

THE CHALLENGE FOR STUDENTS AND EDUCATIONAL INSTITUTIONS TO SUCCEED AGAINST ALL ODDS. A SOUTH AFRICAN PERSPECTIVE¹

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Abstract:

In this paper the focus is on education within the interrelationship between better education, better health, reduced fertility, improved nutrition and increased household income to effect accelerated economic growth. In the first half of the paper the focus falls on flow through rates in the South African education system. The role that poverty plays in this regard is highlighted. In the second part of the paper the role that education can play to enhance the performance of students from poor communities is discussed. The provision of quality education to ensure that learners gain the most from education is specifically stressed. A proper functioning education system lies at the heart of the formation of human capital. A good education is thus one way to alleviate poverty. However, poverty is the reason why poor people do not always use the educational opportunities available. The poverty problem must thus be addressed to ensure that everybody gain from education.

In the first part of this paper the poverty situation in the developing world, with special emphasis on Africa and especially Southern Africa will receive attention. It will be shown that poverty in Sub-Sahara Africa is really serious and the extent of the

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problem will be highlighted. It is important to be familiar with the socio-economic status of the people living in Africa, because they are the students enrolling in tertiary institutions. As will be shown in the paper South Africa is characterized by the same poverty problems as the rest of Africa.

In the second part of the paper the role that education can play to enhance the performance of pupils from poor communities will be discussed. The provision of quality education to ensure that learners gain the most from education will be stressed. Special emphasis will be placed on the role that teachers and lecturers can play in the classroom.

1. ECONOMIC PERFORMANCE AND POVERTY IN AFRICA

In 1960 280 million people (or 9 per cent of the world's population) lived in Africa (African Development Bank 1998: 135–137). By the end of 1997 the population increased to 758 million and it is projected to further increase to just under 1,5 billion (or 20 per cent of the world's population) by the year 2025. This increase in population growth was the direct result of high fertility rates coupled with low mortality rates. For the period 1995–2000 the total fertility rate is estimated at 5,3 – the *highest* in the world.

The economic performance of Africa compares badly when compared with other developing countries. In the 1980's the GDP per capita declined by 1,3 per cent per annum – 5 percentage points below the average for all low-income developing countries (Collier and Gunning 1999: 64–69). During the period 1990–1994 the GDP per capita decreased by 1,8 percent per annum, no less than 6,2 percentage points lower than that of the other low-income countries.

With these moderate economic growth rates, linked with the high fertility rates, the formal economy could not absorb the increasing number of people entering the labour market. It is estimated that open unemployment rates in Botswana and Zimbabwe are about 20 per cent and in South Africa it is above 30 per cent (African Development Bank 1998: 140). In North Africa it is between 15 and 20 per cent.

Poverty is a broad concept that manifests in many ways. Chambers (in Woolard and Barberton, 1996: 6) categorized poverty in five dimensions. Poverty manifest in what he calls 'poverty proper' which refers to a lack of income to generate income. Physical weakness due to under-nutrition or sickness also characterise the poor. The poor is also frequently socially isolated due to a lack of goods and services or illiteracy. They are very vulnerable for any crisis and the possibility to become even poorer in the process. They also feel powerless in the existing social, economic, political and cultural environment.

Poverty in Africa is a harsh reality. In 1998 it was estimated that 290,9 million people, or 46,1 percent of the population, lived below \$1 per day (World Bank Group, 2000). It was also estimated that an astonishing 474,8 million people (or 75,6 per cent of the population) lived below \$2 a day. This corresponds to the finding of Machipisa (1999) that 44% of the population lived below a poverty line of \$39 per person per month.

Apart from being a very poor region the wealth of Africa is very unevenly distributed. The richest 20 per cent of the people of Africa receive more than 50 per cent of the income, while the poorest 20 per cent receive only 5,2 per cent of the income (Machipisa, 1999). To cut Africa's poverty by half in 2015 it is estimated that an annual growth rate of 6,8 per cent will be needed, compared to the current 4 per cent per annum. Boorman and Ahmen (1999) emphasize that the poor do not necessarily benefit from growth. According to them not enough is known

about the linkage between poverty reduction and macroeconomic stability and growth and that the situation in each country will differ.

Some results of studies done in the nineties tend to indicate that poverty plays a major role in determining IQ differences (No Bells Curve Here, 1996). Studies in Columbia and North-western Universities found that black IQ scores were 15 points lower than for whites. Poverty alone accounted for 52 per cent of the difference and controlling for children's home environment reduced the difference by another 28 per cent. This makes the difference an insignificant 3 points. It seems as though poverty and early learning opportunities are very important in Africa where blacks are poor. In the above-mentioned study 40 per cent of the blacks lived in poverty, but only 5 per cent of the whites.

Women in Africa are responsible for most of the work on crops, fetching water and fuel wood, food storage and transportation, hoeing and weeding as well as harvesting and marketing (Gender, Growth and Poverty Reduction, 1999). According to Muruga (Educating girls reduces poverty in Africa, 1999) a lack of education is the reason why only 32 per cent of African women participate in the formal sector, as opposed to 63 per cent of men. Education plays an important role in reducing poverty – it reduces fertility and improves health and equips people with the skills they need to participate fully in the economy and in society.

