A CRITICAL REVIEW OF THE ROLE OF RESPONSIVE CURRICULA IN OPTIMISING LEARNING IN HIGHER EDUCATION

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ABSTRACT

Higher education institutions are expected to heighten their responsiveness to societal interests and needs, and to the world of work, by improving on their curricula. In answering the call for greater responsiveness, basic and higher education institutions in South Africa have introduced a paradigm shift from content- to outcomes-based education. The focus of this article is to present a critical analysis of the extant literature on the nature and role of responsive curricula in optimising learning in higher education. To this end, the researchers adopted an interpretative approach and descriptive perspective. Data were collected by consulting primary and secondary sources during a literature review. The findings revealed that there is a dynamic yet complex relationship between a responsive curriculum and the optimisation of learning. The literature indicated that, having undertaken to make this a central issue in their policies, the majority of institutions of higher learning are still grappling with what exactly constitutes a responsive curriculum, let alone what the implementation thereof will entail.

Keywords: curriculum, decolonisation, higher education institutions, optimising learning, outcomes-based education, responsive curriculum

INTRODUCTION

In the early 1990s, the South African education system, at both the basic and higher education levels, instituted a paradigm shift from content- to outcomes-based education (OBE) (CHE 2013; Van der Horst and McDonald 2007). The focus of OBE is student-centred in nature, as reflected in Curriculum 2005, and its aim is to deliver students who, by the time they complete their formal education, are productive, successful, lifelong contributors to society and the world of work (DoE 2007). The constantly changing work environment has become increasingly

demanding, and this places the onus on students to be more adaptable and function as valued members of a team; to be productive, critical and autonomous thinkers who can make their voices heard; and to communicate effectively in a variety of social situations (GDoE 2001, 10). Meeting these criteria requires individuals to maximise their own potential (Jansen 2012).

While OBE was introduced with the noblest of intentions, the approach largely failed, as actual teaching and learning were relegated to the back burner, while educators were inundated with paperwork – preparing, recording and giving an account of everything that went into their lessons (Olivier 2009, 1). Strokes (2009, 1) concurs, contending that the blame may partially be apportioned to the unhealthy socioeconomic climate prevailing in the country, to matriculants being underprepared and often incapable of meeting the demands imposed by tertiary studies. Other contributing factors include students' lack of even the most basic of comprehension and spelling skills, and educators not being adequately prepared for OBE and its impact (Strokes 2009, 1). This begs the question whether students at South African higher education institutions (HEIs) have the ability to create their own opportunities and optimise their potential, and whether the educational setting is capable of empowering and preparing them for the world of work.

If HEIs represent the apex of those entities which are tasked with imparting knowledge, then it is safe to assume that cohorts of their students are being guided to become independent, competent and empowered employees, not only to benefit themselves, but also their larger communities (Alexander and November 2010, 101; DHET 2013). The prosperity of any nation is dependent on it having an adaptable education system which fosters entrepreneurship, rather than merely delivering skilled workers or employees (Kloppers-Lourens 2010, 1). Arguably, entrepreneurs have the ability to optimise their own potential, but to arrive at that point, it is important for HEIs to implement responsive curricula which are capable of guiding individuals to become creative and critical thinkers who can function autonomously and successfully in the workplace.

Importantly, it is not only South African HEIs that were affected by the move from content-based education to OBE – there were also calls for university-wide re-curriculation. The latter is evident in a South African white paper (RSA 1997) which outlines a new higher education framework as part of concerted transformational initiatives. The assumption is that a more responsive curriculum can and will help students to benefit optimally from their learning in higher education settings (CHE 2013).

To interrogate the role which a responsive curriculum plays in optimising learning in higher education contexts in this country, it was deemed appropriate to critically analyse the extant literature on the nature and role of such a curriculum. To this end, the analysis employed

an approach which was both descriptive and interpretive.

In the next section, the researcher offers a brief historical overview of the South African higher education landscape, with the aim of identifying trends in general education from the apartheid era to the current democratic dispensation. Thereafter, the focus falls on the diverse factors which have shaped (and continue to shape) higher education curricula. Such an undertaking is central to the investigation, as it provides a contextual framework for critically analysing and examining conceptions around what constitutes a responsive curriculum and what makes it suitable for optimising learning.

