

Investigating curriculum transformation pathways in technological planning schools: Learning from conventional planning programmes and beyond

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Abstract

The South African higher education terrain has undergone massive transformation through curriculum transformation involving programme alignment. There are three technical town planning schools out of the eleven town planning schools in South Africa and these were the hardest hit by the curriculum changes. These technical planning schools phased out technical programmes, and introduced bachelor and honours degrees. This paper investigates the possible pathways of curriculum transformation for technical planning schools critical to the retention of practical skills training within the new programmes. The paper adopted a phenomenological case study research design and applied the qualitative research approach. Content analyses were used to derive meaning from the collected data. Preliminary findings reveal three possible pathways that could be adopted by the technical planning schools to ensure that new curriculated degrees produce graduates with practical town planning skills. The new degree programmes that replaced technical programmes need to place graduates and universities at par with conventional universities in terms of recognition and quality. Pursuit to that, the paper recommends the infusion of the uniqueness of the phased technical programmes in the new degree programmes to deliver competitive, marketable qualifications that are preferred by students and valued by industry.

Keywords

Pathways; Curriculum Development; Higher Education; Policy Transformation; Town Planning; Technical; Conventional; University of Johannesburg.

1. Introduction

The South African higher education terrain has been undergoing massive transformation for some time now. Top among these changes are financial adjustments and programme alignments (Breier, 2015). The South African universities have had their fair share of local and international challenges that can easily be traced to student activism and national policy changes as well as the global economic outlook and the ever-changing competitive international educational landscape (Vorster, 2011). Among the eleven town planning schools in South Africa, the hardest hit with regards to curriculum changes and alignments are the three technical planning schools as compared to the eight conventional schools in the country (Barnett, 2016). In keeping with the higher education policy on programme alignments, the three technical planning schools have been instructed to phase out all the technical programmes such as the National Diploma and Bachelor of Technology degrees and in their place develop bachelor and honours degrees respectively. The curriculum changes and the implementation of such higher education policy, has made the investigation of curriculum transformation pathways in technical planning schools paramount, against the backdrop of the phasing out of work integrated learning that has always been part of the national diploma training programme (Barnett, 2016).

Of particular importance is to investigate the possible pathways of curriculum transformations that are available to technical planning schools to ensure the retention of practical skills training within the new programmes, so that the level of technical skills is not compromised by the removal of the one-year compulsory work integrated learning in the industry. The paper investigates the possible pathways of curriculum transformations that are available to technical planning schools that ensure the retention of practical skills training within the new degree programmes that no longer have work integrated learning as part of the curricula. The paper begins by positioning the transformation agenda in the technical town and regional planning schools. A comprehensive discussion is provided on the conceptualising of curriculum pathways. An overview is provided of the massive transformation of the South African higher education terrain. Discussion on the methodology adopted for the study is provided. Possible pathways at the disposal of the of the technical planning school that could be adopted to ensure that the new curriculum degrees produce graduates with practical town planning skills and recommendations bring the paper to conclusion.

2. Background: Positioning the Transformation Agenda in the Technical Town and Regional Planning Schools

The Republic of South Africa has 11 recognized Planning schools out of the 55 planning schools on the African continent (Lea and Street, 2017). However, there are three technical planning schools including the Durban University of Technology located in KwaZulu-Natal Province; University of Johannesburg located in Gauteng Province; and Cape Peninsular University of Technology domiciled in the Western Cape Province. These technical planning schools are offering two programmes that are National Diploma and Bachelor of Technology in Town and Regional Planning. Since their establishment until 2017, these technical planning schools were offering 3 years National diploma and a year Bachelor of Technology. The two technical programmes are accredited by the South African Council for Planners (SACPLAN) and are unique and significant in the training of Town and Regional Planning technicians and Professionals in South Africa. Transformation is woven into social, intellectual and structural fabric of the Higher Education (Gee, 2017). Higher Education in South Africa recognizes both the internal and external challenges that this diversity creates, but also the many opportunities it presents to establish and sustain a process of transformation that will result in positive social change and the full embodiment of the democratic values of the South African constitution within the institutions (Lea and Street, 2017).

