Article

Processes in widening access to undergraduate allied health sciences education in South Africa

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The purpose of this manuscript is to describe the processes followed in initiating and managing widening access to allied health sciences education at the University of Cape Town, South Africa. In response to national higher education policy imperatives in South Africa and in anticipation of the first cohort of Outcome Based Education (OBE) school leavers entering tertiary education, the School of Health and Rehabilitation Sciences at the university launched an extensive intra- and cross-programme transformation project in 2004. The project afforded four undergraduate professional programmes, namely audiology, occupational therapy, physiotherapy and speech therapy, an opportunity to address common educational and contextual drivers. These included, among others, the need for increased access and throughput of historically under-represented students in higher education. An advisory task team, named the curriculum review management team (CRMT), was engaged in envisaging, navigating and containing a complex socio-political process involving many stakeholders with disparate ideas, practice approaches, and focal concerns. The use of the Gale and Grant model of change management, augmented by the Community of Practice conceptual framework, to assist with these processes is described.

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Introduction

Since the transition to democracy in South Africa in 1994, the higher education and healthcare sectors have experienced changes aimed at eliminating the legacy of racially fragmented and unequal education and healthcare systems that were inherited from apartheid. These changes attempted to steer the systems towards the goals of economic development, social reconstruction, and equity.[1] The reorganisation of the distribution and character of the previous 36 higher education institutions into 22 eliminated the rigid racially exclusive institutions. This was further strengthened by the comprehensive redesign of higher education curricula based on the National Qualification Framework, which was operationalised on an outcome-based education (OBE) system in the high school, and assumed to meet the needs of all students regardless of their environment, ethnicity, economic status, or disabling condition.[2] Similarly, the National Health Policy focused on promoting equity, accessibility and utilisation of health services, and training of human resources.[3]

The 2009 annual report of the Health Professions Council of South Africa revealed that 5 081 physiotherapists, 2 946 occupational therapists, and 1 676 audiologists/speech therapists registered with the council in 2008 to serve a population of about 49 million people. The population was made up of 'African' (79.3%), 'white' (9.1%), 'coloured' (9.0%), and 'Indian/Asian' (2.6%) in line with the racial classification of the apartheid era. The non-white population groups remained under-represented in these allied health professions. The report also indicated that in the 8 universities offering undergraduate allied health sciences education, there were 1 648 physiotherapy, 1 579 occupational therapy, and 495 audiology/speech therapy students. The proportion of students from the white population group was highest. Trends on graduation between 1995 and 2004 (Table 1)[4] revealed that the 2010 occupational therapists were made up of 11% Africans, 7.7% coloureds, 7.8% Indian/Asians, and 73.5% whites. There were 2 697 physiotherapists made up of 14.2% Africans, 9.6 % coloureds, 12.1% Indian/Asians and 64.1% whites. There were also 1 125 audiologists/speech therapists made up of 7% Africans, 4.6% coloureds, 14.8% Indian/Asians and 73.6% whites.

Responding to these needs, the Faculty of Health Sciences, University of Cape Town (UCT) developed a strategic plan in 1999, which included the

Table 1. Graduating trends in undergraduate occupational therapy, physiotherapy, and audiology/speech therapy education programmes in South Africa

		Graduating trends by population groups			
Year	**Undergraduate programmes**	**African**	**Coloured**	**Indian/Asian**	**White**
1995	Occupational therapy	19	13	10	154
	Physiotherapy	31	11	11	155
	Speech therapy and audiology	2	3	13	66
1996	Occupational therapy	20	18	10	157
	Physiotherapy	32	23	13	167
	Speech therapy and audiology	5	1	16	78
1997	Occupational therapy	16	19	16	148
	Physiotherapy	24	24	19	168
	Speech therapy and audiology	4	9	7	89
1998	Occupational therapy	20	11	20	161
	Physiotherapy	35	25	31	172
	Speech therapy and audiology	10	6	11	84
1999	Occupational therapy	21	16	22	146
	Physiotherapy	40	25	36	180
	Speech therapy and audiology	4	7	12	83
2000	Occupational therapy	10	20	26	159
	Physiotherapy	47	24	48	176
	Speech therapy and audiology	3	6	13	88
2001	Occupational therapy	20	18	20	153
	Physiotherapy	40	26	26	170
	Speech therapy and Audiology	9	0	17	86
2002	Occupational Therapy	23	16	16	155
	Physiotherapy	36	37	50	171
	Speech therapy and Audiology	9	4	29	92
2003	Occupational Therapy	41	16	15	156
	Physiotherapy	54	32	50	189
	Speech therapy and audiology	10	9	21	90
2004	Occupational therapy	41	15	9	154
	Physiotherapy	44	33	41	181
	Speech therapy and audiology	23	7	27	102