Hanushek (1995: 229–237) discusses 69 studies that were done in developing countries adopting a production function approach of linking inputs with outputs. For better quality education the education level of the teachers seemed to be significant as well as the provision of a certain minimum facilities like textbooks. He is of the opinion that not enough is known about how schools operate and why they differ in quality. According to him the high rate of return to schooling in developing countries makes it a very good investment. He is of the opinion that the low school quality

explains why so few people take advantage of these high returns, especially in Africa with the highest rates of return in the world.

2. ACCUMULATING HUMAN CAPITAL

The private demand for education by households includes the magnitude of public expenditure on education. The high proportion that teacher's salaries comprise of this expenditure places a constraint on public expenditure in low-income countries. The education level of parents seems to be very important, because they value education more than uneducated parents. They can also help their children to a greater extent to learn from their experiences in the education system. Non-earned income or inherited wealth also plays an important role for children to stay in school or undergo tertiary training, because their parents can afford to pay for their education.

It is also important to note that the health status of learners seems to play an important role in determining their successful progressing through the system. More healthy children will be able to concentrate better and the value added in the education system will be greater. In Africa child mortality is directly linked to the education level of parents. It is calculated that a year additional schooling of the mother can lead to a 5 to 10 per cent decrease in child mortality rates (African Development Bank, 1998: 114–116). Health expenditure does seem to play an important role in supplementing educational expenditure to increase human capital formation.

3. THE DELIVERY CAPACITY OF THE SOUTH AFRICAN SCHOOL SYSTEM

In Southern Africa, with a high Gini-coefficient of 0,6, wealth is distributed even more unevenly than in the rest of Africa. The poorest 40 per cent of the people (52 per cent of the households) earn only 10 per cent of the income, while the richest 10 per cent

of the population (6 per cent of the households) earn 40 per cent of the income (Woolard and Barberton, 1996: 8). The majority of the poor – 76 per cent – live in rural areas, while 66 per cent of black households live in poverty. The corresponding figure for whites is only 2 per cent. Lack of education is named as the key course of poverty and they see a good education as the ticket out of the poverty trap (Woolard and Barberton, 1996: 15–19).

How is the South African school system functioning that provides pupils for tertiary education? In the paper pass rates are used as an indication of efficiency of the system although it only measures cognitive skills. The reasons for using pass rates are because it is very difficult to measure non-cognitive skills and that the primary function of any education system is to ensure that the pupils progress successfully through the system. It is conceded that many important non-cognitive outputs or skills are overlooked with this method because it cannot be properly quantified.

The progress of the cohort that enters the school system at the age of 6 or 7 is briefly discussed (see De Villiers, 1997: 79–80 for a more detailed discussion). These cohort groups were used because it is the normal age at which children enter the school system. The Department of Education supplied data of the enrolment figures of all the departments³ (except the former Transkei, Bophuthatswana, Venda and Ciskei regions) for the years 1985–1993. The data gives the age distribution of learners in each grade for the years under discussion.

³ Up to 1994 education for whites was provided by the Department of Education and Culture (House of Assembly), for Indians by the Department of Education and Culture (House of Delegates), for coloureds by the Department of Education and Culture (House of Representatives) and for blacks outside the “homelands” by the Department of Education and Training. Each of the self-governing states as well as the TBVC states had a separate education department (ten departments in total).

In calculating pass rates, it was assumed that the number of seven year old learners in grade 2 in 1986, for example, as a percentage of the number of six year old learners in grade 1 in 1985 represented the pass rate of the children in grade 1 in 1985. The normal flow through rates of this age group were thus used as a proxy for the pass rate of the group. This process was repeated for this cohort group in all the grades for every year over the period under discussion. By calculating the arithmetic mean of the different pass rates for each year, the average pass rate for that age group in every grade was determined. It was further assumed that the group entering the school system at the age of 7 achieved the same pass rate as the group entering the school system at the age of 6. Because pass rates are not available according to age, the pass rates of the other cohort groups are very difficult, if not impossible, to determine.

Results

The departments previously responsible for white and Indian education operated very efficiently (measured in pass rates). It is clear from Table 1 that approximately 86 out of every 100 white learners that entered grade 1 at the age of 6 or 7 passed grade 7 within the normal 7 years. At high school, approximately 81 per cent ($69,7/86,4 = 80,7$ per cent) of learners entering grade 8 (of the above mentioned cohort groups) passed grade 12 within the normal 5 years. When considering the whole school phase, 69 out of every 100 grade 1 learners completed their school career successfully within the normal 12 years. The former department responsible for Indian education achieved the highest flow through rates in the primary school phase of all the departments. Despite the surprisingly higher dropout/failure rate at secondary school 62 per cent of the grade 1 learners that entered the school system at the age of 6 or 7 passed grade 12 within 12 years. The flow through rates of these two departments were very good indeed. These two departments did, however, provide education for only 1,26 million learners in 1994 – only 11,0 per cent of the

total number of learners in school in South Africa (Strauss *et. al.*, 1995: 3).

