

Closing the Loop between Access and Success: Early Identification of At-risk Students and Monitoring as Key Strategies Used by a South African University

Zilungile Sosibo¹ and Misiwe Katiya²

¹*Cape Peninsula University of Technology, Faculty of Education, Main Road,
Mowbray, 7700 Western Cape, South Africa
E-mail: SosiboL@cput.ac.za*

²*Cape Peninsula University of Technology, Fundani Centre, Cape Town, 8000,
Western Cape, South Africa
E-mail: KatiyaM@cput.ac.za*

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ABSTRACT In the present research, it is argued that early identification of at-risk students is at the heart of improving student success, especially for those who enter higher education with gaps in their knowledge. The main objective of this study was to present a comprehensive strategy used by a South African institution of higher education to identify at-risk students and to monitor and evaluate their progress after interventions had been made. The social cognitive theory informed the study on which this study is based. The design was analytical. In the present study, it is proposed that although early identification and intervention by lecturers are critical, students at risk of failure could use their individual and collective human agency to overcome the challenges that threaten to minimise their opportunities for success. One of the commendations is that for higher education institutions to improve students' output and throughput rates, they should develop comprehensive strategies that promote early diagnosis and progress monitoring of at-risk students.

INTRODUCTION

Prior to 1994, which is the year in which South Africa obtained its democracy, the higher education system of this country was divided into White institutions (WIs) and Black institutions (BIs). The Black masses of students had little or no access to the WIs. This meant that higher education institutions (HEIs) had to cater to students according to their racial classification. This segregation system that divided people according to factors such as race, culture, socio-economic class and language was known as apartheid. With the advent of the new democratic dispensation that followed the demise of the apartheid system in 1994, the Department of Education (DoE) (1997), through its Notice 1196 of 1997, Education White Paper 3: A Program for the Transformation of Higher Education, proposed that access be opened to all HEIs for all students, including previously disenfranchised Black students. Consequently, the South African higher education landscape transformed from being a closed system to an open and equitable system with access for all racial groups (Scott et al. 2007; Lemmens 2010). This transformation led to an increase in the number of stu-

dents entering the tertiary education system, a process known as massification of higher education (Kraak 2000). The Council on Higher Education (CHE) (2013b) and MacGregor (2014) report that the number of African students in public higher education comprised 81% of the total student body of 938200 by 2011. The participation of White and Indian students was 57% and 47% respectively (CHE 2014).

Sadly, increase in access to HEIs has not translated into high success rates for students in South Africa. High access and disproportionately low output and throughput rates in South African HEIs at both undergraduate and post-graduate levels have been widely documented (Fisher and Scott 2011; Wingfield 2011; Mabelebele 2012; Parry 2012; CHE 2013a, 2013c). Ndebele (2013: 9) puts it succinctly as follows:

Although South Africa has since 1994 witnessed a significant growth in enrolment in both the schooling and higher education sectors, graduate output has not kept pace with the country's needs. High attrition and low graduation rates have largely neutralised important gains in access.

Bokana and Tewari (2014: 260) regard "poor student achievements or outcomes" as the major concerns and challenges in higher education

in South Africa. A situation like this translates into a waste of human resources, as it implies that these students will not participate actively in the global economy in the future. The Department of Higher Education and Training (DHET) (2014: 31) stated that “improving student access, success and throughput rates is a very serious challenge...and must become a priority focus for national policy and for the institutions themselves”.

High access and attrition coupled with low output and throughput and unequal participation rates across HEIs and racially are also expressed in the CHE Report of the Task Team on Undergraduate Curriculum Structure (CHE 2013a). Fisher and Scott (2011: 3) refer to the South African higher education system as a “low participation – high attrition system”. Statistics on the output, throughput and attrition rates vary. Nonetheless, they all confirm that discrepancies exist between low output and throughput and high attrition rates of African and coloured students compared to their White and Indian counterparts. Badat (2009) cites a study conducted by Scott et al. (2007: 19) in which they concluded the following:

The major racial disparities in completion rates in undergraduate programs, together with the particularly high attrition rates of Black students across the board, have the effect of negating much of the growth in Black access that has been achieved. Taking account of the Black participation rate, the overall attrition rate of over 50% and the below-average Black completion rates, it can be concluded that the sector is catering for under 5% of the Black (and coloured) age-group.