transformation of the faculty from a Faculty of Medicine to the Faculty of Health Sciences that would be led by the values of health equity and social justice embodied in the primary health care philosophy. This was a significant shift given the faculty's location in a university founded in 1829 for people of European descent, and the faculty's origin in medicine, established in 1920, to initially provide 6-year training of medical students.[5] Health and rehabilitation sciences came 37 years later with a diploma programme in physiotherapy, which was upgraded in 1972 to a 4-year BSc Honours programme. Similar 4-year degree programmes in occupational therapy and logopaedics (audiology, speech therapy) were established in 1975 and 1980, respectively. Though UCT professes to be an 'open' university, only token non-white students were admitted in the past. Traditionally, admission into any of the four undergraduate programmes was based on performance in the National Senior Certificate examination, with emphasis on English, mathematics, biology or physical science. The admission policy of the faculty was later modified to provide appropriate measures for the redress of past inequalities and align with the aspirations of the country to widen access to higher education. The faculty attempts to admit the best qualified students from all population groups using three main tools – the mark obtained in the National Senior Certificate examination; the National Benchmark Test which assesses levels of proficiency in academic literacy, quantitative literacy and mathematics, and a biographical questionnaire which assesses non-academic skills including community involvement and leadership qualities. The ultimate goal of the policy is to fill a class with a diverse group of students reflecting the demographics of the country, with the faculty leadership advancing student-centered learning as a transformatory educational goal.

As the university considers the white and Indian/Asian population groups as privileged, applicants from these population groups would require higher scores than applicants from the African and coloured population groups to stand a chance of being admitted into the undergraduate programmes in the faculty.

Following the recommendations of a faculty task team in 2000, the five 'allied health' departments – Communication Sciences and Disorders, Occupational Therapy, Nutrition and Dietetics, Nursing and Midwifery, and Physiotherapy – were amalgamated into a single department, named the School of Health and Rehabilitation Sciences (SHRS). It was assumed that the establishment of the SHRS offered opportunity to increase undergraduate student numbers in order to ensure greater diversity in the demographics of students. A review of the curricula of each undergraduate programme was also recommended to ensure appropriateness and alignment across the SHRS, and seizing the potential for developing multidisciplinary courses. In 2001, the SHRS developed a 5-year operational plan (2002 - 2006) which included widening access into the undergraduate programmes, and the implementation of the goals of the plan was delegated to the Director of the School at the time (SLA) in 2002.

The process of implementing the plan could only proceed in 2004, after necessary time had been given to addressing areas of contestation relating to organisational restructuring associated with the shift to becoming a school. Transformation of the four undergraduate programmes in audiology, occupational therapy, physiotherapy and speech therapy, to foster equity of access and outcomes in the programmes, was prioritised. As there is no information on the processes to widen access to undergraduate allied health sciences programmes in South Africa, the purpose of this manuscript is to describe the processes followed in initiating and managing the transformation of four undergraduate allied health sciences programmes towards widening access in a local university in South Africa, and the challenges encountered during the processes. The description of the processes includes how the Gale and Grant model of change management, augmented by the Community of Practice conceptual framework,[6] was used. The authors of this manuscript had a direct role in the processes to be described, acting as members of an advisory task team to the Director of the SHRS. The authors are therefore reflecting on the processes in envisaging, navigating and containing a complex socio-political process, which involved many stakeholders with disparate ideas, practice approaches and focal concerns, rather than presenting the outcome of the usual accroutements of research.[7] The manuscript may be helpful to the other seven universities offering undergraduate allied health sciences programmes in South Africa, or any groupings grappling with training professionals in diverse societies to promote heath for all.