In keeping with the higher education policy on programme alignments, the three technical planning schools have been instructed to phase out all the technical planning programmes: the National Diploma and Bachelor of Technology degrees and in their place develop bachelor and honours degrees respectively. The two programmes are in the process of being phased out by the end of 2019, and they will be replaced by the Bachelor of Urban and Regional Planning (BURP), a three-year degree and the Bachelor of Urban and Regional Planning Honours degree (BURP Hons), a one-year degree programme. The curriculum changes and the implementation of such higher education policy however lead to the phasing out of Work Integrated learning that has always been part of the national diploma training programme (Ekong and Cloete, 2017). The Work Integrated Learning as accredited by the South African Council for Planners is significant in the training of town planning technicians in the country, as are programs that connect learning in the classroom with real-world applications outside of school (SACPLAN, 2017). They integrate rigorous academic

instruction with a demanding technical curriculum and the field-based learning and prepare graduates for entry into apprenticeships and employment (Entwistle and Ramsden, 2015). In addition, work Integrated Learning eliminates the tracking that has dominated theoretical education and help ensure that all students master the knowledge and skills needed for lasting success in the modern economy. The field of planning gives geographical expression to the economic, cultural, and ecological policies of society (Griesel, 2012). At the same time, it is a disciplinary and administrative technique and a policy development towards an interdisciplinary and compressive approach directed towards a balanced regional development and the physical organization of space (Jones, 2016). Therefore, the curriculum of National Diplomas of combining and exceptional career and technical education lead to real-world success of our youth, and to a world-class labour force for our government. In addition, the success of the technical programmes is grounded in their relevancy and rigor; and connect to actual needs in our state economy and help motivate students to learn by answering the question, “why do I need to study Planning” (Ekong and Cloete, 2017).

In South Africa, the activities of the field of Town and Regional Planning are regulated by the South African Council for Planners (SCAPLAN); the statutory body and council responsible for maintaining teaching and learning; research and community engagement standards and competencies (SACPLAN, 2017). Consequently, the town planning field maintains strong relations with planning professions through its affiliation with the South African Planning Institute (SAPI) and the South African Council for Planners. The three technical planning schools maintain strong relations with voluntary planning institutions such as the South Africa Planning Institute (SAPI) through its active participation in the institute’s activities. These linkages and collaborations provide a platform for engagement on local, national and global trends and the advancement of all the planning strategic objectives of the SACPLAN and SAPI (SACPLAN, 2017). The field of town and regional planning is broad and multidisciplinary and as such it focuses on among others land use planning, urban design, transport and infrastructure planning, use and application of information technology, heritage and conservation, resource management, environmental monitoring, commercial and industrial development, policy and planning, research and innovation, planning law and practice (Dunkin and Lindsay, 2011).

3. Conceptualising Curriculum Pathways

Pathways are programmes of academic and technical study that integrate classroom and real-world learning. Students pursue a pathway over multiple years and graduate prepared for full range of post-graduate options, which can include two or four-year University, college, certification programs, apprenticeships, formal job training, or military service (Shay, 2012). The success of this approach is grounded in its relevancy and rigor. Pathways connect to actual needs in country state economy, and they help motivate young people to learn by answering the question, “Why do I need to learn this?” (Luckett, 2012), by combining a college-preparatory curriculum with an exceptional career and technical education, pathways lead to real-world success for our youth, and to a world-class labour force for our government (Ekong and Cloete, 2017). The pathway approach is being implemented by Higher Educations and Training in South African University and academies in all regions. The results to date are striking, including higher graduation rates and higher earning power for students in pathways or similar programmes. While several of schools have already adopted this approach in South Africa, transitioning more higher education schools to multiple pathways is a challenging but attainable task (Luckett, 2009). Not only is it possible to prepare students for both college and career, it is essential to do so if we are to reverse the widespread exodus from South African Higher Education and Training and put many more people back on pathways to lasting success in further education, careers, and the civic affairs of our government (Oakes and Saunders, 2006). Through pathways, students are connecting their core academic classes to challenging career and technical instruction. It is happening in places such as University of Venda, University of Pretoria, and University of Kwazulu Natal. The pathways curriculum approach is comprehensive and flexible, allowing wide-scale adoption across a continuum of Higher educational delivery systems (Shay, 2012). Meanwhile, integrated curriculum combined with work-based learning and career guidance can lead to higher wages after graduating.

