

# The impact of raising students' risk awareness in Introductory Microeconomics

## A. M. Pretorius

School of Business and Economics  
Monash University, South Africa  
email: anmar.pretorius@buseco.monash.edu

## P. Prinsloo

Directorate: Curriculum and Learning Development  
University of South Africa  
email: prinsp@unisa.ac.za

## M. D. Uys

Department of Economics  
University of South Africa  
email: uysmd@unisa.ac.za

## Abstract

Higher education institutions, internationally and in the South African context, devise various strategies to address concerns regarding higher education's 'revolving door'. These strategies range from extensive testing prior to registration in order to establish students' deficiencies and place them on extended programmes (if necessary), to extra classes, tutorials and extensive (and often costly) student support programmes. This article reports on a pilot strategy to increase student success by making students aware of their risk of failure in the specific context of the module Introductory Microeconomics, offered on first-year level at the University of South Africa (Unisa). This is a *compulsory* module for a Bachelor of Commerce, Bachelor of Accountancy or Bachelor of Administration degree. Success or failure in Introductory Microeconomics directly impacts on the number of years students take to complete their degrees, and eventually on Unisa's throughput subsidy.

Students were invited to complete a short questionnaire in order to self-assess their risk profile. They were requested to return their final calculations, including an assessment of whether determining their risk profile had assisted them. Although the researchers found that some students miscalculated their scores, the research validated the ability of the questionnaire to distinguish between students with various probabilities of successfully completing the module. The majority of students indicated that completing the questionnaire assisted them in preparing for the examinations.

## INTRODUCTION

International discourses on determining (and addressing) factors that impact on student throughput and retention normally revolve around blaming the under-preparedness of students on shortcomings in the school system (e.g. Perry and Kennedy 2009), or, in the South African context, the political dispensation of apartheid, with its lasting impact on generations of students (e.g. Jones, Coetzee, Bailey and Wickham 2008; Kraak and Young 2001; Scott, Yeld and Hendry 2007). A number of models in the international domain explain student throughput and retention, for example Spady (1970), Tinto (1975, 1988, 2002), and the recent critiques of these models in Braxton (2000). In the distance education context, Kember (1989) provided a model that tries to take into account the specific complexities of understanding student success in distance education. Despite the value that is added to our understanding of the complexities underlying student throughput and retention, Spady (1970, 64) warned that although ‘no one theoretical model can hope to account for most (let alone all) of the variance in dropout rates either within or across institutions, we suggest how a variety of currently distinct approaches may be combined within the framework of a single design in order to treat several clusters of relevant variables simultaneously’. In 2006, Tinto stated that ‘most institutions have not yet been able to translate what we know about student retention into forms of action that have led to substantial gains in student persistence and graduation ... Leaving is not the mirror image of staying. Knowing why students leave does not tell us, at least not directly, why students persist’ (2006, 5 and 6). Although research regarding student throughput and retention has resulted in ‘an ever more sophisticated understanding of the complex web of events that shape student leaving and persistence’ (Tinto 2006, 1), the author bemoans the fact that an improved understanding of students’ leaving or persistence has not been translated ‘into forms of action that have led to substantial gains in student persistence and graduation’ (Tinto 2006, 5).

Most of the current conceptual models on student throughput are developed from *residential* North-American and European higher education settings. Although some research efforts and proposals are specifically dedicated to understanding student retention and throughput in the context of distance education, very little research and conceptual exploration have been done regarding the impact of the specific *African* context, on understanding student throughput and retention in an open and distance learning environment (Prinsloo 2009).

Student throughput and success have, furthermore, become highly political and economic issues. In the South African context, the National Plan for Higher Education in 2001 established benchmarks for graduation or throughput rates.

These were superseded in March 2007 by enrolment and output targets for all higher education institutions, which have to be attained by 2010 (Visser and Subotzky 2007, 3). The new Minister of Higher Education and Training, Blade Nzimande (2009), emphasised in a meeting with the board of Higher Education South Africa (HESA) the alignment of higher education – and specifically the curricula in higher education – with the developmental challenges facing South Africa. He pointed out the need for higher education curricula to ‘deepen transformation and enhance social cohesion’ (Nzimande 2009).

All the models on student retention and throughput highlight the role students' motivation and locus of control play in their success (see Pizzolato 2003, 2004). Students' motivation and locus of control are, however, embedded in a range of social, political, economic and environmental factors (see Rendón, Jalomo and Nora 2000; Tierney 2000) and the broader notion of social capital and its impact on student success (Bourdieu 1971, 1977; Bourdieu and Passeron 1990; Kuh and Love 2000).

In 2006, a Unisa study was undertaken to identify the characteristics of students at risk of failing (Pretorius, Prinsloo and Uys 2009). Based on this, and research conducted by Simpson (2003, 2004, 2006), a pilot questionnaire was developed which was sent to students in order to make them aware of their risk profile in the context of Introductory Microeconomics at Unisa. In this article, we firstly provide background information regarding throughput in the specific context of Unisa and in the teaching of Introductory Microeconomics at first-year level. The article proceeds with a literature review on the role of motivation and locus of control in the life of students. We then provide background regarding the research project and methodology used, before sharing and analysing the findings. The article concludes with a discussion of the results of the risk awareness intervention and possible future uses of such interventions.