The outstanding characteristic of the primary school phase in the former education department responsible for coloureds is the high failure rate in grade 1. About 22 per cent of the grade 1 learners fail or leave the system in the first year (see Table 1). While only about 50 out of every 100 grade 1 learners reach grade 8 within seven years the progress at high school is even worse. This results in only 19 out of every 100 grade 1 learners passing grade 12 within 12 years. The black flow through rates are characterised by even higher dropout and failure rates in grades 1 and 2 (see Table 1). Only 35 per cent of grade 1 learners reach grade 8 within 7 years and 23 per cent of grade 8 learners pass grade 12 within 5 years. This results in only 8 per cent of grade 1 learners (of the cohort groups under discussion) passing grade 12 within 12 years

Table 1. Index of net flow through rates of learners entering the South African education system at the ages of 6 and 7

| Grade | Whites | Indians | Coloureds | Blacks |
|----------------------|---------------|----------------|------------------|---------------|
| Grade 1 | 100 | 100 | 100 | 100 |
| Grade 2 | 94.3 | 98.0 | 78.0 | 76.0 |
| Grade 3 | 90.9 | 96.7 | 69.0 | 62.6 |
| Grade 4 | 90.4 | 96.2 | 64.2 | 54.5 |
| Grade 5 | 89.9 | 94.7 | 60.7 | 47.7 |
| Grade 6 | 89.6 | 93.4 | 57.4 | 43.5 |
| Grade 7 | 88.5 | 91.7 | 53.8 | 40.0 |
| Grade 8 | 86.4 | 88.3 | 50.4 | 35.2 |
| Grade 9 | 83.4 | 86.6 | 44.2 | 31.3 |
| Grade 10 | 80.8 | 82.9 | 37.2 | 25.5 |
| Grade 11 | 76.9 | 74.3 | 30.7 | 21.4 |
| Grade 12 | 73.3 | 66.3 | 24.8 | 18.2 |
| Pass Grade 12 | 69.7 | 61.8 | 18.8 | 8.2 |

In 1994 9,2 million learners (or 81,1 per cent of the total number of learners at school) were black and the impact on the efficiency of the whole system is self-evident (Strauss *et. al.*, 1995: 3–5). These results seem to support the view that poorer learners gain less from education than the richer learners. In South Africa this

situation is more complicated, because the inequalities are racially based.

When we look at more recent figures it does not seem as though the situation changed that much. The Monitoring of Learners Achievement (MLA) was conducted in 400 schools in 1999 by Unesco and the Department of Education to test the literacy, numeracy and life skills of grade 4 learners. The results were rather disappointing. On average learners scored 48% in literacy (ranging from Mpumalanga's 33% to Gauteng's 61%) and 47 % in life skills (Strauss *et. al* 1999: 23). The results for numeracy were even worse with a national average of only 30% (ranging from Mpumalanga's 23% to Western Cape's 38%). The positive correlation between the MLS results and the grade 12 mathematics pass rates in provinces emphasises the importance of effective primary education.

Considering the grade 12 examination results yields an even less rosy picture. From 1994 the pass rate dropped from 58,0% to well below 50%, but then increased to 57,8 in 2000 again (Strauss *et. al* 2000: 8). During the same period exemptions decreased from 17,9% of the candidates to only 14,0%. It therefore seems as though the quality of the passes had indeed dropped. This situation improved (perhaps too fast) and in 2002 68,9% of candidates passed while 16,9% passed with exemptions (Republic of South Africa 2003: 70). Despite this higher pass rates in general, only 7,9% of pupils taking mathematics passed it on the higher grade. In the Eastern Cape only 3,4% of mathematic candidates passed on the higher grade. In the same examination only 16,2% of learners taking physical science passed on the higher grade. This drastically narrows the fields of study of learners. Without mathematics pupils cannot study in business and economic sciences, engineering, natural sciences, forestry and agricultural sciences at universities. The quality of the passes should therefore be improved.

4. POVERTY AND THE EDUCATION SYSTEM

If one assumes that the human capital theory holds for Africa, the solution to the poverty problem is a simple one. Simply give the poor the right quality and quantity of education and it will solve the problem automatically. By investing more funds in education, the labour force will become more productive, it will enhance higher economic growth rates and the positive spill over effects will make people richer. In reality, however, learners from poor communities generally perform rather badly in education.

