLUSION

As emphasised earlier in this chapter, one obtrusive problem in higher education institutions is that curriculum inquirers are sometimes caught up in homogenised subject- and/or discipline-centred curricula and pedagogy and thus neglect to address and interpret challenging social, technological, knowledge and philosophical influences on the curriculum. Being a student is a complex social activity that entails more than the acquisition of subject/discipline knowledge. The education of students should therefore preferably be holistic, where students are instrumental in the process of knowledge building, the obtainment of high-order skills and the development of values so that they can participate as responsible and contributing citizens in society, the economy and political life. Education at higher education institutions should thus not merely constitute training programmes that will enable students to fulfil a specific role in life. In conceptualising the curriculum, restrictive theories – such as reductive theories – should be eschewed in favour of examining the entire field of curriculum development and education in its totality. The various curriculum types and models discussed earlier have both strong and weak points, as was pointed out in the discussion of each. The danger lies in absolutism and ideologies that could easily lead to indoctrination instead of education. Posner (2009:260) views curriculum techniques and curriculum conscience as two necessary and complementary elements in curriculum development. A lecturer or academic without the knowledge and skills needed for inquiring into and (re)developing a curriculum might be considered incompetent. Similarly, a curriculum inquirer who does not understand and who does not deal with the underlying assumptions in curriculum discussions is ungrounded, does not have a curriculum conscience and can only act as a technician in curriculum planning and the revision of curricula. Lecturers involved in curriculum planning therefore need to demonstrate a critical disposition when engaging with significant ontological, epistemological and methodological issues in trying to find answers to important curriculum questions. They need to be creative and imaginative in designing programmes and other curricula for their specific fields. This might only be possible if they have sufficient background knowledge of curriculum types and models that deepen their curricular knowledge and inform their educational practices.

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CHAPTER 2 • CURRICULUM TYPES AND MODELS – A THEORETICAL INQUIRY

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