The transformation process

The first cohort of OBE school leavers entering tertiary education was imminent and the challenge was how to proceed given a dearth of information on academic programme transformation in South Africa. An approach was identified based on the model of change management as proposed by Gale and Grant,[6] which identified ten core activities. These are identification of a shared problem, obtaining the power to act, designing the innovation to be introduced, consulting with interested parties, wide publicity of the process, and reaching agreement on a detailed plan. The remaining core activities include implementation of the innovation, provision of support for the innovation, modification of plans if necessary, and the evaluation of the outcomes. This paper addresses only what is entailed in identification of a shared problem and obtaining the power to act, which were central concerns of the curriculum review management team (CRMT). The other activities suggested by Gale and Grant[6] extend to the ambit of wider groupings of participants who were eventually brought into the transformation process. In starting with identification of a shared problem, the focus was the curriculum. As experienced educators, it was recognised that the curriculum had to be point of entry before addressing who the students would be and what they would be bringing. In addition, the Higher Education Qualification Council (HEQC) had developed curricula guidelines setting the academic credits required for the 4-year professional programmes. Hence it was necessary to review alignment with the HEQC guidelines, which showed that existing undergraduate curricula were already overloaded by 20 - 30%. It is well understood that overloaded curricula impact negatively on the quality and nature of student learning and tend to have financial implications for students as well that, in turn, impedes their learning. Restructuring to eliminate overload was clearly a shared problem for the school.

Turning to the students, and following framework of Scott *et al.*,[8] analyses of throughput rates were conducted. They proposed that throughput data would raise issues about access and equity on the one hand (giving opportunity to students who were previously disadvantaged educationally), and the quality of educational process the students were taken through (including the support made available to help such students overcome learning difficulties). Completion time and drop-out rates would serve as indicators as to whether reviews of educational processes were required to align equity student intakes with equity student graduation rates. This approach provides opportunities to reflect on the relationship between access, equity and

Table 2. Throughput of six cohorts of undergraduate students (1995 - 2000) in the School of Health and Rehabilitation Sciences, University of Cape Town, South Africa

		Time taken to complete			
Race	**Admission**	**4 years**	**5 - 6 years**	**Total completed**	**Exclusions**
African	42 (9.0%)	9 (21.4%)	11 (26.2%)	20 (47.6%)	9 (47.4%)
Coloured	67 (14.3%)	35 (52.2%)	16 (23.9%)	51 (76.1%)	4 (21.1%)
Indian/Asian	27 (5.8%)	17 (63.0%)	4 (14.8%)	21 (77.8%)	1 (5.3%)
White	331 (70.9%)	276 (83.4%)	23 (6.9%)	299 (90.3%)	5 (26.3%)
Total	467	337 (72.2%)	54 (11.5%)	391 (83.7%)	19 (4.1%)

quality, the practical tensions and challenges faced by different stakeholders in the implementation of strategies to improve access, teaching and learning, and the theoretical underpinnings of teaching and learning approaches. The data emerging from the analysis of six cohorts (*n*=467) of undergraduate students (1995 - 2000) in each of the school's programmes indicated that the SHRS did indeed have a shared problem. The analysis revealed that students from previously disadvantaged population groups were under-represented in admission into the programmes, took longer periods to complete the programmes, and had higher exclusion rates (Table 2).

Commencing with identification of a shared problem, the model of change management[6] enabled establishing the 'need or benefit' based on the conjunction of local and national imperatives. Essential at this stage was the development of a common understanding of the problem-need-benefit relationship. The 'problem-need' focuses on achieving equity in healthcare delivery that can be promoted with increasing access of previously excluded population groupings into higher education. The benefit will be an increase in non-traditional graduates willing and able to serve in under-represented communities. It was necessary to develop a discourse that embodied this relationship among the small advisory team driving this process. This prepared the group for the critical next stage, which was gaining the 'power to act' by growing ownership of conceptualisation among key people through using a combination of positional power (through the Director of SRHS), political power (through the Deanery of the Faculty of Health Sciences), expertise (through Education Development Unit of the Faculty of Health Sciences), and relevant evidence. Discourse here refers to the formation of a language with concomitant social and cultural practices which are context-specific and which have economic, historical and political implications.[9] The process of creating a discourse for transformation for equity, access and quality among members of the advisory team was equivalent to the members constituting themselves as centripetal participants in evolving a Community of Practice that clarifies appropriate and relevant language for action.[10] The action being multifold, involved elaborating the ideology of equity, access and quality, and the establishment of processes and structures for managing the change process to recruit supporters and enactors of transformed practices. A Community of Practice refers to a group of individuals who have consciously, through collaborative learning in a particular social context, co-constructed the shared knowledge, skills, attitudes and values to function as full, knowledgeable participants in the particular context. These individuals derive meaning from their identity as participating co-constructors of knowledge and collaborate with newcomers in order that they in due course become full, knowledgeable participants of the same grouping or community.