In trying to solve the poverty problem greater emphasis must be placed on primary education, because the poor then benefits the most (Psacharopoulos, 1990: 379). At universities high income families are over presented and therefore they then benefit the most. An empirical research project in Africa (Castro-Leal, *et. al.* 1999:60–61) found that enrolment rates in Africa are in general lower than the corresponding figures for low-income countries. At secondary school level it is extremely low. It ranges between 10 and 40 per cent while the worldwide average in low-income countries in 1993 was 42 per cent for girls and 55 per cent for boys. The enrolment rates of children from a poor background are lower than those of richer pupils at all levels, but it is more pronounced on the secondary level. This tendency has drastic implications for the advantage that the poor receive from education. It was estimated that less than 20 per cent of the education subsidy reach the poorest quintile in the primary school phase (Castro-Leal *et. al.* 1999: 63–65). The subsidy is thus poorly targeted, because the majority of pupils in secondary and tertiary levels are from richer backgrounds. The poorest quintile receives about 10 per cent of the subsidy on secondary level, but almost nothing at tertiary level. The reason is that they are not successfully progressing through the system. One thus has to target the poor at an early age to ensure they progress to tertiary education.

Education can play an important role in lowering the high fertility rates in Africa. According to Schultz (in African Development Bank 1998: 124) a year of female enrolment ten years ago will reduce today's total fertility rate by 0,36 or a third of a child. Female education, preferably up to a post-primary level, is important to lower the fertility rate. The attitude towards woman also has to change so that girls can actually choose to stay in school instead of marrying young. Children of educated parents normally stay in school for more years and outperform the children of uneducated parents. These children may also earn higher income in adulthood.

Kamper (1998: 81–83) emphasises that the success of the education system in Africa will to a large extent be determined by health expenditure. Healthy children will be able to concentrate better and progress more successfully through the education system. The main causes of illness on the continent are malaria (with an annual 300–500 million cases and about one million deaths), respiratory infections, diarrhoeal diseases, childhood diseases (like polio, measles and tetanus), HIV/AIDS, tuberculosis, leprosy and malnutrition (African Development Bank 1998: 155–161). Until 1998 41,5 million people worldwide were infected with HIV/AIDS of which 13,9 million died (Cilliers 1999). Of these deaths no less than 83 per cent occurred in Africa. In 1998 5,8 million people were infected – 5,2 million adults of which two thirds were living in Sub-Saharan Africa and 590 000 children of which 90 per cent were also living in this region. The economic implications of losing millions of people (including teachers and lecturers) in their most productive years (25–39 years) are self-explanatory. More than 300 million people are without water supply or sanitation. This may lead to illnesses like cholera and river blindness. A lot of these are curable through public health schemes. Solving these problems is a prerequisite for an efficient education system.

The next part of the paper looks at what can be done in the education system itself to enhance the performance of the poor. It must be borne in mind that the successful implementation of educational strategies depends to a large extent on the solving of the above-mentioned problems. Good education practice on its own is not enough to ensure that learners from poor communities will successfully advance through the education system.

5. A ROLE FOR TERTIARY EDUCATION?

As was clearly shown in the first part of this paper, Africa, Southern Africa and also South Africa are faced with (frequently severe) poverty and therefore struggle with poverty related issues like health and education. While education is regarded by many as the panacea for poverty, it was shown that poverty itself is frequently the reason why education is not successful in achieving that exact goal. Cognisance of and action against the likely negative impact of poverty on the success of students from poor communities must therefore be taken on all levels of education.

Research indicates that higher education could have a positive impact on poverty. Studies by Psacharopoulos (1994:1328) calculated the social rate of return on an investment in higher education in Sub-Saharan Africa to be 11.2 per cent and the private rate of return to be no less than 27.8 per cent. He also calculated the private rate of return for low-income countries to be 23.5 per cent and for lower middle income-countries to be 18.9%. Figure 1 shows that South African data indicates that people with tertiary education are seldom part of the poor section of the population (Oosthuizen & Nieuwoudt 2003). Tertiary education has clearly an important contribution to make.

In trying to provide equal education opportunities for all South Africans, institutions in higher education have embarked on programmes to recruit, retain and deliver graduated students from poor communities. This section will highlight certain aspects of

the role that tertiary education can play to enhance the performance of students with a background of poverty. This role can be divided into three parts; i.e. actions by the tertiary institution (university, technikon or college) as a whole, availability of counselling services and the actions taken by academic personnel in the teaching environment.

The rest of the paper will deal with these three issues with emphasis mainly on what can be done by the individual lecturer or teacher in their day-to-day interaction with students from poor communities. The experience of the Economics Department of the University of Stellenbosch (US) will be used to facilitate the discussion.

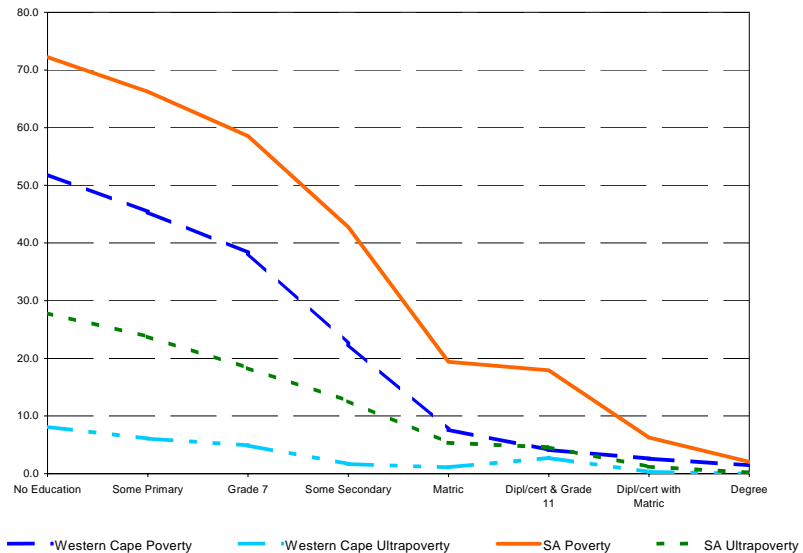


Figure 1. Poverty Rate of Adults by Highest Education Level
 Source: Oosthuizen and Nieuwoudt (2003)