3.1 The multiple pathways in Practice

The multiple pathways approach holds significant promises for engaging students and improving their ability to achieve their dreams (Luckett, 2012). While many of schools have already adopted the multiple pathways approach, much remains to be done to put more students on the path to success. Pathways must be designed around rigorous curricula that meet South Africa’s standards for student achievement (Lea and Street, 2017). Pathways integrate challenging academics with a demanding career and technical curriculum. They alter how core academic subjects are

taught, and they do not lower expectations about what is taught. By organizing pathways around real-world themes, students gain the opportunity to test their classroom learning in practical application and work-based experiences (Ensor, 2012).

Pathways increase the likelihood of success in community college and deliver the academics needed for apprenticeship and formal employment for high-skill, high-wage occupations (Dowling and Seepe, 2013). Combined with challenging technical and work-based components of the curriculum, pathways help students master both theoretical and practical understanding of a discipline. Pathways can eliminate current practices that sort and track students in ways that limit their options after university (Oakes and Saunders, 2016). The pathways approach is comprehensive and flexible, allowing wide-scale adoption across a continuum of university delivery systems (Ensor, 2012). Large, comprehensive universities can offer programmes in multiple sectors, allowing students to enrol in the one that interests them most. The great promise of multiple pathways is the ability to make learning real and exciting for the thousands of students who are bored with conventional universities curricula (Ekong and Cloete, 2017). Whether, they aspire to become doctors, town planners, architects, all students hunger for the answer to a simple question: “Why I need to learn this?” (Lockett, 2012). Teachers must develop expertise in order to deliver high-quality learning opportunities using the pathways approach. Local and regional leaders must come together to offer multiple and relevant support to their communities (Dowling and Seepe, 2013). Key stakeholders must assess the value and success of pathways in [their] application.

4. Massive Transformation of the South African Higher Education Terrain

At the centre of the transformation agenda in higher education is the issue of equity and development, where equity refers to redressing the inequities of the past and development means the production of graduates with skills and competences required to address the advanced knowledge and human resource needs of South Africa (Lea and Street, 2017). Of course, the achievement of these goals is dependent on the expansion of the higher education system. Indeed, in the period since the transition to democracy in 1994 in South Africa, there has been substantial growth in higher education enrolments (NCHE, 2012). The higher education system has grown by over 80% since 1994, to a total enrolment of over 900,000 students (Van Acker and Bailey, 2011). Significantly, this growth has contributed much to redressing race and gender inequalities in admissions, with African enrolments reaching 79% and female enrolments area expected to reach 57% of the total by 2010 (Vorster, 2011). The graduation rate, that is, the number of graduates as a percentage of head count enrolments in a given year, has also grown, through only marginally from 15% in 1994 to 17% in 2010 (Van Acker and Bailey, 2011). In terms of population groups, the number of African and coloured graduates, and their proportions in total graduate output, have increased substantially: for example, the number of African first-degree graduates grew by 50 between 1995 and 2010, to 31, 000 (CDE, 2013:12). A mass re-accreditation of not envisaged, as the programmes offered will still have the same purpose, characteristics and exist-level outcomes as at present, and the changes to the curriculum will not constitute more than 50%, with the result that they would not be new programmes (Lea and Street, 2017). However, it will be important to ensure that the extended duration of programmes is soundly implemented, that shorter tracks for well-prepared students are coherently designed, and that the placement criteria for admission to a shorter track are rigorous and transparent (NCHE, 2012). The accreditation processes followed by the (Higher Education Quality Committee (HEQC) of the Council for Higher Education (CHE) and other bodies are already sufficiently rigorous to permit adaptation to ensure that the new structure is implemented with integrity and effectiveness, without being unduly onerous on either the institutions or such bodies (Lockett, 2012).