Widening ownership of the discourse by extending the Community of Practice, and thereby acceptance of the shared nature of the problem, entailed presenting the findings of curricular overload and inequities in access and throughput to all academic staff of SHRS. Having accepted the nature of the problem, the school embarked on a series of workshops to identify aspects of the programmes that would need to be reviewed in order to eliminate the obstacles to widening access to under-represented students. The outcome was the establishment of task teams to develop and implement strategies in (*i*) curriculum transformation (which entailed multiple dimensions, namely, trimming the contents of the overloaded curricula for each programme but ensuring contextual relevance, promoting conceptual coherence across courses within a year of study as well as across years of study, student-centered learning, and creating opportunities for multi-disciplinary learning); (*ii*) marketing and student recruitment (which entailed visiting high schools in less-resourced communities to raise awareness of these professions, training programmes and employment opportunities in private and public sectors); (*iii*) retention and throughput rates (which entailed reviewing academic factors contributing to retention and throughput rates of students from under-resourced communities, and development of strategies for improvement); and (*iv*) identification of non-academic factors that negatively impact the academic performance of students and contributed to premature exit from the programmes, and development of strategies to overcome these factors.

The establishment of task teams conferred on the centripetal participants the 'power to act', to continue the process with the support given by the task teams.[6] The teams also contributed to growing and widening the Community of Practice in programme transformation for equity, access and quality through their participation in the process of refining and elaborating the discourse introduced by the centripetal participants. As 'newcomers', the teams undertook further analyses which included review of departmental records on students' profiles, throughput rates per population group, analysis of the relationship between schooling background, mother-tongue language and academic performance, as well as interviews with a student sample regarding possible impact of socio-economic factors on academic performance. The teams then researched best practice and generated proposals for action. The process and products of the teams enabled the participants to develop knowledge and skills in aspects of education beyond their disciplinary specialism, and in so doing began the journey of moving from being legitimate peripheral participants to becoming centripetal participants, and thereby strengthening the Community of Practice.[10] However, the deepening and expansion of the Community of Practice essential to constituting a critical mass for transformation generated complexity with the multiple reinterpretations of the language, social and cultural practices for transformation and related economic and political implications. Co-ordination and planning emerged as an essential function for depth and expansion. The details of the processes in the task teams are not included in this manuscript.

Challenges encountered and formation of the CRMT

In 2006 the formal process of transforming the undergraduate programmes commenced and two major challenges were immediately encountered. The first challenge was the complexity in planning and co-ordinating the processes. There were multiple processes going on simultaneously, focusing on various aspects of the programmes. These processes involved role players at different levels, and included academic staff, clinical educators, course convenors and students in SHRS, the Deanery, Undergraduate Education Committee, and the Administrative Managers for Academics and Finance in the Faculty. At the level of the Western Cape Province where the university is located, the managers of the various clinical and fieldwork learning facilities, and local disability interest groups were included in the processes.

The second challenge was an initial resistance to the process, mostly from the academic staff, especially the Heads of the various programmes. The process was complicated by the history and tradition of functioning and behaviours in the former independent departments, particularly in the areas of planning, teaching and resource allocation. This loss of 'independence'

Table 3. Profile of 1st-year undergraduate students in the School of Health and Rehabilitation Sciences (2008 - 2010), University of Cape Town