6. ACADEMIC DEVELOPMENT PROGRAMMES OF THE UNIVERSITY OF STELLENBOSCH

In recognition of the fact that many students from poor communities with the potential to study successfully are underprepared (as outlined in the first part of the paper) and that the university is therefore not always accessible for these students, the University of Stellenbosch established the Division for Academic Development (DADP) in 1994 and implemented its programmes in 1995 (DADP 2003). These programmes exist on four levels: Capacity building at schools, the so-called second change access programmes, recruitment programmes and retention programmes. The second and fourth programmes will mainly be referred to in this paper.

(a) The second chance programme

The second-chance programme consists of three parts. Although matriculation (with university exemption) is a prerequisite for acceptance at the University, certain degree programmes have additional selection criteria. All students who intend to register and have scored an average of less than 70 per cent in their grade 11 examinations, are obliged to write an access test (part one of the second-chance programme); either in Mathematics, Science, Afrikaans or English, or in Cognitive Skills, depending on the intended field of study. These tests are then used to advise students about available alternatives (DADP 2003).

Students whose matriculation results are borderline in terms of the selection criteria for certain degree programmes, and whose applications have consequently been turned down, may be given a second chance to enrol by good performance in the four week bridging programme (part two of the second-chance programme) before enrolment. The aim of the bridging programme is to assess the potential of students who are underprepared and help them to succeed in a university atmosphere of study with some academic

support. This put them on the Academic Development Programme (ADP) route (DADP 2003).

The Science and Mathematics post-school project (part three of the second-chance programme) reaches out to those students who have passed Grade 12, but who did not receive university exemption because of poor marks and/or wrong subject choices, or who have matriculated with university exemption, but cannot enrol for degree courses in Commerce, Science and Technology. These students can then enrol for this one-year university preparation programme. They write a public Matriculation examination in Mathematics, Science or Accountancy at the end of the year. (Engineering, Drawing, Computer Literacy, Study and Thinking Skills, and Entrepreneurship are also offered as internally examined subjects.) Successful students can then enrol for the relevant degree courses.

It is the aim of the second change access programmes to assist and empower potentially successful students who are underprepared to meet the admission criteria and to be integrated with the main stream as soon as possible.

(b) Retention programmes

When students are put on the ADP-route (for instance after the successful completion of the Bridging Programme) they are assisted in mainly two ways: The Foundation Programmes, which are in effect extended curriculum programmes (also known as extended degree programmes) and secondly mentor programmes.

The Foundation Programmes (aimed at strengthening the student's academic preparedness for university study) entails the extension of the normal period of study for a degree. This programme includes additional components such as preparatory courses and academic support classes. The first mainstream academic year is distributed over a period of two years. (In the

case of Engineering the first two years are extended over three years.)

Starting in 1998, the Mentor Programme uses specially trained senior students to provide more than just subject tutoring. The programme has expanded from four mentors and 20 mentees in 1998 to 75 mentors and 316 mentees in 2002. Mentees are selected by their lecturers, or by self-identification. The Mentor Programme operates in close liaison with the Centre for Student Counselling and Development. (For detailed information on any of the programmes see DADP 2003.)

(c) Finances

The University of Stellenbosch realise that students need financial assistance – especially those from poor communities – and therefore has a range of bursaries and loans available. The University bases the allocation of bursaries and/or loans on both academic and financial factors. To be considered, bursary/loan applicants must meet the minimum academic requirements for admission and must be registered for full-time, complete programmes. (Senior Students – i.e. students in a second or further year of study – are required to have passed not less than two-thirds of their credits of the previous year.) If an applicant has the academic potential to study successfully, the University will also consider his/her financial neediness. The University assesses the application in terms of the University's means test, which measures the extent of the applicant's financial neediness. Students receive financial support, regardless of race and gender, in direct proportion to the extent of their neediness as measured by the means test. This makes it possible for students with academic potential from poor communities to enrol at the University. (For more information see US 2003.)

(d) Centre For Student Counselling and Development (CSCD)

Students have free access to the services of CSCD. The overall point of departure of the CSCD is based on the internationally recognised well-being approach, which is currently applied at more than seventy percent of the American institutions of higher education. The Academic Guidance and Facilitation for Adjustment programme focuses mostly on first year students and is especially relevant for underprepared students.