These statistics can no longer be ignored, as they affect a high population of students, thereby prohibiting them from participating actively in the competitive national and global economy. They have serious implications for institutions to bring access and success on par, not only for a certain group of students, but for all the students in the country's HEIs. To sum up the challenges that still exist in higher education, Higher Education South Africa (HESA) (2014: 13) states that “There is still a considerable ‘long walk’ to a transformed higher education system in South Africa”. A concerted effort is needed to support students at both national and institutional levels. In the present study it is argued that early identification of at-risk stu-

dents is at the heart of improving the success of undergraduate students who enter HEIs, especially those who come with gaps in their knowledge. The research presents an analysis of a comprehensive strategy used by a particular HEI in South Africa to identify students at risk of failure and to monitor and evaluate their progress. The researchers are a senior lecturer from one of this HEI's faculties and a lecturer who facilitates academic support activities in the HEI's Learner Support Unit (LSU).

This paper is divided into the introduction, which has been presented above. The following sections comprise the objectives and theoretical framework, followed by literature on the factors that negatively affect students' success and throughput rates, early identification strategies, and monitoring and evaluation of students' progress. The present study ends with a discussion, conclusion, recommendations and limitations.

Objectives

The objectives of this paper were two-fold. The first was to present a comprehensive strategy used by a South African university to identify at-risk students and to monitor and evaluate their progress after interventions had been made. The second was to share an innovative and modern electronic technique that can be used to perform these tasks, which other HEIs may not yet be familiar with. Other HEIs might learn innovative and effective ways of identifying and monitoring at risk students' progress from this research.

Theoretical Framework

The study on which this research is based was informed by Social Cognitive Theory (SCT). Albert Bandura is regarded as the pioneer of this theory. His studies on children's aggressive behaviours demonstrated the importance of modelling for acquiring different behaviours. Bandura (1986: 206) claims that “of the many cues that influence behaviour, at any point in time, none is more common than the actions of others”. Vygotsky (1987) extended Bandura's theory, arguing that much of what the child/learner learns is gained through observation of the most knowledgeable other (a parent, mentor, teacher, adult or peer) who, by virtue of his or

her better understanding or higher ability than the learner, models behaviour to the child. At university it is important for first-year students to observe modelling behaviours that influence their learning positively and motivationally, especially as they find themselves in unfamiliar contexts that may at times present serious learning challenges to them.

In his work, Bandura (1986, 2001) explained that learning and behaviour occur within a triadic reciprocity in which individual/personal behaviour (and therefore, cognition), environmental factors and people within that environment influence one another in a reciprocal manner. Therefore, people and factors within their environments mediate children's learning and behaviours. He distinguished among four interrelated sub-processes or component parts responsible for acquisition of learning, namely attention, retention, motor reproduction (physical capability) and reinforcement, and motivation (see Bandura 1971 for a detailed explanation). While Bandura acknowledges the influence that the environment has on people's behaviour – that is, their cognition and learning outcomes, he nevertheless argues that people can also, through human agency, which includes forethought, self-reflection and self-regulatory processes, exert substantial influence over their own outcomes and the environment broadly. The notion of human agency is profound for this paper, as it suggests that students at risk have a role to play in improving their chances of success.