RESEARCH APPROACH

Having opted for a descriptive interpretative approach, the researcher addressed a number of specific dimensions: *ontology*, which deals with the nature and form of the curricula currently in use at South African HEIs; *epistemology*, which encompasses those historical processes which reflected the reality of the local higher education sphere, and the assumed relationship between the provider, the student and society; and *critical reflection*, which merged with critical inquiry to consciously deliberate the ethical implications and consequences of curriculum practice, through self-reflection, a profound examination of personal beliefs, and assumptions about human potential and learning (Creswell 2014; Larrivee 2010; Nieuwenhuis 2007, 55–58).

HISTORICAL OVERVIEW OF SOUTH AFRICA'S HIGHER EDUCATION LANDSCAPE

All HEIs in this country are the product of apartheid segregationist policies, which sought to disadvantage certain entities (Badat 2010). As Bunting (2002) notes, the (former) technikon sector has become the main post-secondary school "catchment" pool for career and vocational education. Where technikons merged to form what came to be known as universities of technology, their curricula were wholly geared towards serving industry through the technological application of knowledge (Jansen 2001). It is the contention of the authors that the technikon sector functioned as a buffer between secondary (general) and higher education; between highly specialised academic-professional knowledge and vocational-technological skills, with the latter (due to students' substandard schooling) creating a stratum of technical labour, rather than a managerial and technological stratum responsible for decision making within the workforce (CHE 2013; Mkhonto 2007). Post-1994, various initiatives sought to effect institutional change through transformation. Amongst these are the South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF), whose

establishment heralded significant change in the local education system (CHE 2013). The role of the qualifications authority in transforming education in this country is reflected in its mission statement: To oversee the formulation and implementation of a nationwide framework which contributes to the comprehensive development of each learner and to the social and economic advancement of the nation at large (SAQA 2000, 15). SAQA's eight-level framework can be grouped into three bands:

- General Education and Training (GET), encompassing level 1;
- Further Education and Training (FET), levels 2–4; and
- Higher Education and Training (HET), levels 5–8.

Once SAQA (2000) had introduced NQF levels 5–8, certain amendments were published in the *Government Gazette* (RSA 2007) which made provision for two new levels (9 and 10) in the HET band. Having streamlined the NQF through this expansion, the key objective of the framework and its sub-frameworks (GET, FET and HET) was met by facilitating the articulation of programmes and the transfer of students between programmes, also in South African institutions of higher learning. The above changes are not, however, the only to have had an impact on the local higher education context. In the next section, the focus is on the factors influencing higher education curricula, and the pressures being exerted on the entities which operate in this landscape.

FACTORS SHAPING AND INFLUENCING HIGHER EDUCATION CURRICULA

As Mkhonto (2007) explains, the transformation agenda confronting South African HEIs is characterised by four sets of factors such as broadened participation within higher education to advance social equity, to meet economic and social development needs, curriculum responsiveness and promote access. These factors which need to be addressed simultaneously, require a redressing of the inequities of the past and a conscious attempt to adapt to change on a global scale. According to DHET (2012, 11), this is to be achieved by a) showing responsiveness to the student domain, b) meeting the increasing demand for lifelong learning, c) making postgraduate employment relevant and d) ensuring the responsiveness of the curriculum to issues of decoloniality.

Responsiveness to the student domain

Student demands for higher education have a bearing on the extent to which they, as paying

customers, expect value from the educational courses or programmes on offer. Their demand for higher education, challenges HEIs' capacity to meet lofty expectations (CHE 2013). In accommodating students' demands, HEIs must be seen to distance themselves from closed and disciplinary academic cultures, beliefs, values and knowledge as shared bases of social action, and to embrace open, trans-disciplinary approaches and practices (Kim 2011). To achieve this, programme offerings have to be more closely tailored to students' needs by accommodating their diverse backgrounds, dreams and aspirations, and being flexible in terms of variables such as students' age, and whether they are studying full- or part-time (Mkhonto 2007). The significance and role of students in the context of HEI transformation must take into account issues such as the cost of higher education provision, demands for quality and the upholding of standards, and the ability of the education system to meet labour market needs (Wolf 2007).