The functions of the CSCD can be divided broadly into five services: academic counselling; occupational guidance and development; individual and/or group therapy; contemporary developmental workshops; consultations; training and supervision of intern psychologists. All services are rendered to students free of charge. (For detailed information see CSCD 2003.)

7. THE ECONOMICS DEPARTMENT AND UNDERPREPARED FIRST-YEAR STUDENTS

Working with large numbers of students from a diversity of backgrounds in a lecture (class room) situation creates a variety of challenges and pitfalls. In order to address some of these issues, two ways of dealing with the problem will be discussed. The focus will firstly fall on additional support classes for identified ADP-route students and secondly some suggestions regarding the handling of diverse groups during mainstream lectures will be made.

As part of the DADP's functions, funding for additional support programmes organised by individual Departments is provided. Individual lecturers at the Economics Department have in the past offered support to underprepared students (free of charge) on an ad hoc basis. In 2002 the Department decided to officially

join forces with the DADP by running support classes parallel with the mainstream classes to encourage and support first-year students on the ADP-route. (There are also many other underprepared students that did not opt for the ADP-route but due to difficulty in recruiting them for support classes they were not accommodated. A few of these other students did, however, enquire about the possibility of joining such a group when they heard that it benefited their peers.) A temporary lecturer facilitated the support classes once a week.

Economics 1 is a year course consisting mainly of microeconomics in the first semester and macroeconomics in the second semester. Students have three formal lecture periods of fifty minutes each per week. In addition all students were also encouraged to participate actively in the tutorial programme conducted in three week-cycles. In the first week students received tutorial problems to solve, in the second week the solutions to the problems were made available and optional discussion classes were scheduled and during week three a compulsory multiple-choice test had to be completed. Students also had to write three (out of a possible four) formal tests during the year that consisted of objective testing as well as longer questions (including calculations).

(a) Support class for ADP-route students

In order to assist the students on the ADP-route one compulsory support class per week was introduced at the beginning of the second quarter of the year (after the first formal test had been written). A list with ADP-route student names was obtained from the DADP and these students were invited on a weekly basis to the support class in an innovative way via e-mail.

The main goal with the economics support classes was to empower students in order for them to reach a position where they could successfully learn independently. Since economics is a

subject where a combination of numerical skills, logical reasoning and conceptualising is required the support classes specifically aimed to diminish the students' quantitative numeric backlog and to unlock their true academic potential. Since it is only when students become active participants in the learning process (see Chickering & Gamson 2000), rather than remain passive recipients of knowledge that these outcomes can be reached, the support classes presented students with opportunities to actively participate. The tutor aimed at facilitating their learning during these sessions using a variety of innovative group activities.

In the small group discussions students could share their knowledge and various skills as they tried to solve problems or figure out new concepts. They could also provide support and encouragement for one another. The tutor had to facilitate the initial process and then had to work hard at maintaining the delicate balance between the needs of the group, the needs of each individual student as well as the course requirements.

Of the fifteen ADP-route students, only one student (Student 1) did not attend the sessions at all and a further one (omitted from the table) dropped the course before the first test. Three of the students (Students 4 – 6) only joined the sessions after the second test. Eight of the students (students 7 – 14) regularly attended the sessions from the start. Students 2 and 3 attended some of the sessions but not on a regular basis.

Table 2 summarises the results of the ADP-route students for Economics 1 in 2002. The student (Student 1) that never attended any of the support classes could not improve his mark to reach 40% (i.e. be allowed to write the examination); in actual fact his marks progressively decreased.

Although one of the remaining students (student 2) showed improvement, she did not reach the 40 per cent level by the end

of the third test. (Student 2, who did not attend all of the support classes, realised that she enrolled for the wrong degree programme and will be changing to another programme next year.) All students that regularly attended the support classes managed to qualify to write the examination. Those students that attended the support classes, showed an average improvement of 37% in their marks from the first to the third test.

Although the difference in marks between the average mark for the Economics group as a whole and the ADP-route students remained at nine, the relative improvement in the ADP-route students' marks was more than 20 per cent higher than that of the group as a whole. The academic success of the support classes is apparent when the ADP-average marks for those students that attended more than one support class is compared to the marks for the ADP student that chose to not attend any of the classes. He was the only student that showed an increasing decrease in his marks.

Table 2. Performance of ADP-route students in Economics 1 for 2002

| | Formal Tests | | | Percentage change from test to test | | | Class mark | Exam mark | Final mark |
|------------|--------------|--------|--------|-------------------------------------|-------------|-------------|------------|-----------|------------|
| | Test 1 | Test 2 | Test 3 | From 1 to 2 | From 2 to 3 | From 1 to 3 | | | |
| Student 1 | 34 | 24 | 6 | -28% | -74% | -81% | 25 | - | - |
| Student 2 | 18 | 39 | 28 | 121% | -29% | 57% | 30 | - | - |
| Student 3 | 50 | 56 | 53 | 13% | -7% | 5% | 53 | 55 | 54 |
| Student 4 | 39 | 56 | 42 | 45% | -26% | 8% | 46 | 62 | 54 |
| Student 5 | 48 | 57 | 28 | 20% | -52% | -42% | 46 | 52 | 50 |
| Student 6 | 31 | 34 | 58 | 8% | 70% | 84% | 42 | 34 | 40 |
| Student 7 | 36 | 56 | 52 | 55% | -8% | 43% | 49 | 50 | 50 |
| Student 8 | 45 | 60 | 56 | 33% | -6% | 25% | 53 | 37 | 45 |
| Student 9 | 26 | 34 | 58 | 29% | 70% | 119% | 41 | 38 | 40 |
| Student 10 | 26 | 53 | 48 | 100% | -10% | 81% | 43 | 45 | 45 |