Bandura (2001) distinguished among three different types of human agency, namely personal, proxy and collective. Direct personal agency refers to the ability of an individual to exert influence over his or her behaviour in a purposeful, goal-directed fashion. Proxy agency can be described as reliance on other people in determining one's behaviour, outcomes or environment. Bandura (2001: 13) contends that "some people do not have control over their social conditions and institutional practices that affect their everyday lives. Hence, they seek their well-being, security, and valued outcomes through the exercise of proxy agency". Collective agency refers to reliance of individuals on the group as a collective in taking control over environmental factors that influence their behaviours and personal goals. The implication of human agency, especially in the context of this

paper, is that risk-students can take control over environmental forces that seek to inhibit their learning outcomes, using some or all three human agencies available at their disposal.

SCT is relevant, as it hinges on Bandura's ideas. First, Bandura refers to the factors (individual, people and environment) that influence individual behaviour and outcomes. In the university, students' cognitive development, aspirations, behaviours and educational outcomes are influenced or mediated by institutional environments in both positive and negative ways. At the centre of the environment is the individual together with other factors such as academic factors (for example, curriculum), material and human resources, and institutional culture/climate. For optimal student cognitive development to occur, these elements have to function harmoniously. Second, Bandura's theory emphasises human agency, which shows that students can overcome (learning) obstacles individually and in groups (personal or collective agency), or can tap into the expertise and experiences of their lecturers (proxy agency) without solely relying on the latter.

Causes of Low Output and Throughput and High Attrition Rates

Several factors contributing to low output and throughput and high attrition rates are cited in the literature. A summary of these factors is presented below, including material and academic factors, and under-preparedness and the articulation gap.

Material Factors

One of the factors that is cited as strongly influencing access and success is the socio-economic background of students. Letseka and Breier (2008), Letseka and Maile (2008) and Cosser and Letseka (2009) contended that approximately 70% of students who drop out of higher education encounter financial difficulty due to their low economic status. Badat (2009) blamed the high drop-out rate of Black students on state funding such as loans, bursaries and scholarships, a fact supported by Botman (2009) and Mokgalong (2009). Although, the state provides the National Student Financial Aids Scheme (NS-FAS), there are claims that these funds do not cover all the students' expenses and that there

are delays in their disbursement (Fransman 2009; Mabelebele 2012). Consequently, students take part-time jobs to supplement their meagre financial resources (Letseka and Maile 2008; Price 2009), with negative consequences regarding their outputs. Although Price (2009) hailed the success of the NSFAS, he feels that it should be distributed evenly in order to cover the needs of a large student body that might need it. Criticism levelled on *Funza Lushaka*, a bursary scheme that supports student teachers in financial need or those who study scarce-skills subjects, is that it is paid irregularly. Consequently, recipients sometimes struggle for almost the whole year before the funds reach them, which negatively affects their performance and retention rates.

Academic Factors

In the context of South Africa, there is literature that suggests that the lowering of education standards at matriculation (Grade 12 or Senior Certificate) level by the Department of Basic Education and Training has had an undesirable effect on higher education. Scott et al. (2007) argue that lowered standards are evident in the elevated Senior Certificate pass rates since 2000 to 2003. Umalusi (2007), the Council for Quality Assurance in General and Further Education and Training, confirms that some examination papers are generally not set at an appropriate cognitive level of learners. Under such circumstances, even students who would not have succeeded had quality standards been maintained, succeed at high school. Unfortunately, an articulation gap develops between their knowledge and that expected at university, resulting in these students failing to transition academically to higher education. The articulation gap is discussed in more detail in the next section.

Under-preparedness and Articulation Gap

Low output and throughput and high attrition rates are claimed to be associated with students' under-preparedness for entry into higher education, even though many of them have matriculation exemption and are endorsed to enter higher education (Scott et al. 2007). Under-preparedness refers to the state of students who are in general not academically ready, especially in areas such as reading and writing, and partic-

ularly in the language of learning and teaching, which in most cases is English, and mathematics skills taught at university level (Van Dyk and Weideman 2004). This trend is more evident in students for whom English is the second language than for those who study in their home language. For the former students, coping with university subjects in which advanced academic literacy skills are required becomes a big challenge (Van Dyk and Weideman 2004). Under-preparedness widens the articulation gap between these students' knowledge and that required at university. Fisher and Scott (2011: 10) defined the articulation gap as "a mismatch or discontinuity between the learning requirements of higher education programmes and the actual knowledge and competencies of first-time entering students". This simply means that the knowledge students bring from matriculation to university fails to link with that taught at university due to the gap or schism between the quality of knowledge in the two education levels.