The increasing demand for lifelong learning

Traditionally, university students are young adults who recently matriculated/completed high school, and who opt to be resident on campus until their chosen point of exit (CHE 2013; Mkhonto 2007). While this cohort makes up the vast majority of students, the changing higher education milieu has ushered in change in the form of greater democratisation, increased globalisation and the prevalence of information and communication technologies (ICTs). Also having to be accommodated are adult working students whose first "path" to formal education may have detoured, for personal or other reasons. For this reason, it is imperative to recognise and incorporate the prior, semi-formal, informal or non-formal learning experiences of this group into the mainstream curriculum. Many of these students require formal training, knowledge and skills that align with their occupational and/or personal needs (DHET 2012; Mkhonto 2007). Amongst their number are former graduates whose employers have opted to finance their part- or full-time studies, as they require their employees to bring specialised knowledge and advanced skills to the table. For some, continuous learning offers multiple avenues for socioeconomic development and, concomitantly, advancement. Clearly, institutions of higher learning must rise to the challenge of catering for the different needs of diverse categories of students. Lifelong learning or continuous education has become essential, requiring comprehensive initiatives aimed at finding asynchronous ways of offering modules or courses which are flexible enough to accommodate the stated student variables and dynamics (Clark 2005). As Duderstadt (1999, 41) notes, if HEIs are to address changing societal and economic needs, they have to accommodate the wishes of different types of learners, by offering programmes in one (or more) of the following three formats:

- "'just-in-case' education, where students are expected to complete undergraduate or professional-level degree programmes prior to actually applying that knowledge. This refers to students who enter higher education straight from high school and complete their courses uninterrupted by work or domestic/other commitments;"

- "'just-in-time' education, which makes available non-degree programmes as and when needed. In this instance, students already have the knowledge, skills and experience, but need accredited certification for self-employment (entrepreneurship) or sub-contracting purposes;" and

- "'just-for-you' education, where offerings are carefully tailored to meet the unique lifelong learning needs of particular students. Such programmes are better suited to working adults who require formal education to expand their work-related knowledge and/or skill sets" (Duderstadt 1999, 41).

At the institutional level, if lifelong learning is to become a reality, programmes must transform both epistemologically and otherwise, pedagogies and learning contexts must change, diverse patterns of entry and exit must be accommodated, and success (rather than failure) must be encouraged and rewarded (Pityana 2009).

Postgraduate employment relevance

HEIs still have much to do to arrive at a balance between their expectations and those of organisations, judging from an inventory of the communication, reporting, research, presentation and life skills which employers value (Kim 2011). Most employers expect their workforce to have the know-how, competencies and business acumen to operate as global citizens with a clean digital footprint (data trail reflecting internet use), who value social development – that is the base currency of employment in the labour market (Kearney 2008, 131–133; *Mail & Guardian* 2012, 3).

Given that HEIs are the incubators of the knowledge and skills which economies and societies rely on, their collaboration with government, industry and commerce must be close and healthy. Job market trends and the volatile worldwide economic outlook offer clear indicators of how postgraduate education could be effectively improved (or adapted) to meet dynamic employer expectations and redress supply–demand imbalances (DHET 2012; Pityana 2009).

From the body of evidence on this subject it is clear that, in addressing unemployment in general, and postgraduate unemployment in particular, no stakeholder could (or should) attempt to resolve the issue single-handedly (CHE 2013; Mkhonto 2007, 64). By implication, any reconfiguration of higher education curricula, which seeks to accommodate interdisciplinary skills development, should occur in consultation with government, the private sector and DHET (2012).