| | | | | | | | | | |
|----------------|----|----|----|-----|------|-----|----|----|----|
| Student 11 | 38 | 47 | 43 | 25% | -8% | 15% | 43 | 30 | 35 |
| Student 12 | 34 | 51 | 33 | 50% | -36% | -4% | 40 | 43 | 40 |
| Student 13 | 23 | 33 | 45 | 44% | 21% | 75% | 40 | 58 | 50 |
| Student 14 | 56 | 69 | 65 | 22% | -5% | 16% | 64 | 72 | 68 |
| ADP average | 36 | 48 | 43 | 44% | -2% | 37% | 45 | 48 | 48 |
| Econ 1 average | 45 | 58 | 52 | 28% | -10% | 15% | 54 | 58 | 58 |

The support group also proved to be successful in terms of creating for students a sense of belonging. The students took ownership of their weekly class that was clearly demonstrated by their hostile behaviour towards other students who attended an additional revision session that was scheduled just before the third test. (The success with the support classes in 2002 lead to examining the possibility of extending the programme to accommodate other underprepared students who might not be part of the ADP-route.)

(b) Accommodating students from poor communities in formal lectures

The aim of the support classes was stated as to assist the underprepared student to adapt to an unfamiliar environment on all levels in order to become an **independent learner**. Throughout this process, the student continues with the usual student and academic life and is therefore also present in normal lecture situations. The question that the lecturer has to answer is how to facilitate the learning of such a variety of students in a single class. Put differently, given a diversity of backgrounds, how does the individual lecturer make sure that optimal learning always takes place?

Successful, experienced lecturers agree that in any group of students diversity is relevant. Apart from different backgrounds, differences in learning styles, different biological and developmental characteristics, differences in motivation, speed, culture, religion, social class, occupation and many other differences in students all lead to the formation of diverse class groups (see for example Chism 1994: 223–237 and Lang, McBeath & Hébert 1995: 89, 124–148). It is this diversity that the individual lecturer should recognise and take into account when planning outcomes, assessment and lecture activities. The next part of the paper will primarily focus on the planning and execution of lecture activities when the lecturer takes diversity in the students into account.

One of the important steps towards being a successful lecturer – i.e. getting all the students to learn (Wilkinson 1992: 25–27) – is firstly to realise that all students are different and secondly that the underprepared students also form part of the class. Nilson (1998: 7–10) suggests that the lecturer familiarise her/himself with the student audience since for any presentation the “people to receive our message influences our content, format, organization, sentence structure, and word choice” and especially in teaching “the nature of our students – their academic preparation, aspirations, and cognitive development – affects our choices of what and how to teach”. An increased awareness of the uniqueness and problems of individual students, usually leads to the transformation of teaching style (Luce 2000).

Marshall (as quoted by Lang, McBeath & Hébert 1995: 124) said, “If students do not learn the way we teach them, then we must teach them the way they learn”. This returns the focus to the issue of what learning is and when students do actually learn. Luce (2000) eventually learned from experience that “students are in college spending time and money because they *want* to learn and because they *want* a better life for themselves”, which he says is contrary to what most faculty-members believe. Lecturers

therefore need to realise that the students have needs in terms of learning and that it is the responsibility of the lecturer to facilitate those needs during lectures and consulting hours.

Each lecturer needs to personally answer the question of when learning takes place and need to realise that “[t]he real challenge in college education is not covering the material for the students; it’s uncovering the material with the students” (Smith quoted in Nilson 1998: 109); i.e. getting the students involved in the material and helping them to realise how the material is applicable in order for them to satisfy their need to learn. The lecturer then needs to plan the activities to be used during lecture-times in order to provide as many opportunities as possible for students to actively participate and to be involved in the uncovering of the material. The traditional lecture method might prove not to be the ideal mode to realise these objectives. (See Gibbs 1992: 1–18 for a discussion on the nature and quality of learning and strategies to foster a deep approach; Nilson 1998: 103–122 for workable alternatives to the lecture method; McKeachie 1994: 53–70 for a discussion on lectures that work and Lang, McBeath & Hébert 1995: 65 for how to involve students actively. Also see Davis 1993; Lang, McBeath & Hébert 1995: 124–148 and Chism 1994: 223–237 for more general strategies, tactics and practical tips on managing diversity and complexity in the class situation.)

