Reappraising learning programmes and knowledge production in higher education in post-apartheid South Africa

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ABSTRACT
Benchmarking curricula, learning programmes and research designs in a globalising, knowledge intensive and technology driven society remains a major challenge for higher learning institutions (HLIs). The prevailing trend is to benchmark curricula, learning programmes and research in higher education (HE) in terms of single disciplines, subjects and courses. This has led to the division of academia into separate faculties, departments and units. This article contests the conventional view of planning curricula, learning programmes and research in terms of single disciplines and argues for designs underpinned by interdisciplinary and transdisciplinary planning. It argues that, although single disciplinary designs have undoubtedly contributed to the creation of knowledge, this practice has theoretical and practical limitations, particularly in the globalising, knowledge intensive and technology driven society. It further argues that the proposed interdisciplinary and transdisciplinary designs are useful tools for transforming qualification based curriculum planning in HE in South Africa. It also argues that although programme based planning was proposed four years ago as part of transforming the HE sector, the implications of interdisciplinary and transdisciplinary planning and how it may improve practice remain unexplored. Furthermore, there is growing recognition in HE in general and in South Africa in particular that HLIs are no longer exclusive producers of knowledge needed by students and employers.

INTRODUCTION
Benchmarking curricula, learning programmes and research has become a focal point in making HE relevant to the needs of students, employers and society in general. In particular, globalisation, knowledge expansion and technology, together with social reconstruction and development agendas, have accelerated the need for HLIs to reappraise their curricula, learning programmes and research designs and priorities. Furthermore, there is a need to explore new ways to generate and disseminate knowledge. However, how the required benchmarking of curricula, learning programmes and research should be handled is viewed differently. Thus, the challenge in academia is to develop principles and policies that may guide knowledge organisation for the purpose of restructuring academic qualifications, teaching programmes, curricula as well as research agendas in HLIs (Davis 1995:24). Cognisance should also be taken that HE is not the sole producer of knowledge needed by students and employers.

The debate around the issues outlined above varies from the dominant and conventional premise that knowledge should be organised and planned within academic disciplines and through professional studies, to an encroaching premise that knowledge should be organised in terms of interdisciplines and transdisciplines. The first presupposes that HE is the sole producer of knowledge, while the second presupposes that HE is one of the many sites of knowledge production. The second also posits that curricula, knowledge and research in HE should be developed along multidisciplinary, interdisciplinary and transdisciplinary lines (Berger 1977; Davis 1995:4). This basis for benchmarking brings students and researchers closer to reality and practice than the...
single discipline approach, and also provides a means to appraise the notion of knowledge production.

The notion of a single coordinated HE system in South Africa has been articulated by the National Commission on Higher Education (NCHE 1996) and in the Education White Paper 3 (Department of Education 1997). One of the key elements of this notion is the need to reappraise and transform curricula, programmes and knowledge production in order to make HE responsive to the imperatives of post apartheid South Africa.

The key recommendation of the NCHE is that a single coordinated HE system be driven by a programme based definition of HE. It is argued that programme based planning, as opposed to qualification based planning, will promote diversified access, curricula and qualification structures and accelerate vertical and horizontal mobility. However, the proposed shift from qualification based to programme based planning is subject to varying interpretations and conceptualisations of what this shift implies for practice.

This article re-examines conventional designs where the planning of curricula, learning programmes and research priorities in HE is based on single academic disciplines and professional studies. These are compared with interdisciplinary and transdisciplinary designs. The shift from single academic disciplines and professional studies towards interdisciplinary and transdisciplinary designs is analysed against the background of the current debate on curriculum change in general, and the implications of this shift in post apartheid society in particular. The article concludes that, although benchmarking academia in terms of single disciplines and professional studies has undoubtedly promoted the discovery of new knowledge, problem solving in the real world requires designs based on interdisciplinary and transdisciplinary approaches. It further concludes that the epistemological and practical aspects of moving away from qualification based to programme based designs remain obscure for many academic planners in many institutions in South Africa. This obscurity has led to overspecialisation under the pretext of developing purpose focused programmes.