Conversely, the increasing involvement of government in enticing higher education out of its ivory is indisputable part of a global trend. According to the 1997 White Paper on Higher Education in South Africa (DoE, 1997), higher education is expected to increase its responsiveness to societal interests and needs. Therefore, it must be restructured to meet the needs of an increasingly technologically oriented economy, and its institutions must deliver the requisite research, the highly trained people and the knowledge to equip a developing society to address national needs and participate in rapidly changing and competitive global context (DoE, 1997). The need for globally equivalent skills raises the debate about curriculum relevance productivity and competitiveness depend on the ability to produce highly skilled and adaptive knowledge workers who can manage and manipulate knowledge and information and adjust to volatile and unpredictable global markets (Lea and Street, 2017). Such knowledge workers need to have well-developed problem-solving skills and be able to continually adjust their repertoire of knowledge and skills to changing environments. In such a context, it is frequently argued that the role of higher education shifts from an induction into the specialised knowledge of specific disciplines to the development of broad, generic and transferable skills (Van Acker and Bailey, 2011). In essence, higher education institutions worldwide are being called upon to become more

responsive to the needs of the knowledge economy (Breier, 2015). As South Africa attempts to meet pressing national needs in a global context, curriculum responsiveness has become central to policy, and the higher education system is grappling with this as it rethinks the curriculum (Barnett, 2016). While efforts to restructure curricula show evidence of institutions attempting to become responsive, the outcomes are sometimes incompatible. They may respond to immediate market needs, they may not produce the 'self-programmable labour' that is required for the new knowledge economy (Lea and Street, 2017). South Africa needs a comprehensive, coherent strategy that allows industry, policymakers, educators and community advocates to re-engage universities students in serious learning (Vorster, 2011). In particular, the country needs to help young people prepare to produce effectively in a rapidly changing economy; achieve education, financial and personal goals, and participate in community life (Luckett, 2012). In addition, South Africa needs an approach that is simple and complete, built on collective aspirations for lifelong learning, economic well-being and civic engagement, and this approach must be versatile, it must recognize that South Africa's young people can pursue many different pathways to achieving their dreams and contributing to the success of the state (Van Acker and Bailey, 2011).

5. Methodology

This study adopted the phenomenological case study research design and applied the qualitative research approach. According to Moustakas, (1994), a phenomenological research design involves describing and interpreting meaning and perceptions of individuals about the phenomena under study. This approach was used to investigate and understand the experiences of academics from three technical planning schools out of the eleven town planning schools in South Africa. The three technical planning schools were transformed through phasing out of technical programmes, and introduction of bachelor and honours degrees. The phenomenological research design allowed for an investigation about the lived experiences of Programme Coordinators and Heads of Departments of the universities that were transformed and three conventional universities. Face to face interviews and participatory observations were used to collect data from 6 Programme Coordinators from the University of Johannesburg, Durban University of Technology and Cape Peninsula University of Technology and two and 2 Heads of Departments Durban University of Technology and Cape Peninsula University of Technology. Three co-ordinators and three Heads of Departments from three conventional universities in South Africa including University of Venda, University of Pretoria, and University of Witwatersrand were also consulted to share their experiences on how they are managing existing conventional town planning programmes. Document and content analyses of experiences and data collected from both technical and conventional town planning programmes were conducted.

6. Presentations and Discussion of Results: Possible Pathways for the New Curriculum Town Planning Bachelor's Degrees

There are at least four possible pathways at the disposal of the technical planning schools that could be adopted to ensure that the new curriculum degrees produce graduates with practical town planning skills. These pathways will ensure that new curriculum town planning bachelor's degrees are designed to provide students who wish to pursue career in the built environment with specific focus on urban and regional planning. Through these pathways, Students will be exposed to physical, economic, social and political forces that shape urban and rural communities. The programmes will explore the role of communities, local and national government as well as the activities of non-governmental and international agencies in the process of development and land use and the impact of these on sustainable use of resources and the environment (Ekong and Cloete, 2017). The ultimate goal of the programmes should be to forge functional and intellectual linkages between theory and practice (knowledge and skills) at all levels of planning education (Ensor, 2012). The structure of courses at the new curriculum will focus on a theoretical understanding of urban, regional and rural planning, practical and technical links with both urban and metropolitan areas, the immediate countryside and small town environments as the laboratories for study and studio excises (Shay, 2012).