In the Green Paper on Post-school Education and Training (DHET 2012: 42), it is stated that "Inadequate student preparedness for university education is probably the main factor contributing to low success rates. Clearly, though, universities will have to continue to assist underprepared students to make the transition to a successful university career". Evidently, institutions of higher education have a responsibility to help under-prepared students to succeed in higher education. To achieve this, they have to design programmes that close this loop, as addressed in the study.

RESEARCH METHODOLOGY

The design was an analytical case of a strategy used by a selected HEI to identify and monitor the progress of at-risk students. Data presented in the study were based on the practices used by staff in the LSU of a selected HEI. The reporting was done by a lecturer and a staff member of the LSU, who both engaged in an in-depth reflection and analysis of the strategies used in this LSU. Data obtained pertained to the institutional strategy for the identification of at-risk students and monitoring of their progress versus the practices of the academic and LSU staff in relation to the implementation of this strategy. As it was the intention of the paper to present an analysis of these aspects, the results con-

sisted of only these two themes, as shown in the next section. Ethical considerations were observed. Before the study on which this research is based was conducted, the researchers obtained ethical clearance from the Ethics Committee of the faculty in which one of them is currently employed.

RESULTS

Strategies for Identifying At-risk Students

Given the students' challenges alluded to above, it becomes of utmost importance for educators to identify students who are at risk of failure early in the year so that they can provide them with an intervention as an attempt to prevent high failure and attrition rates. With a well-coordinated early warning system, an institution can intervene and provide the necessary support to ensure that more students stay enrolled and ultimately graduate. The earlier academically at-risk students are identified, the better the prognosis for their success in higher education. Early alert systems, implemented within the first four to eight weeks of a term, can be instrumental in beginning an intervention that can help facilitate students' success and increase retention (Fuschand Hosp 2009).

The institution in which the researchers are employed has a very comprehensive strategy of identifying students at risk of failure. This strategy was designed to be used by all the faculties in the institution. Initially, this strategy was implemented at the end of each year, but upon realising the need to identify at-risk students on an ongoing basis, it is now implemented at the end of the first quarter of each year. At the end of the first and subsequent quarters, lecturers with a pass rate of less than 60% in the quarterly examinations of their respective subjects fill out a form on which they record the students' performance statistics, justify the low pass rates, as well as provide strategies or action plans they want to implement to ameliorate this situation. In essence, lecturers are made to account for the low performance of their students. The heads of departments are expected to monitor the implementation of the lecturers' strategies to ensure that they adhere to their improvement plans. One of the ways that the lecturers use to improve pass rates is to recommend that students consult the LSU to get assistance when they have

to write an assignment or any writing task. Sometimes students volunteer to seek assistance as individuals or as groups when they realise that they are not coping, especially with writing tasks.

The institution also provides first-year students with the national benchmark tests (NBT) used by universities in South Africa to identify students who will potentially need support with their future studies. Some universities use the NBTs as an admission mechanism. The researchers' institution shies away from this practice, as it understands that the purpose of this test is to provide student support. The NBTs are assessed and analysed by academic literacy lecturers from the LSU, who then indicate to the lecturers those students that are likely to be at risk of failure or need close monitoring. In this context, a key challenge is to identify and assist students to develop academic literacy, so as to enable their deeper engagement with university study (Warren 2003). This strategy serves as an early warning sign so that lecturers can monitor those students closely and source intervention early in the year.

