STUDENT SUCCESS AND DROPOUT RATES AT THE POLYTECHNIC OF NAMIBIA

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Abstract

In developing the Education and Training Sector Improvement Programme (ETSIP), the government of Namibia had indicated that one of its key goals was to strengthen and improve quality, effectiveness and efficiency in higher education. This descriptive, non-intervental study was undertaken in response to the changing policy environment, mainly to determine the teaching and learning performance of the Polytechnic of Namibia in terms of student enrolment, success and dropout rates for a fifteen year (1996 – 2010) period. The key findings of the study are that between 2006 and 2010 student success rates declined (68 to 59%), and over the same period student dropout rates also decreased (23 to19%). Whilst reasons for the decrease in dropout rates were not easily identifiable, reasons for decrease in success rates could be linked to changes in the ratios of student, programme and course to academic staff.

Keywords: *higher education; teaching and learning; success rates; dropout rates; performance.*

Introduction

There are many challenges facing higher education globally, and while most of the challenges are common, there are those that seem to be characteristic of the African region. Taferra [1] reporting on the Norwegian development aid agency (NORAD)'s new policy of engaging African higher education observes that challenges in African institutions include, "overcrowded classrooms, poorly paid and poorly prepared faculty, shortage of qualified faculty, low research capacity, dilapidated infrastructure, and lack of resources and brain drain." According to Reisberg [2], a more serious issue is that in many African countries higher education decisions are politically driven and taken without sober considerations of rationale policies that provide for autonomy and resourcing of the institutions. This, in turn, paralyses university leadership.

The Education and Training Sector Improvement Programme (ETSIP) [3] was a key strategic initiative of government, which recognised the need to improve and strengthen the quality, effectiveness and efficiency of education and training. With specific reference to higher education institutions the lack of capacity to manage and deliver education programmes and postgraduate training and research; and need to strengthen quality assurance systems were amongst the issues ETSIP highlighted for attention.

It is an established trend internationally that government funding of higher education is declining significantly and the situation is exacerbated by the unprecedented and unpredictable economic downturn [4]. For example, in 2010 through the report on "Comprehensive Spending Review" the United Kingdom government indicated that public funding to universities for teaching would be cut by 40% within 4 years [5]. The US austerity measures and budget cuts have resulted in government subsidy to higher education decreasing rapidly from about 36% to 26% between 2001 and 2010 [6]. During the same period there was a shift in the burden to students, whose contribution to the cost of education increased rapidly from about 32% to 45%. The subsequent reaction of raising student tuition fees has been one of the responses of institutions to mounting funding pressures on higher education. Given the risks associated with burdening students with high tuition fees, institutions have had to consider other positive approaches that include inter alia streamlining operations and adopting cost containment measures.

In the American system, the overall impact of these socioeconomic dynamics called for unprecedented changes in higher education in order to deliver high quality postsecondary education [7]. One of the key focal points was to create a campus culture that was friendly and conducive for students to be successful.

In this era of scarce financial resources, where governments have to distribute these resources amongst many competing societal needs, governments in relation to funding higher education are increasingly demanding greater accountability for utilisation of these resources by institutions. As a result the funding of institutions becomes linked to their performance. It is clear that the Namibian government is moving in a similar direction by developing an appropriate regulatory framework; and prioritising quality, effectiveness and efficiency in developing strategies for improvement in the higher education

sector [3]. This study was therefore aimed at determination of the student success and dropout rates in order to establish effectiveness and efficiency of teaching and learning, which is a core function of the Polytechnic of Namibia.

Methodology

Over the years the Polytechnic of Namibia has been collecting data on various operational units of the institution for the purpose of planning, monitoring, evaluation and decision making. With the introduction of the Integrated Technology System (ITS) with advanced software packages, copious data relating to personnel, students, financial resources and facilities is managed by the Management Information System Unit. In this study quality-checked data on academic staff and students was provided by the above Unit. The analysis of data as well as the regression analysis thereof was carried out using Microsoft Office Excel. The figures presented in the Results section were also produced on Microsoft Excel 2007.