6.1 Integrating theoretical and technical curricula

It is critical that technical schools integrate academic and technical curricula to ensure that the new curriculum degrees produce graduates with practical town planning skills. There is need to strengthen the practical aspect – teaching more technical aspects during the third year, formerly Work Integrated Learning (WIL) that has been replaced by taught modules. New town planning curriculum programmes require large studio spaces and computer labs for students to

conduct their practical assignment. Dedicated facilities are required because of the specialist software that is used by students of town planning. Packages such as ArcGIS, Autodesk Revit AutoCAD, Trimble ketchup and many more. This development will advance students technical skills and provide them with an opportunity to excel in both theoretical and town planning related practical (Lea and Street, 2017). Through the availability of the studio and the computer lab, students will be able to advance their technical skills using relevant studio equipment. Practical should focus in advances in urban planning such as urban design and architecture for planners. There are good practices adopted by some conventional town planning schools such as University of Venda and the University of Kwazulu Natal. These institutions comprise of large studios and computer labs in their planning departments, which contribute to exposing students to various significant town planning practical projects. At the University of Venda, three programmes in Urban and regional Planning discipline are offered. These courses are Bachelor of Urban and Regional Planning, Master of Urban and Regional Planning and a generic doctoral degree (PhD) in the stream. Due to the course that the University of Venda offers, crucial space for the learning activities are provided. At current, the University provides four studios in which technical Planning Design, Architecture and Urban Design are taught. The University has provided these studios mainly for the Undergraduate Bachelor of Urban and Regional Planning. University of Venda is well equipped in terms of studio space and computer lab facilities. It is utmost important that the studio space forms crucial part of the infrastructure, but also as a space where students interact with each other both horizontally in terms of peers within the class and vertically between different year groups. One important point to take is that the University of Venda's studio setup is the allocation of year groups per studio. This gives student a sense of place and makes it easier for students and lecturers to work as they have dedicated spaces for each level of study.

At the University of Kwazulu Natal, it is an entire school of Planning, housing and architecture and has its own facility. The planning department falls under the school of the of the Built Environment and Development Studies, however, each department has its own infrastructure and some shared services. Under these circumstances, the planning department has large space that caters for all their students. Since the programme is a Master based programme in Planning, their studios comprises of two large studios, one for each year of Postgraduate Coursework Programme. Both Studios have large desks, drawing boards and pin-up boards. The planning department shares a computer lab with the other departments in the school and works on a timetables basis. This computer lab incorporates all CAD software including AutoCAD, Revit, ArchiCAD, SketchUp and ArcGIS. Therefore, technical schools should develop large studios and computer labs to ensure that graduates from the new curriculum town planning Bachelor's Degrees are exposed to various significant related town planning practical projects, including land use planning, urban design, infrastructure planning and architecture for planners. The studio and computer lab in urban planning should be developed and benchmarked with top urban planning universities such as University of Venda and University of Kwazulu Natal.

1. 6.2 Formalising Funding For Project Based Learning and Educational Excursions

Currently, in most technical planning school such as University of Johannesburg, there are no sources of funding explicitly devoted to supporting work-based learning or related elements such as programme personnel, curriculum planning that connect classroom and work-based learning, transportation, worksite instruction and supervision, and paid internships. Through state- level, industry-focused advisory committees, technical town planning schools should examine opportunities for targeting state resources towards the expansion of educational excursions and work-based learning opportunities for students (Lockett, 2012). Possible of funding include the Municipal Infrastructure Support Agent (MISA) and other workforce development-related initiatives. At the University of Venda, it is a norm that every year the school avail funds for education excursions. It is not only University of Venda, but most of conventional town planning schools every year, they provide funding for community outreach projects and globalisation; community engagement; and Work Integrated Centres on site (Ekong and Cloete, 2017). These education excursions connect learning in the classroom with real-word applications outside of school (Dowling and Seepe, 2013). Thus, technical town planning schools should formalise funding supporting work based learning and educational excursions.

6.3 Strong Working Networks With Government and Private Industry Partners

State and industry participation is essential to expand work-based learning opportunities. To help with recruitment, the government could engage industry and stakeholders in discussions around work-based learning and encourage them to offer opportunities and promote the idea to their colleagues in other businesses (Shay, 2012). The technical planning schools should develop networks with various national and provincial department as well as municipalities.