**BENCHMARKING LEARNING PROGRAMMES, RESEARCH AND INSTRUCTION IN HIGHER EDUCATION**

Before making a case for interdisciplinary and transdisciplinary approaches to programme based planning in South African HE, it is necessary to outline designs commonly employed in learning programmes, instruction and research in HE. The analysis of these designs is necessary for examining the implications of benchmarking designs based respectively on single discipline qualifications and inter and transdisciplinary programmes in South Africa. Furthermore, the analysis illuminates distortions and confusion that may arise because of the way in which the proposed shift is conceptualised in HLIs in South Africa.

Traditionally, the benchmarking of learning programmes was achieved by means of single discipline studies. These were later supplemented by multi disciplinary, pluridisciplinary, interdisciplinary, cross disciplinary and transdisciplinary approaches (Berger 1997:3, Davis 1995:4).

Key elements of benchmarking in single discipline studies relevant for this article are subject specialisation, professional fields of study, curriculum planning, learning programmes and research priorities. In a narrow sense, “single discipline planning” refers to subject specialisation, while in a broad sense the phrase refers to within professional fields (Davis 1995:4, 25 26).

Multidisciplinary design is the grouping together of various disciplines, sometimes without apparent interconnection, and several discipline specialists working side by side in an additive way. In pluridisciplinary design, disciplines assumed to be more or less related are grouped together. In interdisciplinary design there is close interaction between two or more disciplines. Interaction within an interdisciplinary setting involves communication of ideas; mutual integration of organising concepts, methodologies, procedures, epistemology and terminology; joint data organisation; and team teaching (Berger 1999:4). Cross disciplinary design is type of design where planning cuts across a variety of disciplines. Transdisciplinary design implies an even higher level of interaction and teamwork, fertile collaboration of ideas, and synthesising of scholarly perspectives (Davis 1995:5). There is mutual interaction in organising concepts and methodology, and themes transcend several disciplines and include conceptual frameworks that go beyond the domains of particular disciplines, their methods and epistemology (Berger 1977:4, Davis 1995:5, 14).

Benchmarking academic activity in terms of single disciplines has limitations that call for new efforts at planning curricula, learning programmes and knowledge expansion. Some of the limitations are discussed below.

First, the current trend of developing artificial niches for new learning programmes, curricula and research agendas is the result of single discipline planning. This planning runs the risk of isolating the discipline and proliferating its findings and specialised language (Davis 1995:35). (See King & Brownell (1986) for the implications and limitations of such designs.) Second, specialists in particular disciplines tend to absolutise their methods and epistemologies and this
leads to conflict with other disciplines (Davis 1995:36). Third, single discipline designs undervalue broader issues and holistic perspectives on actual problems. They are reductionist and ignore phenomena that exist outside their own paradigms (Davis 1995). Fourth, single discipline designs lead to trivialisation and loss of sight of the bigger picture.

Despite these limitations, learning programmes as well as research agendas in HE continue to be benchmarked in terms of single discipline designs. This in turn has led to the prevailing practice of dividing academia into faculties and departments, and academic activities into single discipline endeavours.

Multidisciplinary designs, in contrast, are criticised for their lack of specificity and for collaboration between disciplines that are assumed to be more or less related although there is no apparent connection between them (Berger 1977:4). Hence, although members of a multidisciplinary team might work together on a specific problem, they seldom spend much effort on or feel the necessity to investigate their different perspectives (Davis 1995:4).

The concerns about single disciplinary and multidisciplinary specialisation have necessitated new thinking on benchmarking curricula, learning programmes and research focuses in order to align HE with changing conditions.

**EMERGING DESIGNS**

Interdisciplinary and transdisciplinary designs for benchmarking curricula, learning programmes and research activities are steadily gaining recognition. Although interdisciplinary and transdisciplinary approaches differ in terms of what each covers, the two are founded on a similar epistemology and therefore share strengths and weaknesses. Thus, the key elements of interdisciplinary design described below apply equally to transdisciplinary design. Issues worthy of further examination relating to the two are: What do interdisciplinary and transdisciplinary designs imply? How do they differ from other designs? How do they shape practice? In what ways do they provide new bases for generating knowledge in order to solve practical problems?