RESPONSIVENESS OF THE CURRICULUM TO ISSUES OF DECOLONIALITY IN SOUTH AFRICAN HIGHER EDUCATION

Decolonisation encompasses not only a concept but also a process. It is a highly contested, complex and subjective sociocultural phenomenon which is currently being widely interrogated (formally and informally, amongst staff and students) at South African universities (Padayachee, Matimolane and Ganas 2018, 291) and in the public sphere. The writings of decolonisation theorists such as Franz Fanon, Gayatri Spivak and Ngũgĩ wa Thiong'o clearly illustrate that decolonisation is a complex and multidimensional undertaking, fraught with conflict, contradictions and paradoxes (Padayachee et al. 2018, 291). Mbembe (2016), whose focus area is decolonisation at HEIs in particular, emphasises that the process encompasses all aspects of being and functioning in that space. Marked for transformation are the predominantly colonial architecture of university campuses and the Eurocentric academic models being followed, and authoritative systems of control and management – of students (through standardised assessment) and, increasingly, of university lecturers. For Mbembe (2016), the continued existence of syllabi resulting from epistemic violence, which were wilfully and knowingly designed to serve the aims of the colonisers of South Africa and, later, of the apartheid regime, merely serve to perpetuate past injustices. The dominance of European culture, languages and theories in higher education is something which other authors have also flagged as problematic: as Fataar (2018) observes, the body of knowledge of the (colonial) university or school largely ignored or dismissed indigenous knowledges, the wisdom of the working poor, and the literacies of urban black women and marginalised peoples, amongst others. It advanced the Western canon, founded on a separation of Western knowledge from its non-Western knowers, working from the premise that modern knowledge would help instantiate those subjects. Thus, for graduates to be locally and globally responsive (as is required for a sustainable future), perhaps the country would be better served by university curricula that are epistemically diverse, while being locally and globally relevant (Padayachee et al. 2018). A responsive curriculum can best address issues of decolonisation, if there is an understanding of how the curriculum was colonised in the first place. Today, many institutions are still dealing with the long-term effects, which colonialism and apartheid had on knowledge production and its dissemination through education. In an attempt to address the challenges associated with decolonisation in the local higher education milieu, institutions of higher learning will have to deliver relevant education which is culturally and practically sound (addressing both values and skills). That will require a reorganisation of knowledge; a rethinking of disciplines, the reformulation of curricula and the transformation of pedagogies,

without glossing over quality assurance or lowering certification standards. Just how a responsive curriculum will address issues of decoloniality in the South African higher education sphere is debatable, but the following four drivers may prove both relevant and appropriate:

- Responsiveness to social context: A transformational curriculum registers, and is attuned to, national and international contexts, histories, realities and problems. For such a curriculum to be deemed realisable, relevant and fit for purpose has to be situated within a specific social, economic, environmental, intellectual, political and legal context. Questions pertaining to development, social justice and globalisation should be core to teaching and research.

- Epistemological diversity: Curriculum transformation should consistently emphasise this aspect, which involves the inclusion of marginalised groups, and a recognition of the experiences/knowledges and worldviews originating from Africa and the Global South. That would involve challenging the hegemony of Western ideas and paradigms, and foregrounding local and indigenous conceptions and narratives, while giving due recognition to the global context.

- Renewal of pedagogy and classroom practices: To transform the curriculum, it is imperative to regularly revisit and re-evaluate how we learn and teach. This will require greater responsiveness to, and an upskilling of competencies in, new pedagogical methodologies and approaches within various disciplines.

- An institutional culture of openness and critical reflection: A curriculum which is transformative acknowledges the existence of a "hidden curriculum", located in the spaces, symbols, narratives and embedded practices of the university, and in the diversity (or lack thereof) of the personnel and student cohort (University of Pretoria 2016).

Given these challenges and their impact on the institutions of higher learning, it is vital to interrogate how these (potential and actual) obstacles can be addressed and their detrimental effects minimised.

CONCEPTUALISING A RESPONSIVE CURRICULUM

Post-apartheid, South African HEIs have continued to explore ways in which their curricula can be made more responsive to the needs of underprepared students (Shalem and Slonimsky 2006, 38-52). The National Commission on Higher Education (NCHE 1996, 3) explicitly outlines a requirement for "heightened responsiveness within HEIs to societal interests and needs", arising from "social, cultural, political and economic changes". As the NCHE (1996,

4) explains, a curriculum which is responsive incorporates "the multiple voices of an increasingly diverse student body, industry and society into [the] governance structures, research and teaching priorities of universities".

For Moll (2011, 3), curriculum responsiveness is to be desired, as it promises positively formulated benchmarks against which to judge whether education programmes are succeeding in transforming society. In the context of recent policy research in this country, such responsiveness is often touched on in debates centred around FET and higher education. As Ekong and Cloete (1997) note, initially responsive curricula were viewed as effecting changes to a national and global environment, in an African context – what Dowling and Seepe (2004) articulate as the "need to ensure that the African experience is at the core of the curricula". In a more focused study, Gamble (2003) specifically addresses the transformation of FET colleges. At an epistemological level, increased responsiveness involves a shift from closed knowledge systems (controlled and driven by canonical norms of traditional disciplines) to more open systems which dynamically interact with external social interests, consumer or client demands and other holders of knowledge (NCHE 1996, 4).