Results

The Polytechnic of Namibia was established from a predecessor institution, the Centre for Out of School Training in 1996 and this development was one of the post-independence government initiatives to transform the higher education sector in the country.
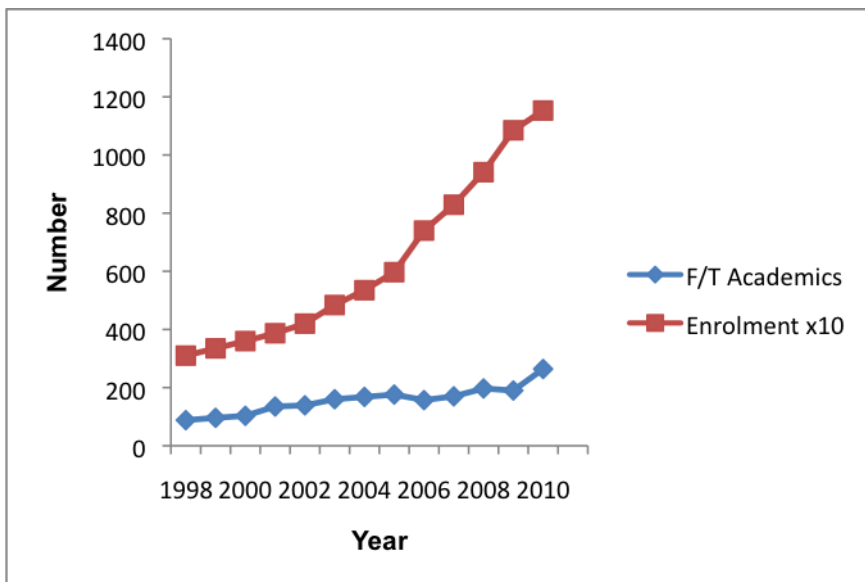
Figure 1: Growth of the Polytechnic in student enrolment and full-time academics over the years.

Figure 1 looks at the growth of the institution over the years from 1998 to 2010. At the commencement of the institution student enrolment was at 2554 and the number had doubled by 2005. Thereafter student enrolment grew rapidly to reach 11531 by 2010.

With respect to academic staff which was at 63 at inception, doubled by 2001 and thereafter increased steadily to reach 197 by 2009. This was followed by a sharp increase in academic staff number to reach 279 by 2010.

Critical to the growth of the institution was the introduction of new academic programmes (Figure 2). While the Polytechnic inherited 36 programmes from the Centre for Out of School Training, during the first three years of transition it phased out several programmes that were not appropriate for delivery at higher education level and hence programmes reduced to 20 by 1998.
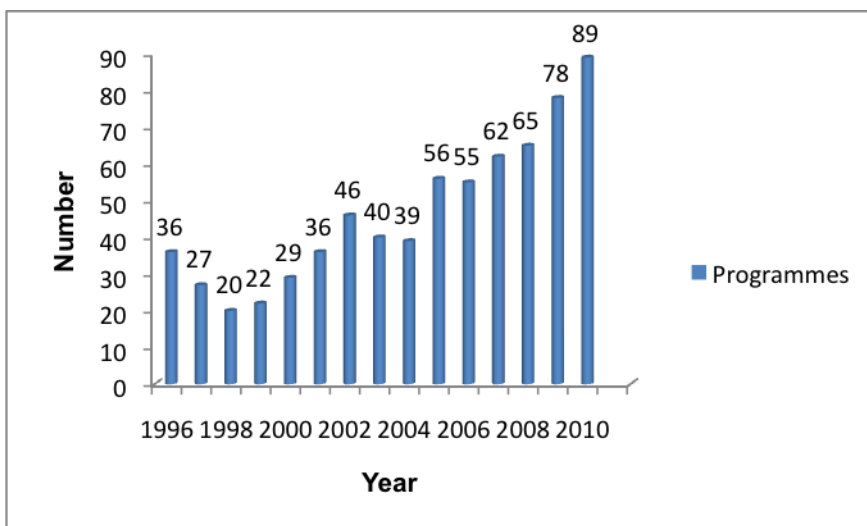
Figure 2: Introduction of new programmes at the Polytechnic from 1996-2010.

Subsequently, this phase was followed by the Polytechnic developing its new programmes which grew steadily to 65 by 2008. Thereafter the pace of programme development increased rapidly to reach 89 programmes in 2010. Interestingly, as more programmes were introduced, it followed that shifts would be seen in students enrolling in different qualifications. These shifts are depicted in Figure 3. Three qualifications were inherited from the Centre for Out of School Training and these were the N level, certificate and diploma qualifications.