Interdisciplinary design is regarded as a compensation for the limitations of single discipline specialisation and the professionalisation of fields of study. Interdisciplinary and transdisciplinary designs therefore balance out the fragmentation arising from single disciplinary design. They also address the epistemological experiences of other disciplines. Both aim at demystifying the language of specialist disciplines, thus creating common space for discipline specialists to explore other fields (Jacobs 1989:17, Davis 1995:36). Jacobs (1989:100) correctly argues that interdisciplinary curricula provide for both students and researchers to engage in more relevant issues.

Furthermore, knowledge gained in an interdisciplinary environment reinforces all the disciplines involved and prompts academics and researchers to break with the orthodox view of knowledge and adopt a range of perspectives that serve them well in the larger world (Jacobs 1989:10, 43, Ackerman 1989:25 37). Klein (1994:19) concurs that interdisciplinary experience provides opportunities to engage in collaborative problem solving, complex research designs, cross fertilisation of concepts, method borrowing and transdisciplinary thinking. Hence, the collaborative problem solving inherent in interdisciplinary and transdisciplinary designs provides opportunities for considering perspectives other than one’s own and creates the ability to evaluate the testimony of experts. Collaboration increases sensitivity to ethical issues, enlarges perspectives or horizons, facilitates unventional thinking and highlights disciplinary, political or religious biases (Newell 1994:35). The benefit of interdisciplinary benchmarking for institutions is that programmes and research focuses become more stimulating, which in turn improves the morale of students and teachers. Interdisciplinary design further serves as a useful tool to introduce researchers and lecturers to various disciplines and offers a low cost but effective form of faculty development that facilitates the reallocation of fixed faculty costs (Newell 1994:35).

Interdisciplinary and transdisciplinary approaches are also useful to confront academic tribalism and territorialism that create conflict among discipline specialists (Becher 1989:23). The implication of academic tribalism and territorialism is that single discipline specialists not only define their own identities to exclude others, but they also limit all their activities to their intellectual viewpoints. This undoubtedly militates against cooperation and cross fertilisation of ideas that are needed to solve complex real world problems.

At institutional level, interdisciplinary and transdisciplinary designs can be established by planning learning programmes in such a way that courses and subjects run across specialised fields and processes. Berger (1977:9) advises that interdisciplinary design is likely to succeed by employing informal structures to get around formal structures, engage in negotiations between departments and set bilateral treaties between a number of departments. This could however also be achieved through formal structures.

Ackerman and Perskin (1989) highlighted another interesting dimension of interdisciplinary design. This relates to benchmarking of curricula and learning programmes in such a way that they promote integration of thinking and learning skills across the curricula. Curricula integration in the context of the
skill content relationship implies more than inter weaving of subjects and of skills and content (Ackerman & Perskin 1989:79). Furthermore, inter disciplinary curricula planning sensitisers planners to the development and integration of different skills in the main curricula and learning programmes. For example, one of the issues that arise out of the development of skills in transforming curricula and research in HE is the balancing of general skills/ competence and cognitive knowledge (Ackerman 1989:88).

However, despite sound support for interdisciplinary and transdisciplinary approaches, they are not popular for benchmarking curricula, learning programmes, research and instruction. Hence, misconceptions and different conceptualisations of implementing and administering these options by institutions go un explored. Two factors militating against interdisciplinary and transdisciplinary designs are what Jacobs (1989:2) calls the “potpourri” syndrome and polarity. The potpourri syndrome arises because units of programmes become samples of knowledge of a particular discipline and this results in lack of focus, coherent scope and sequence (ibid) in knowledge as a whole. Polarity persists because of the artificial distinction between traditional disciplines and inter disciplinary designs, which distinction tends to exacerbate academic tribalism and territorialism and mystifies the epistemology underlying curricula, research and knowledge production (Becher 1989, Jacobs 1989:2). The potpourri syndrome and polarity are not inherent in benchmarking through interdisciplinary and transdisciplinary designs. If the potpourri syndrome and polarity do occur in interdisciplinary and transdisciplinary designs, faculty chairs, people in charge of designing and developing curricula and learning programmes, and researchers at universities, have introduced them.