Butler (2010), amongst several others, identifies a common pattern in respect of how scholastically underprepared tertiary students approach texts and epistemic practices when first commencing their studies. As Bertram (2006) recommends, in dealing with underprepared students it is important to understand how the curriculum can be employed to ensure both their optimal responsiveness and eventual success in their learning. In defining a responsive curriculum – an endeavour which has been decades in the making – equity and social justice goals are more important than ever, and have been recognised as such by higher educational management in the push towards globalisation (Manathunga 2011, 1). Any definition of a responsive curriculum should thus, ideally, exhibit characteristics of responsiveness, and these are presented below.

Manathunga (2011, 1) defines a responsive curriculum as a reflective approach to teacher education, which encourages students and educators alike to "reopen their own backgrounds". As Moll (2011, 3) notes, the available literature on the topic proposes several means of determining whether a curriculum is indeed responsive: it should be responsive in economic, cultural and disciplinary terms, and in respect of the learning which results from it. A curriculum is responsive if the teaching and learning which occur at an HEI meets the changing needs of staff and students, by delivering graduates who are more competitive, economically speaking. Cultural responsiveness, by contrast, pertains to the work of students and academics, and how they articulate and mine their own knowledge disciplines (Moll 2011).

In the HEI milieu, a curriculum is responsive to its knowledge discipline if university

lecturers or researchers keep abreast of developments in their field of specialisation (NCHE 1996). A curriculum is responsive to students or to learning, if it speaks to the needs of the student and ensures that his/her learning opportunities are optimally utilised (Moll 2011). As Moll (2011, 2) contends, academics should adjust their instructional strategies to the "rhythms" and "tensions and emotions of learning". Learning can only be responsive to students if it explores and guides them, not only through lectures, but by creatively preparing them, facilitating their learning, encouraging discussion, offering constructive assessment and evaluation, and overcoming possible resistance by fostering a relationship of trust. A curriculum is responsive to students' learning needs if it teaches them in terms they find accessible, and assesses them in ways they understand (Moll 2011).

A more holistic view of the factors influencing curriculum responsiveness would take a broader, wider-ranging perspective, and include the educational responsiveness which parents, care workers and health systems show in nurturing an individual's development (Moll 2011, 3). For the purposes of this article, Moll's (2011) sentence-frame serves to explain what a responsive curriculum involves: someone or something is responsive if s/he/it responds to a state of affairs by doing something: **X** is responsive to **Y** by doing **Z**. As Moll (2011) indicates, in this discussion **X** is the university curriculum, and the other two terms in the above-mentioned sentence-frame can be seen in the debate as the curriculum responsiveness concept.

Moll (2011) adds that the economic aspect holds significant importance when it comes to curriculum responsiveness. As contemporary debates show, this pertains to whether or not HEIs are effectively training and delivering sufficient numbers of qualified graduate professionals or skilled workers in key sectors of the economy. Curriculum responsiveness denotes the ability of teaching and learning to meet the changing needs of employers, and hence to provide them with personnel who can make their enterprises more competitive on an economic level (Boughey 2009).

In investigating the cultural responsiveness of the curriculum, an extensive body of literature in educational studies has been generated in the United States (Delpit 1996; Gay 2002; Hayes and Juárev 2012, 4; Wlodkowski and Ginsberg 1995). With reference to Moll's (2011, 5) sentence-frame, cultural responsiveness entails the curriculum accommodating and valuing the ethnic diversity of students and societies, by presenting them with various alternative learning pathways. Moll (2011, 6) also reflects on the responsiveness of the curriculum to its knowledge discipline, which is particularly significant at the tertiary level. Unlike in other institutions that deliver curricula, a university curriculum is closely aligned with a scholarly community which is motivated by research and produces new knowledge according to specified problematic and evidence-based procedures (DHET 2012). In terms of the sentence-frame

being used, disciplinary responsiveness is in evidence if a curriculum responds to the demands of its underlying knowledge discipline, by closely aligning the way in which knowledge is produced, with the way in which students are educated and trained in that discipline (Hayes and Juárev 2012).