Lecturers interviewed regarding their lecturing experience at the Economics Department have revealed that the use of examples in lectures, group assignments, tutorial questions and case studies are extremely important – firstly the need for examples to be used and secondly that the chosen examples are appropriate for the specific group of students. Students need to be able to identify with the example (or problem) before they would be willing to become actively involved in the process of finding a solution to the set problem. Student participation and involvement with course material increased markedly when they could (affectively and socially) relate to the particular examples that were used. This

was particularly true for students from poor communities – the moment they could relate to the content it became easier for them to grasp the concepts they had to master.

One of the lecturer's roles most frequently discussed in education literature is that of motivator. Jorisson (1991: 76) lists motivation as the first factor that enhances effective learning. Gibbs (1992: 13) links motivation to the personal development of the student in that a motivated student will be personally involved in learning. This is especially true for underprepared students – if they can be motivated, they will most likely be successful. In a survey of students in over twenty courses, Sass (see Davis 1999) found that students identified the same eight characteristics as major contributors to student motivation. They are the instructor's enthusiasm, relevance of the material, organisation of the course, appropriate difficulty level of material, active involvement of students, variety, rapport between teacher and students and the use of appropriate, concrete and understandable examples. Awareness by the lecturer of what motivates them should lead to the implementation of specific strategies to motivate the students.

Nilson (1998: 58–59) suggests the following eighteen strategies to motivate students from which lecturers should use as many as they can in order to reach as many students as possible:

1. Deliver the presentation with enthusiasm and energy. Passion for what one is doing is contagious.
2. Make the course personal. The lecturer becomes a role model for student interest and involvement.
3. Get to know the students. It helps the lecturer to tailor the material to students' concerns and inspires students' personal loyalty towards the lecturer.
4. Giving students some voice in determining what the course will cover make them feel more responsible for their learning.
5. Use examples and case studies freely. ("Don't just tell me, show me")

6. Use a variety of presentation methods to accommodate various learning styles.
7. Teach by discovery whenever possible.
8. Use various student-active teaching formats and methods (discussions, debates, press conferences, symposia, role playing, simulations, problem-based learning, the case method, writing exercises, etc.).
9. Use cooperative learning formats.
10. Make the material accessible by explaining in common language.
11. Stress conceptual understanding above rote memorization.
12. Set realistic performance goals and help students achieve them by encouraging them to set their own reasonable goals.
13. Design assignments that are appropriately challenging.
14. Place appropriate emphasis on testing and grading – should show students what they have mastered, not what they haven't.
15. Accentuate the positive – be free with praise and constructive in criticism.
16. Use humour where appropriate.
17. Foster good lines of communication in both directions.
18. Appeal to intrinsic motivators.

The successful lecturer is one who succeeds in getting the students to learn. All the activities and strategies the lecturer employs to enhance students' motivation (i.e. general strategies, incorporating instructional behaviours that motivate students, structuring the course to motivate students, de-emphasizing grades, motivating students by responding to their work and motivating students to do the reading) lead to students to achieve their full performance potential (Davies 1999; Lang, McBeath & Hébert 1995: 90–97).

7. CONCLUSION

There is a definite interrelationship between better education, better health, reduced fertility, improved nutrition and increased household income to result in accelerated economic growth (African Development Bank 1998: 122–126). Better education increases productivity and earnings, life expectancy and health, reduces the fertility rate and changes values about work and society. Better health leads to increased productivity, improved attendance of educational institutions and the ability to learn, reduces child mortality and increases life expectancy that can all lead to the end of the vicious poverty cycle. Reduced fertility rates enable households to invest more in education, health and nutrition as well as lowers population growth rates and maternal mortality rates while improving living standards. Improved nutrition increases productivity and health and simultaneously reduces mortality rates. Increased household income improves the standard of living and makes it possible to buy more education, health services and food. The interaction of all these factors may increase economic growth rates and improve the living standard of the poor.

Although tertiary education forms only a small part of the education system, it plays an important role in enhancing the performance of students from poor communities and together with better health and nutrition can improve living standards. Lecturers/teachers can play an important role in the process by using appropriate, innovative teaching practices, e.g. recognise and address diversity, use relevant examples and employ appropriate strategies to motivate students. It is important to keep in mind that the provision of better education alone does not necessarily lead to enhanced performance of students from poor communities. A balanced approach, including poverty relieve programmes, health policies and other social upliftment programmes, is required for sustained success in education.

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THE CHALLENGE FOR STUDENTS AND EDUCATIONAL INSTITUTIONS TO SUCCEED AGAINST ALL ODDS.

A SOUTH AFRICAN PERSPECTIVE⁴

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Abstract

In this paper the focus is on education within the interrelationship between better education, better health, reduced fertility, improved nutrition and increased household income to effect accelerated economic growth. In the first half of the paper the focus falls on flow through rates in the South African education system. The role that poverty plays in this regard is highlighted. In the second part of the paper the role that education can play to enhance the performance of students from poor communities is discussed. The provision of quality education to ensure that learners gain the most from education is specifically stressed.

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