By 1998 all the National level and certificate qualifications were phased out. However, the certificate qualification was reinstated in 2000. Nonetheless, enrolment in this qualification consistently remained below 0.8% of total student enrolment throughout the years. During the same period, enrolment in higher certificate was negligible. In the meantime the enrolment in diploma, which sat at 100% in 1998, began decreasing slowly. This happened at the expense of the bachelor of technology qualification that had been introduced in 1999 as well as certificates.
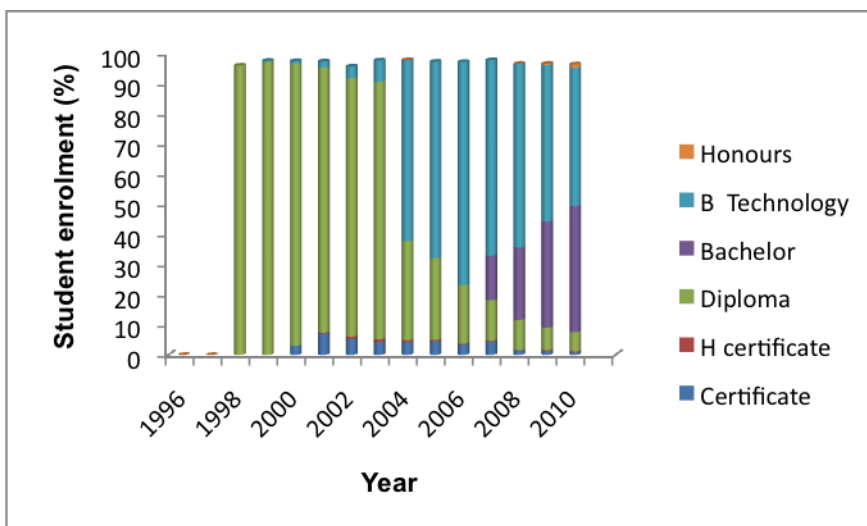
Figure 3: Percentage student enrolment in different qualifications from 1996-2010.

However, diploma enrolments dropped from 85.4% in 2003 to 32.0% in 2004, while at the same time the enrolment in bachelor of technology rose sharply from 7.1% to 60.0%. This was a result of a decision to encourage many of the diploma students to convert their registration from diploma to bachelor of technology.

In 2007, 14.7% of the total student enrolment was in the bachelor degree qualification which was newly introduced then. This led to a decrease in registrations for bachelor of technology which fell to 44.0% by 2010, whereas the bachelor degree enrolment shot up to 48.2% correspondingly. In comparison, even though honours degree started in 2009 the growth in enrolment has been slow (1.2% by 2010). An important observation is that whereas the institution started by offering N level, certificate and diploma qualifications, by 2010 it was offering a total of six qualifications. This does not include a masters qualification (not shown) that was introduced recently.
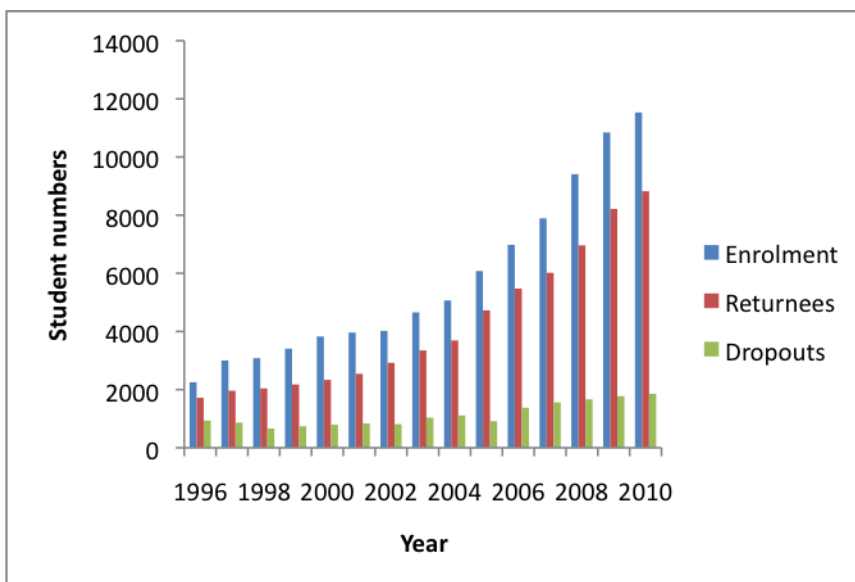
Figure 4: Student enrolled, returnees and dropouts from 1996-2010.