CONCEPTUALISING THE OPTIMISATION OF LEARNING

When designing pedagogies and curricula, academics are challenged on how best to articulate/align the curriculum to optimise student learning while refashioning their own positions on the different theories or models of learning which inform the chosen process, design and product (Khan 2011). In this study, the selected approach involves offering a theoretical viewpoint aimed at optimising learning, as proposed by Marton and Såljo (in Khan 2011): they refer to students' perspectives in approaching their studies prior to the outcome of learning as the phenomenographic or phenomenological theory. Students' motives for learning affect their approach to the curriculum as well as their choice of strategy, as is evident in interactions between the students, the context and the module content (Phan and Deo 2007).

Biggs (2003) extends the above notion by including the motivations of the lecturer and the teaching methodologies employed in lecture halls (see also Biggs 1987; Biggs, Kember and Leung 2001; Phan and Deo 2007). According to Biggs (2003), constructivism and students' approaches to learning are two aspects that are vital for ensuring that they successfully engage with content (curriculum), while motivation and their lecturers' actions also play a role. The constructivist nature of students' learning focuses on how they construct goals and strategies using the information available to them (extended influences), in conjunction with their own knowledge (internal), to learn from experience (Biggs 1987; Biggs et al. 2001; Dewey 1933). Within this constructivist paradigm, students become agentic in their own learning, while the lecturer's role, which is to guide and mediate what happens in class, enhances learning (Biggs 1987; Biggs et al. 2001). Student learning, when viewed from the constructivist perspective, requires a relationship to exist between everyone in the class, as well as an all-inclusive approach to learning (McKinney 2009).

Clearly, the optimisation of learning requires meaningful engagement with the curriculum and a thorough understanding of the content, rather than a surface approach which merely asks unmotivated students to make a minimal effort at rote learning, before later regurgitating facts (Biggs 2003). To optimise learning, educational activities should encourage students to think critically, analyse, question and assimilate factual knowledge. This will help to develop their higher-order thinking skills, and endorse active learning through collaboration and guidance (Biggs 2003; McKinney 2009; Phan and Deo 2007). To optimise learning, Abell (2006) and

McKinney (2009) offer the following guidelines: provide clear direction to reduce confusion among students; clarify the purpose by helping them to grasp the significance of the work and why they are doing/studying it; keep them task-centred by offering structure and interesting pathways to learning; clarify expectations and conduct assessment and give feedback by using illustrative samples of exemplary work/rubrics; point them to pertinent sources that will make thing clear, rather than frustrating them; and reduce uncertainty, surprise and disappointment by showing them multiple pathways towards success.

Felder and Brent (2009) concur with Abell (2006) and McKinney (2009) on the abovementioned actions, and propose additional activities aimed at optimising learning: included are encouraging actions to guide students through group work (think-pair-share, where a problem is set or identified, students grapple with it individually for a short time, before forming pairs and reconciling or improving their solutions). It is equally important to progress to a stage where students can answer multiple questions, for instance, regarding a course-related concept. The lecturer might reveal a number of distractors (incorrect responses which the students are most likely to offer) using personal response systems ("clickers") and a histogram of the responses. As a technique, TAPPS (thinking aloud pair problem-solving) is powerful for helping students get to grips with collaborative problem solving, case analysis, text interpretation or translation. As far as debate protocols are concerned, there are numerous ways of encouraging discourse, rather than a single tried-and-tested method, which is guaranteed to suit everyone (Felder and Brent 2009). According to Firmin, Vaugh and Dye (2007, 19), debate as a format typically contains first affirmative, first negative, second affirmative and second negative speeches. Debate as a classroom technique can be successfully applied across a broad range of instructional fields (Firmin et al. 2007, 19).

A RESPONSIVE CURRICULUM AT A UNIVERSITY OF TECHNOLOGY

In higher education, individual institutions assume responsibility for their own curricula (DHET 2012). In the study on which this article is based, it was deemed apropos to review a curriculum in practice, and determine whether it meets the criteria for being regarded as responsive in nature. The curricula under study reflected an outcomes-based approach to education – a philosophy which focuses on students' ability to demonstrate that they know and can do, when measured against stated learning outcomes. Akinmusuru (2011, 5) is of the view that outcomes shape the curriculum and facilitate the curriculum design process. In this regard, Materu (2007, 8) identifies several prerequisites for drafting and implementing an effective curriculum:

- Determine the needs of industry and other stakeholders in society.

- Specify the outcomes to be achieved by educating graduates, to determine whether those outcomes align with industry and societal needs.

- Outline what is required to educate students, from when they register to when they graduate, in order to meet the outcomes of their modules/courses.