Ackerman (1989:25 37) and Jacobs (1989:8 23) argue that the potpourri syndrome could be resolved by ensuring that learning programmes and curricula have structure, logical sequence and flexibility. Programme designers must therefore ensure that there are content, scope and sequences for interdisciplinary programmes (Jacobs 1989:2). In particular, an interdisciplinary programme can be developed if there is a clear focus and the designers themselves are aware of the potpourri problem. Meeth (1978) argued that engaging teachers in curriculum design could avoid the potpourri syndrome and have them determine the nature and degree of integration, and the scope and sequence of studies.

According to Jacobs (1989:2), the potpourri syndrome can also be avoided by using the disciplinary, interdisciplinary and transdisciplinary experiences of students in programme designing. According to Ackerman (1989:26 32), the potpourri syndrome and polarity can be resolved by applying four intellectual criteria, namely validity within the disciplines, validity for the disciplines, validity beyond the disciplines and making a contribution to broader outcomes, and by applying the practical criteria of time, budget, scheduling, political support and personal concerns.

In summary, benchmarking in interdisciplinary and transdisciplinary designs is tenable because it enables students to effectively deal with and solve problems in an increasingly knowledge intensive, globalising world. Furthermore, these two designs provide the basis for maintaining balance between generic competence and skills on the one hand, and cognitive knowledge on the other hand in the late modern, post Fordist economy.

**PROGRAMME-BASED PLANNING IN SOUTH AFRICA**

The proposed interdisciplinary and transdisciplinary designs for programme based planning are informed in South Africa by the National Qualifications Framework work (NQF) (Republic of South Africa 1995). The proposed shift from qualification based to programme based design has had implications for the way in which curricula, learning programmes and research are benchmarked in institutions, between institutions, faculties and departments, and at intra institutional level. These implications are discussed in turn.

First, programme based design was recommended to offset the limitations of conventional discipline specialisation, qualification based planning and professional studies in HE. The interdisciplinary, pluridisciplinary, multidisciplinary and cross disciplinary nature of programme based design also offsets polarity between disciplines, overspecialisation, knowledge trivialisation and the dichotomy between disciplines (Davis 1995:26, 35, Berger 1977:3 4, Jacobs 1989:17).

The programme based design assumes that all programmes have broad areas of specialisation, and that it is desirable to use wide or narrow descriptions, whichever is required by a specific purpose. Thus qualifications in HE should be based on interdisciplinary and transdisciplinary programmes that transcend single discipline designs. This approach has been adopted to transform curricula and learning programmes in South Africa (NCHE 1996:48, Department of Education 1997:17, 25).

Furthermore, programme based design engenders
debate around the redefinition of research and knowledge production in order to make these relevant to our globalising, knowledge intensive and technology driven society, and relevant to an HE that is no longer the sole custodian of knowledge production and is increasingly competing in the market on a for profit basis (Barnett 2000:17, 121).

Gibbons et al (1994) distinguish between Mode 1 and Mode 2 knowledge in benchmarking learning programmes that demonopolise knowledge in the supercomplex situations of learning societies. Mode 1 is essentially academic, institutional, discipline based, homogeneous and hierarchical knowledge. Mode 2 is application centred, transdisciplinary, reflective and transient knowledge (Barnett & Bjarnason 1999:99 100, Scott 2000:196). Mode 2 refers to knowledge that exists in the world and that calls for new methods, new epistemology and new learning in which students help solve practical problems by using interdisciplinary and transdisciplinary epistemology (Barnett & Bjarnason 1999:99, 100). Supercomplexity exists when the basic framework governing the situation is challenged (Barnett 2000:115). Hence, a supercomplex research and curriculum design will have multiple frames of knowledge, and students who have learnt to handle uncertainties because they have been provided with pedagogical space to do so will be able to transmit knowledge better.