The LSU staffs also receive regular requests from lecturers who have identified specific needs of an individual or a group of students in their subjects, requesting a specific kind of assistance they need for their students. These requests often arise after a series of tests and assignments that the students have written and in which they have not done well. The LSU staffs then works together with the lecturers in providing assistance to the students. Collaboration with lecturers is key, as they are able to monitor the assistance given to the students, ensuring that the interventions provided address the challenges at hand. The LSU staffs are, however, mindful of the reactive nature of this intervention. Therefore, they try by all means to encourage the lecturers to be proactive and to refer students, based on their NBT results, before the problems arise and before the students embark on the assessments.

In keeping with advances in technology, the researchers' institution has recently introduced an electronic system of identifying at-risk students much earlier on by using the learner management system (LMS). This system uses a grade book on a spread sheet on which lecturers enter students' marks. The lecturers receive electronic alerts about students at risk of failure, to which they can quickly react by providing

intervention. The premise on which this system works is that for interventions to have maximum effect, early warning signs are crucial. Lecturers can also use surveys and quizzes on the LMS to intervene in the low performance of students at risk. Because the LMS is fairly new, not many lecturers may have begun using it. However, because of its convenience, it might become a popular means of identifying and intervening in cases of students at risk.

Monitoring and Evaluation

Monitoring and evaluation of progress is at the heart of academic development of at-risk students. Progress monitoring is a method of keeping track of students' academic development. After at-risk students have been identified and interventions have been made to improve their performance, it is vital to monitor their progress. In the LSU, monitoring and evaluation are important aspects, as they help staff to identify the strengths and weaknesses of the interventions made and to reformulate strategies. While monitoring occurs regularly, program evaluations take place at the end of the year. The researchers acknowledge the latter as a weakness of the institution's monitoring and evaluation strategies. They realise that to be effective, both processes should be administered regularly. The LSU staffs also conduct research and pilot academic development programmes, which helps them to reflect and manage their quality. Notwithstanding the good efforts, there are challenges in the systems, the worst of which is the late identification of at-risk students by those faculties which fail to comply with early identification procedures as stipulated by the university, and a shortage of human resources supply versus high at-risk student demand. The researchers realise the importance of keeping a balance between the number of students who are at risk of failure and need assistance versus the low number of staff available to assist them. This situation highlights the significance of individual and proxy human agency, by which students at risk can contribute individually and collectively to improve their plight of underperformance.

Educators use student performance data to continually evaluate the effectiveness of their teaching and to make more informed instructional decisions. It is incumbent upon every educator

to monitor and keep a record of every student in his or her discipline. Progress monitoring requires frequent data collection with technically adequate measures, interpretation of the data at regular intervals, and changes to instruction based on the interpretation of students' progress. To implement student progress monitoring, the teacher determines a student's current performance level on the skills that the student will be learning that school year, identifies achievement goals that the student needs to reach by the end of the year, and establishes the rate of progress the student must make to meet those goals (Safar and Fleischman 2005). The educator then measures the student's academic progress regularly (weekly, biweekly or monthly) using probes-brief, that is, easily administered measures (Safar and Fleischman 2005).

The LSU monitors students' progress, especially those for whom it has made interventions by receiving feedback from their lecturers. Questionnaires are sent to the lecturers with specific questions relating to the support offered to the students. Students are also interviewed about their perceptions of how the support program had assisted them. A number of students give feedback on how helpful the intervention had been. They report to be more confident and to be performing much better than before the interventions.

The monitoring of the LSU programs could be improved. Recently, the LSU set a monitoring program in place with timelines from the beginning of 2014. Lecturers have to participate actively by completing a specific form on a quarterly basis, with specific focus on individual students instead of a class focus. So far the program has worked very well with three departments. Lecturers make the information regarding students' progress available. As a result, LSU staff is able to institute appropriate interventions. In other departments, however, lecturer involvement and commitment is not as prompt as LSU staff would like it to be. As a result, monitoring of students' progress in these departments is difficult and the impact of LSU intervention is not as effective as it is in the other three departments.