	Total intake	African	Coloured	Indian/Asian	White	Non-South African
Audiology						
2008	13	31%	38%	15%	15%	0%
2009	21	66%	14%	10%	0%	10%
2010	21	48%	10%	14%	28%	0%
Occupational therapy						
2008	57	7%	12%	2%	79%	0%
2009	55	18%	20%	11%	51%	0%
2010	51	31%	20%	2%	45%	2%
Physiotherapy						
2008	58	14%	46%	2%	38%	0%
2009	67	30%	27%	3%	40%	0%
2010	62	34%	32%	3%	31%	0%
Speech therapy						
2008	22	0%	23%	14%	63%	0%
2009	30	10%	20%	3%	60%	7%
2010	26	12%	19%	12%	54%	3%

likely contributed to the resistance encountered. In addition, we encountered the political nature of the process as we observed overt and covert forms of resistance emanating from a multiplicity of interests and influences, internal and external to the SHRS that attempted to shape the process through the influence and exercise of power in various forms. It was helpful to have a dedicated group able to stand-back and identify the various forms of resistance and advise both faculty and departmental leadership on the nature of resistance.

On commencement of the processes, the focus of the initial centripetal participants, Director of SHRS (author SLA) and Director of Education Development Unit (co-author NH), was how to navigate and strengthen these processes in the face of the two challenges encountered. Within a year their capacity was enhanced with the addition of three persons (co-authors) whose ideological disposition and expertise were pivotal to the Community of Practice. The group was later referred to as the CRMT. Members of the group were all proponents of the philosophy of comprehensive primary health care and student-centred curricula, as well as being committed to the elimination of institutional barriers to equity, access and quality. The collective expertise encompassed knowledge of national and regional perspectives for positioning of health and rehabilitation sciences (SLA, ED), knowledge about the university (SLA, NH), experience and research in undergraduate curriculum development (NH), teaching and student learning (VJvR), and student diversity (EB). While CRMT evolved as 'consultant' to the Director of the School, it acquired an additional responsibility of compiling the annual budget for the process of transforming the programmes. The emergent functions generated additional tensions of accountability given that CRMT was an informal advisory group.

The complexity of the process required CRMT to create a map of action and timetable for the entire process, and in fortnightly meetings, reviewed actions, processes and structure to identify what was and was not working. Brainstorming to produce plans of strategic action that included addressing the pockets of resistance as they emerged became the standing agenda for reports to the Director of SHRS, including the new director appointed in 2007. Overcoming the overt and covert forms of resistance emanating from various interest groups sometimes required recruiting the assistance of the faculty executive leadership. In addition, CRMT created opportunities for conversations in the school to listen to and respond to anxieties among the staff. Also, CRMT facilitated staff development programmes that equipped staff with the language and tools for thinking about education and themselves as educators, thus increasing the number of academic staff who engaged in informed dialogue about the relationship between secondary and tertiary education. This process kept the discourse of widening access in higher education alive in the school. Thus CRMT assumed an advisory and 'planning' role for the overall transformation process, as well as the dedicated task of managing the change process by means of repeated iterations between the 10 core activities in the model of change management proposed by Gale and Grant.[8]

The process of transformation in higher education in South Africa has been complicated, among others, by significant cultures that resist de-racialising changes within higher education in the terms posed under transformation discourses.[11-12] Similar resistance has been reported in other countries as attempts at widening participation in higher education through preferential admission of previously under-represented students have produced mixed outcomes.[13-14] On the one hand, there are opportunities for students to learn from and challenge one another, enriching both the classroom experience and more widely the breadth of the knowledge base within the higher educational institution. On the other hand, the process requires changes in the way in which higher education is conceived of, developed and organised, and provides challenges to existing practices of learning and teaching. In

the SHRS, the first cohort of students was admitted into the transformed programmes in 2009. Separate structures to assist students with academic and non-academic issues were established to ensure retention and success. The transformed programmes and student support structures were established in accordance with the recommendations from the relevant task teams. Table 3 reflects the changes in the population groupings of the students admitted in 2009 and 2010, compared with 2008 before the implementation of the transformed programmes.

Conclusion

The Gale and Grant model,[6] augmented by the Community of Practice conceptual framework, contributed to understanding the processes necessary for widening access and achieving equity in completion rates in the minimum time for all four programmes in the school. Access, retention and success became the organising framework for the work of the task teams. The establishment and functioning of CRMT was essential to initiating and maintaining this framework. It was also pre-emptive in diagnosing and interpreting moments of serious resistance. Workshops facilitated by CRMT members and addressing concerns raised by various stakeholders, proved an effective means of managing most overt and some of the covert resistance. Flexibility and accommodation during these sessions contributed to widening the Community of Practice.

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