In South Africa, programme designs are beginning to shift towards Mode 2 knowledge production, which assumes that knowledge is not only generated in traditional basic disciplines and that HLIs are not the only knowledge producers (NCHE 1996, Department of Education 1997). Thus benchmarking in programme based planning that is transdisciplinary is an innovative response to the pressures of keeping abreast of the global trends of participatory and application driven research, addressing nations’ needs, promoting collaboration between knowledge producers and interpreters, and between knowledge managers and implementers (Department of Education 1997:25). Such an approach ties in with the reconstruction and development agenda of the current South African government (NCHE 1996:65). It is also likely to lead to a proliferation of transdisciplinary and interdisciplinary knowledge in science, technology, health, agriculture and nature conservation. For example, in addition to imparting basic discipline knowledge and job related skills, the approach will also impart knowledge of other disciplines as well as transferable skills. The basic argument for proposing this alternative approach is that world problems do not occur in tidy packages of disciplines, subjects or courses, as Davis (1995:39) observes.

The strengths of the proposed approach to benchmarking curricula, learning programmes and research are summarised by Ackerman (1989:25, 37), Davis (1995:35 39), Jacobs (1989:10, 17, 43), Klein (1994) and Newell (1994:34). The approach also facilitates the vertical and horizontal mobility of students. Vertical mobility refers to the attainment of a qualification that allows a learner to take up study for another qualification at a higher level, for example moving from a Master of Arts degree to a PhD degree. Horizontal mobility implies that learners can take credits from learning programmes they have not completed and move into another programme leading to a different qualification without having to start at the beginning.

Although programme based planning is recommended for use in HLIs, it is interpreted and implemented differently in South African institutions because of confusion about the development of purpose focused degrees. The problem seems to arise out of an assertion that purpose focused benchmark designs are dramatically opposed to interdisciplinary and transdisciplinary designs. This assertion has led university administrators and chairs of faculties to adopt single discipline designs.

Edwards (1999:19) cautions that the implication of this assertion is that young scholars doing interdisciplinary work will suffer when they are evaluated for promotion by their more traditional and discipline bound faculty and departmental superiors. Indeed, administrative strategies of universities generally discourage academics from engaging in cross disciplinary teaching and research out of their department’s own budget. This is a major impediment to making a shift towards the interdisciplinary and transdisciplinary paradigm, which in turn is imperative for transforming curricula, learning programmes and research in South Africa.

CONCLUSION

The benchmarking of curricula, learning programmes and research through a single discipline approach in higher education needs serious reappraisal for higher education to become responsive to the ever increasing needs of learning societies.

This article has argued that the qualifiers “multi disciplinary”, “pluridisciplinary”, “cross disciplinary”, “interdisciplinary” and “transdisciplinary” are often used in a loose sense in the context of learning programme benchmarking. This leads to confusion and lack of exploration of their use in programme planning. The article has also argued that there is a shift from qualification based to programme based planning, which calls for the re-examination of interdisciplinary and transdisciplinary benchmark designs. This has become a major challenge in academia in particular.

It has been suggested that single discipline designs
strengthen tribalism and territorialism, divisions between disciplines, polarity between theory and practice, isolation and the absolutisation of methods of particular disciplines. In addition, these designs downplay broader issues and holistic perspectives and thus obscure the bigger picture.

The author proposes that a culture of interdisciplinary and transdisciplinary designs be developed, which will promote interfaculty and intra-institutional cooperation. These designs will minimise the negative effects of overspecialisation and discipline-specific learning programmes that currently characterise curriculum planning, learning programmes and research agenda in HE. The author also proposes that these designs overcome fragmentation and develop a common language and discourse, and foster a range of perspectives and provide opportunities for collaboration and method borrowing to solve problems and ensure cross fertilisation.

The author concludes that the interdisciplinary and transdisciplinary designs encourage collaboration between academic departments, faculties and structures by including them in various disciplines at institutional level. This is a low cost means of developing knowledge and facilitates the reallocation of fixed costs. The author also calls for a shift from Mode 1 to Mode 2 knowledge production, although this issue has not been extensively debated.

ENDNOTE

1 Benchmarks in the context of this manuscript refers to attempts to develop points of references or standards of good practice when developing learning programmes in higher education.

REFERENCES