DISCUSSION

In this paper, it has been highlighted that in the South African HEIs, access to education

does not correspond with students' success, output and throughput rates (Bokana and Tewari 2014; CHE 2013a; DHET 2014; HESA 2014). It has also been noted that access and success rates are skewed racially between African and Coloured students versus their White and Indian counterparts (CHE 2013a). Throughout the study, it has been argued that at the heart of students' success, output and throughput and attrition rates is early identification of students at risk of failure, as well as monitoring of their progress once interventions have been made. Interventions at national level may be vital. However, those at institutional level have a potential to play a more pivotal role than those at national level, based on the fact that HEIs work closely with their students. In addition, students' needs differ due to a variety of factors (socio-economic, geographical, political and historical). Consequently, it may not be as easy to deal with those needs at the national level as may be at the institutional level.

It is clear from the findings that collective impact is needed to create opportunities for at-risk students to succeed. Kania and Kramer (2011) define collective impact as commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem. This idea resonates with collective human agency alluded to in the discussion of SCT. The implication could be that collective impact in the form of involvement of the LSU staff, academic lecturers and students (the latter individually and collectively) is an integral component of solving at-risk students' academic problems which, if not addressed, tend to adversely affect their (students') output, throughput and retention rates. HEIs have a responsibility of supporting students who enter their institutions, as stipulated in the National Plan for Higher Education (DoE 2001). The challenge is to develop coherent and comprehensive strategies of diagnosing and monitoring at-risk students' progress. Therefore, HEIs should be proactive in developing these strategies and policies so that interventions could be made early.

CONCLUSION

In today's education climate, school success is defined not only in terms of entering or accessing education but also in terms of ensuring achievement for every student. To be meaning-

ful, access should offer students a reasonable chance of success. Unless HEIs provide students who access them with opportunities to succeed, and support those who are at risk of failure, universities' job is half done. The study on which this paper is based analysed a comprehensive strategy used in a single HEI to identify and monitor the progress of at-risk students.

RECOMMENDATIONS

The results have informed that the lecturers and LSU staff in the HEI in question use different strategies to identify and monitor at risk students' progress. It is recommended that these efforts be strengthened at national level, but more so at individual institutional level, as the latter works closer with students than the former. It is further recommended that HEIs share best practice examples so that staff in other institutions can learn from one another.

In addition, it was indicated that some lecturers take a long time to identify students at risk. Consequently, by the time intervention is made, it is too little too late. It is recommended that the HEI makes early identification of at-risk students an imperative and that it puts accountability measures in place. In addition, it is recommended that lecturers and LSU staff work collaboratively as a team. If they work together, the collective impact might be stronger than individual efforts by the LSU staff. Further, it is recommended that the institution should develop policy that clearly articulates the roles and responsibilities of the lecturing staff in the identification and monitoring of at-risk students' progress. Perhaps the policy would be more effective if it were to stipulate the consequences for non-compliant lecturing staff members. Such a policy might be an indication that monitoring at-risk students' progress is the responsibility not only of the LSU staff but of all the stakeholders in the HEI.

Technology is a buzzword in today's discourses on higher education. In this paper it has been shown that the LMS has been introduced in the monitoring of at-risk students' progress. It is recommended that the HEI encourages all lecturers to acquire the skills for using this system. As a system that allows staff to employ a number of strategies, the LMS can become a viable tool for enhancing the process of identifying and monitoring at-risk students' progress.

Therefore, it is recommended that this system be implemented across the institution and that staff development programmes be put in place for staff to acquire the requisite skills for using the LMS.

LIMITATIONS

Because of the small scope of the study on which this paper is based, the effectiveness of this comprehensive strategy cannot be generalised to other institutions.

RECOMMENDATIONS FOR FUTURE RESEARCH

More comprehensive research that analyses compares and contrasts a wider scope of strategies used in different higher education institutions needs to be conducted, as HEIs can gain by learning from one another's best practice examples.

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