Figure 4 shows changes in the number of enrolled, returnee and dropout students from 1996 to 2010. The pattern of increase in returnee students followed more or less that of growth of student enrolment. The student dropout level was considerably lower and it followed the same pattern as that of returnee students, albeit the increase in numbers with years was smaller. It should be noted that as part of the development of the institution, the Polytechnic regularly reorganised its schools such that the clustering of programmes made both academic and management sense and by 2005 the institution had structured itself into five academic schools, namely the Schools of Business Management; Engineering; Information Technology; Communication and Criminal Justice; and Natural Resources and Tourism. The School of Health and Applied Sciences was started in 2009.
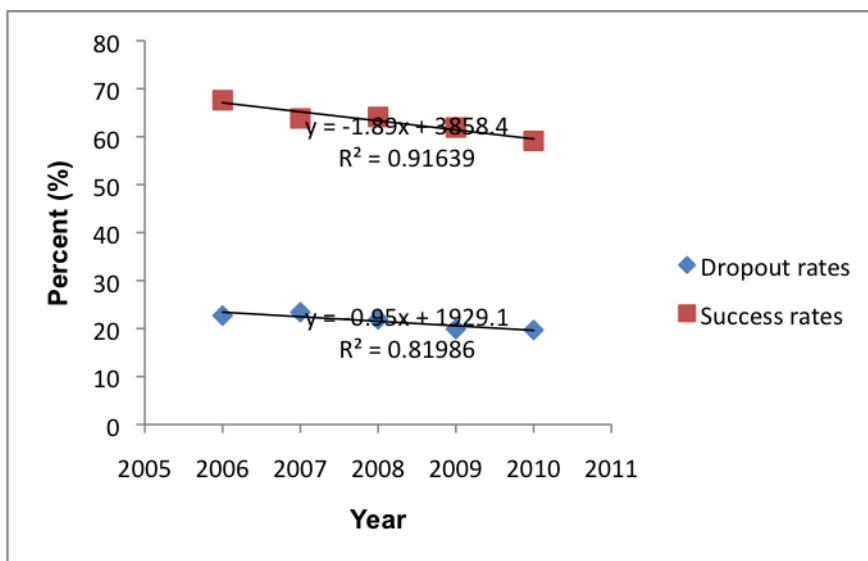
Figure 5: Success and dropout rates at the Polytechnic during the period 2006-2010.

Student success and dropout rates at the Polytechnic are given in Figure 5. In 2006, a student success rate of 68% was achieved, which thereafter decreased linearly to reach a level of 59% by 2010. In a similar fashion student dropout rates decreased from 23% in 2006 and it got to 19% by 2010.

In this study, it was important to determine what factors were responsible for the decline of both success and dropout rates as well as to establish whether there was any direct link between success and dropout rates. To explore these questions the relationship between success and dropout rates was examined and the result is shown in Figure 6. The linear regression analysis gave a correlation value (R^2) of 0.613. This seems to suggest that there might not be a close relationship between the two parameters.
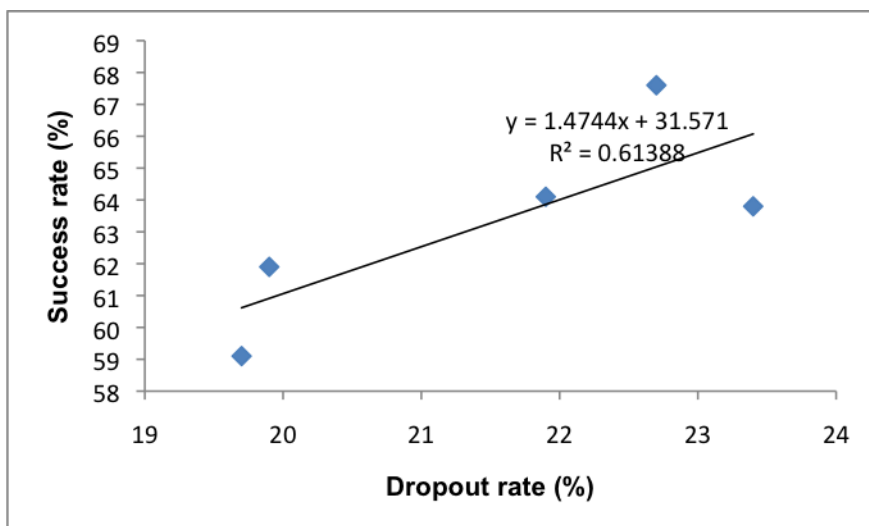
Figure 6: The relationship between success and dropout rates during the period 2006-2010.