These networks will enhance students' town planning practical exposure, since the educational excursions will be mostly based on the existing real town planning projects done by these state organisations. For instance, at the University of Venda, the Department of Urban and Regional Planning works closely with metropolitan municipalities such as the City of Ekurhuleni and the City of Tshwane to strengthen students' metropolitan planning skills; with the Thulamela Local Municipality to scale-up local municipal planning skills. This Department takes students through various planning related projects annually. Also, these organisations assist the school with funds, working space, and 'live laboratory' studios for field excursions and presentation of findings. In this regard, students are able to put theory into practice. Integrating academic and technical curricula, offering work-based learning opportunities, and setting learning in the context of real-world application, students are able to see academic principles in action (Ensor, 2012). To make work-based learning a component of pathways that contribute significantly to student achievement, the government should define appropriate activities, develop clear programmes and learning standards, offer specific examples, and develop tools and resources that planning schools and their partners to guide effective implementation (Oakes and Saunders, 2006).

6.4 Introducing Vacation Work based learning into the Curricula

A work-based learning component offers opportunities to learn through real-world experiences. These experiences complement classroom instruction and help sharpen students desire to increase knowledge and skills that are relevant to their interests. Work-based learning opportunities also help students relate what they are learning in the classroom to real world (Lockett, 2012). For instances, studying the role of town planning in regulating community development is likely to have more meaning for a student who can work side-by-side with professional town planners, administering and interpreting town planning activities (Dunkin and Lindsay, 2011). Through these opportunities, students also learn other essential skills that employers claim university graduates are lacking, such as communication, problem solving, teamwork, project planning, and critical thinking (Gee, 2017). Town Planning schools which are phasing out technical programmes and replaced them with new curriculum town Planning Bachelor's Degrees should make industrial experiences a requirement of the curriculum, with at least 3 months experience. Industrial experiences should be made a requirement within the new curriculum Town planning Bachelor's Degree. This will ensure that graduates from the new curriculum equipped with both combined school-preparatory curriculum with an exceptional career and technical education, which will lead to real-world success for graduate and to a world-class labour force. To support this pathway schools should work strictly with industry to secure placement of student during the holidays. Moreover, if the schools network with relevant government organisations, this will play a sole role in support of positive pathways (Entwistle and Ramsden, 2015). In addition to the above mentioned, students should make effort to secure placements.

6.5 Working Closely with the Regulatory Organisation, South African Council for Planners and Voluntary Organisations, South African Planning Institute

The South African Council for Planners (SACPLAN) regulates the activities of the field of town and regional planning for planners in South Africa as a statutory body and council responsible for maintaining teaching and learning; research and community engagement standards and competencies (SCAPLAN, 2017). The town planning field maintains strong relations with planning professions through its affiliation with the South African Planning Institute (SAPI) and the South African Council for Planners (SACPLAN). Consequently, planning schools should work closely with South African Council for Planners and South African Planning Institute in order to assist students with practical knowledge through Skills training programmes such as Local Government Sector Education and Training Authority (LGSETA) skills programmes. This organisation should also play a significant role in securing placements in various planning consultancy companies registered with them for the students. For instance, at the University of Venda's Department of Urban and Regional Planning maintains links with active professional planners in both public and private sectors through the regional chapter of the South African Planning Institute (SAPI). The Department aligns teaching and learning based on the recommendations emanating from SAPI, SACPLAN and Department of Rural Development in terms of the Planning Professional Act 36 of 2002 of South Africa.

7. Conclusion

The paper concludes by acknowledging the important role the new degree programmes that replaced the technical programmes as they serve well both the graduates and the universities by placing them at par with the other conventional universities and their programmes in terms of recognition and national qualification framework levels. However it is recommended that there must be concerted efforts to ensure that the uniqueness of the technical programmes being phased out is not completely by among others infusing some of the old training packages within the new degree programmes, thus making them more competitive, marketable and preferred by the students and by extension the industry. The multiple pathways approach influences what goes inside the classroom and prepares students for both university qualification and careers. It incorporates many useful improvement strategies that are already implemented and builds upon them to create a more comprehensive approach that any school can adopt to improve outcomes. Waiting any longer to support an approach may mean failing a generation of students who will leave university without preparation to succeed in careers. Multiple pathways would give more students a reason to achieve and persist in school and the tool required to transition to further education, productive employment, and good citizenship.

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