- Implement continuous assessment tools to measure whether students are consistently achieving the required learning outcomes.

- Establish a welcoming environment, by offering optimal learning experiences for all students.

- Continuously feel the pulse of industry and other stakeholders.

- Undertake periodic reviews of the curriculum, to update outcomes so that they meet the needs of industry and society, and iteratively adjust curriculum content as needed.

Any curriculum review initiative at an HEI must take into account two realities/sets of imperatives, which must simultaneously shape the focus and terms of reference: first, there is the obligation to prepare graduates for the challenge of thriving in a competitive global environment, and second, the need to uphold social justice (UCT 2014). The vision, mission and strategies of HEIs must underpin any attempts at curriculum reform, since the distinctiveness of their curricula are key to their ability to position themselves in the broader tertiary landscape. At the highest executive levels, institutions are grappling with the question, "What is a responsive curriculum and how it will optimise learning?" For the Tshwane University of Technology (TUT) (2014), the vision and mission statements of an institution typically reflect whether it is "fit for purpose". As an entity, TUT should thus embody all those characteristics, which are associated with a university of technology (UoT). The curriculum and teaching and learning approach of any institution is informed by its self-defined purpose. To judge the quality of an institution, it is imperative to determine how the curriculum and teaching and learning approaches align with its institutional purpose.

According to Du Pre (2010, in TUT 2014), a UoT differs from traditional and comprehensive universities in respect of its focus, and the interrelationship between technology and its essence as a university. Here, technology is taken to refer to the output of value-added products, processes and services which seek to improve people's lives, flowing from the effective and efficient application of accumulated knowledge, skills and expertise. As regards curriculum development, the programmes (primarily vocational or professional) offered at a UoT should thus be developed around the graduate profiles defined by industry and various professions. At UoTs, technological capabilities are deemed to be as essential as cognitive skills (Du Pre 2010, in TUT 2014).

TUT's vision and mission strongly emphasise scholarship and a teaching and learning culture which critically reflects on the curriculum, with a view to improving students' learning (Boughey 2011, in TUT 2014; Harvey and Green 1993, in TUT 2014). In addition, it advocates transformation and transformational teaching based on a change in the foundational assumptions, behaviours and processes, which go into teaching and learning. For them, a strong emphasis is placed on developing students (and, subsequently, graduates) who are more employable and responsive to market demands. Students can be deemed to be marketable and competitive on a global stage, if they can apply scientific knowledge innovatively in solving problems.

Curricula should also be responsive to students' needs, abilities and interests, and the selected pedagogic approach should reflect transformational teaching (Slavich and Zimbardo 2012, in TUT 2014). In addition to showing its responsiveness to the needs of industry and society, a curriculum should seek to emancipate and empower students by creating space for critical reflection and allowing them to participate actively in meaningful learning experiences (TUT 2014).

To summarise, in answer to the question: "Can a responsive curriculum in a higher education institution optimise the learning of students?", the literature reviewed seemed to indicate that a responsive curriculum is 1) imperative and central to any attempt at meeting the demands of industry and society; and 2) one of the pillars of an education system which encourages students to optimise their learning, and offers them a solid platform from which to do so.

CONCLUSION

In this article, the researchers employed a critical interpretative and descriptive approach, to undertake a literature analysis of the nature and role of a responsive curriculum, which seeks to optimise learning. The literature review revealed that a responsive curriculum plays a significant role in optimising learning at HEIs. With appropriate curriculum conceptualisation, programme design and pedagogical interventions, 21st-century graduates' best (and worst) attributes can be nurtured and shaped at higher learning institutions, including at UoTs. All HEIs should therefore strategically prioritise the upskilling and empowerment of academics, with a view to formulating and presenting curricula that are responsive to the rapidly changing demands of industry and society – not only locally, but also globally. The undeniable benefit of greater curriculum responsiveness, is that it works to ensure optimal student learning.

RECOMMENDATIONS FOR FUTURE RESEARCH

Although the extant body of literature reviewed here highlights the importance of a responsive curriculum in optimising learning at HEIs, few researchers are explicit about how a responsive curriculum should seek to achieve that goal across different modules and programmes. The recommendation made here, is that further research be conducted into how responsive curricula are designed and developed. It is crucial that studies investigate both the academic and non-academic challenges which curriculum experts are likely to encounter at South African HEIs.

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