It is well established that the calibre and workload of academic staff account for a major contribution to low success rates of students [8]. Figure 7 examines changes in parameters that might impact on the workload of academic staff in the period 1998- 2010. In all three parameters evaluated, namely the number of students per academic, the number of academics per programme and the number of courses offered per academic, there were no dramatic changes prior to 2004, but post that period changes created a 'bubble' in the graph (Figure 7).

From 2005 the number of students per academic rose from about 34 to 57 in 2009 and thereafter decreased to 44 by 2010. As a result of programme re-curriculation activities that the Polytechnic undertook, after 2005 a similar rise in the number of courses per academic as in students per academic, was observed. In 2005 courses per academic stood at about 4.3 and increased to 7.4 by 2009 and thereafter decreased to 6.0 in 2010.
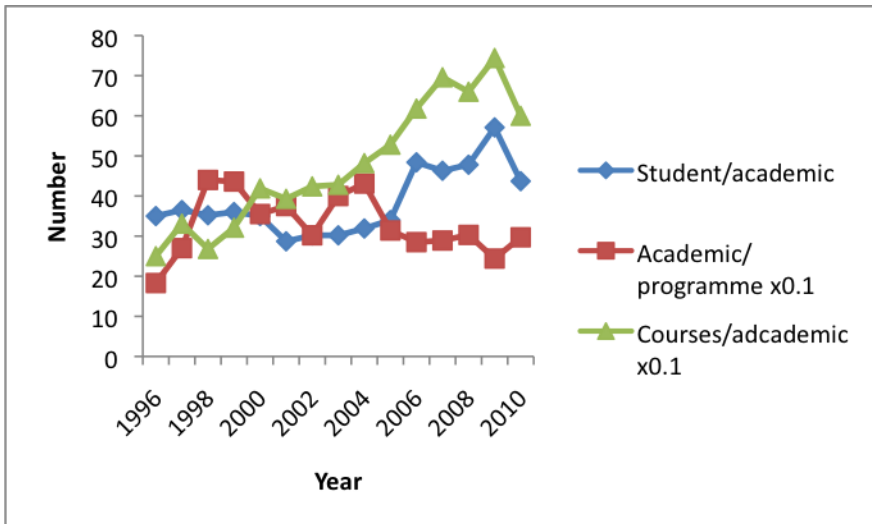
Figure 7: Changes in ratios of student, programme and course to academic staff over the years

In the case of number of academics per programme there was a decrease from about 4 in 2004 to 3.0 by 2006 and remained more or less at the same level throughout. The combination of the three factors in the 'bubble', that is the increase in students and courses per academic and the decrease in the number of academics per programme seem to point to huge increases in the complexity of the work and the workload of the academic.

Discussion

In line with other institutions elsewhere, the Polytechnic in response to post-colonial education transformation and demands for increased access to higher education has experienced a phenomenal student growth (seen in Figure 1) that has almost outstripped expansion and improvement of facilities as well as sourcing of qualified academic staff. Hence, it was imperative that as an institution going through such a developmental transition we look at our performance on core functions. This was also prompted by a recent report [9] that investigated and identified process issues that needed improvement in the value chain of the institution. One of the main findings of that study was the fact that whilst a number of process changes were needed in various operational areas, the teaching and learning area functioned very well.

Rao [10] claims that many poor and developing countries experience high dropout rates in higher education institutions and this ensues from their use of outdated academic practices. Taferra [1] asserts that quality issues become a major concern in those institutions that have had rapid growth in student enrolment. This taken together with the fact that one of the key strategic goals of ETSIP [2] is to improve and strengthen effectiveness and efficiency of higher education, it was decided to examine success and dropout rates at the Polytechnic. Focusing on the period 2006-2010, a major finding was that institutional success rates dropped by nine points from about 68% in 2006 to 59% in 2010.

It is important to note that in the South African higher education system 80% is used as a benchmark for institutions [11] and therefore success rates that are moving away from this benchmark should cause deep concern. In the American higher education system, when it was realised that many students were leaving college or university without getting the education they had set out to achieve, a number of initiatives were introduced. These included a national initiative termed "Achieving the Dream; Community Colleges Count", (reported in [12]), which was about creating data on student success/failure so that based on evidence, it would be possible to develop targeted interventions. Interestingly, the Polytechnic has developed a comprehensive data base, but it has not yet established a culture of evidence based on analysis of data in order to develop strategic interventions.

It was instructive to try and find answers to what were the reasons for the observed drop in the success rates of students. It is clear that as the student enrolment increased, the student/academic ratio increased (Figure 7). Equally, as new programmes were introduced the number of academics per programme decreased. The curriculation process that led to the introduction of bachelor degree qualification brought about increased courses per programme and thereby increased considerably the number of courses per academic. These three parameters constitute the 'bubble' that is found in Figure 7. Adding further complexity to the situation has been the development of qualifications in the institution. At the start of the Polytechnic, only three qualifications and were at N levels, certificates and diplomas (Figure 3), and over the years the qualification profile has changed considerably with respect to the number of qualifications (reaching 8 by 2010) and the levels thereof (masters degrees were also offered). The combination of these factors together with the fact that the qualification profile of academics has

not changed significantly (academics with doctoral degrees have remained at about 12% over the past six years (data not shown) has resulted in increased workloads for academics. It is intriguing that the recently published Green Paper on "Post school education and training" [8] indicates that the calibre and workload of academic staff are a major contributing factor to low success rates of students.

A surprising finding was the fact that the dropout rate was at 23% in 2006, but it declined gradually to 19% by 2010. The occurrence of reduction in dropout rates, while the student enrolment was growing rapidly, seems to contradict the assertions of Rao [10] and Taferra [1]. It was also noted from the plot of relationship between success and dropout rates, that it appeared the relationship was not tightly linked (R^2 value of 0. 64). This seems to suggest that factors other than success rates have an impact on dropout rates. To gain an understanding of factors driving the reduction in dropout rates is important as this would help us ensure that nominal dropout rates are achieved at the earliest. This is an area that needs further investigations.

Recommendations and Conclusion

A pertinent question to ask is what is needed to turn around the decline in student success rates at the Polytechnic? The answer might lie in the statement of Richard Ruch (quoted in [13]), which says "In the for-profit environment the success of a student is the top priority for faculty, administrator and support staff. They know that customer is king. In these institutions student success is interpreted to mean both academic success, as measured by successful progression through and completion of a programme of study, and career launching upon graduation, as measured by placement in a job related to the program of study at a good salary, preferably one that offers opportunity for career advancement." However, Keeling and Hersh [14] seem to advocate for a radical systemic rethinking in an institution that would unflinchingly accept the challenges of improving student success rates by collectively putting learning first. There is no doubt that through the adoption of these two approaches could lead to institutionalising a learning culture. Several reports seem to confirm that student engagement in a strong indicator of student success [15, 16]. Zepka and Leach [17]'s analysis identifies four key elements to student engagement, namely motivation of the student, nature of interaction between student and academics, institutional support and development of citizenship in students. Therefore the thrust of activities

to engage students should be in these areas. However, the Report on 'What Works? Student Retention and Success Programme' [18] succinctly captures what needs to happen in student engagement by stating that all activities and interventions should aim to nurture a culture of belonging. It is some of these ideas that the Polytechnic would need to explore in order to find its formula to improve student success and dropout rates.

In conclusion, the findings in this study are that, on the negative side student success rates showed a decline, whilst on the positive side student dropout rates decreased. It will benefit the institution and students, in particular, if interventions targeting to further decrease dropout rates and also boost significantly success rates are developed.

Acknowledgements

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