## **BACKGROUND TO THE STUDY**

Unisa is an open and distance learning (ODL) higher education institution with approximately 260 000 students, who are geographically distributed throughout Africa and the rest of the world. In addressing the regulatory initiatives to improve throughput, the high number of repeaters at Unisa was identified as a key for strategic intervention (Visser and Subotzky 2007, 4). Visser and Subotzky (2007, 4) suggest that it ‘must be accepted that repetition is to some extent unavoidable. It is, however, problematic if the level of repeaters rises beyond an acceptable and sustainable threshold.’ Between 1998 and 2007, at Unisa an average of 14.6 per cent of students who were enrolled for a course, repeated a course – 10.9 per cent repeated a course once and the remaining 3.7 per cent repeated it more than

once. For undergraduate courses, 10.7 per cent (554 596) of the total number of students enrolled for a course repeated it once, 4.0 per cent (10 957) repeated it twice and 1.6 per cent (4 274) repeated it three or more times (Visser and Subotzky 2007, 4 and 5, 13).

Economics is offered as two modules at Unisa, namely ECS1016 (Microeconomics) and ECS1028 (Macroeconomics) – both at first-year level. Both modules are compulsory for everyone who has registered for a Bachelor of Commerce, Bachelor of Accountancy or Bachelor of Administration degree. Both modules are offered in two languages, namely Afrikaans and English. With over 27 000 registered students in 2006, failure in first-year Economics directly impacts on Unisa's throughput rate.

Contrary to registration requirements for Introductory Microeconomics at all other South African institutions of higher education, Mathematics at matriculation level is *not* a requirement at Unisa. It is true that changing the present registration requirements to include Mathematics at matriculation level will immediately impact on student throughput, *but* it will also exclude a great number of potential students. Also, Mathematics as 'the missing link' has not been previously established in a South African distance education setting. As Unisa is often the only higher education option for many South African students, the impact of such an intervention should be considered carefully. In light of a pass rate of less than 44 per cent in Introductory Microeconomics, this research was strategically and ethically crucial. Research that was conducted by Pretorius, Prinsloo and Uys (2009) showed that Mathematics at school level impacts on students' marks in Microeconomics, but is not a significant predictor of student success or failure.

## LITERATURE REVIEW

Motivation as a factor in determining students' locus of control and self-efficacy and its impact on their success has been explored by a number of authors, including Bandura (1997), Brown (1988), the Educational Policy Institute (2008), Haggis and Pouget (2002), Koen (2007), Pizzolato (2003, 2004), Robotham and Julian (2006) and Yorke (2004).

Bean's (1980) causal model of student attrition proposes student motivation and awareness of risk to be major contributors to student success. In his proposals for increasing student success, the development of students' motivation is a key suggestion. In research conducted by Morgan and Tam (1999, 99), four categories of persistence barriers were identified: (1) situational, (2) institutional, (3) dispositional and (4) epistemological. The researchers describe each of these categories as follows:

1. *Situational barriers* arise from a student's particular life circumstances (such as a changed employment situation, changed marital status or having a baby);
2. *Institutional barriers* are difficulties students experience with the institution (such as admission requirements, course pacing and limited support services);
3. *Dispositional barriers* are personal problems that impact on students' persistence behaviour (such as their attitudes, confidence, learning styles and motivation);
4. *Epistemological barriers* are impediments that are caused by disciplinary content or the relative perceived difficulty of that content.

Each of these barriers can impact on a student's motivation and his/her locus of control (Prinsloo 2009). An important aspect of the role of motivation and locus of control on students' success is the belief that students are not passive receivers of education, but active participants and agents who are situated in specific socioeconomic, political and personal circumstances (their *habitus*) which impact on, and are shaped by, their motivation and locus of control (Prinsloo 2009). Stage and Hossler (2000, 170–195) suggest that students are active agents in the process of making choices about either persisting in or cancelling their studies. Students are not 'passive recipients of experiences' (Stage and Hossler 2000, 172). These authors propose understanding and supporting students' self-efficacy as active agents in their making of choices. 'Self-efficacy is related to motivation in that if an individual believes he or she has the capability to perform a task and that performance will then lead to a positive result, the individual will be motivated to perform' (Bandura 1989, in Stage and Hossler 2000, 174). Self-efficacy is, furthermore, not linear and only progressive, but often spiral and cyclical (Stage and Hossler 2000, 175).

In the specific context of teaching Economics, Grimes (2002) investigated the role of confidence in students and its relation to success. He set out to investigate the possibility of 'predictive calibration', that is 'the ability and accuracy of students to predict their own academic performance' (Grimes 2002, 16). Metacognitive theory states that students' assessment of their own abilities in a specific discipline is based on past experiences (Grimes 2002, 20). Grimes found a direct correlation between students' confidence and their success. In another study, Simpson (2003, 17) reported on an initiative at Napier University, Scotland. In this initiative, students' risk profiles were established at registration in the form of a self-assessment questionnaire, which was shared with the students. The questionnaire required the students to assess themselves by means of eight questions, in order to self-determine their risk profile (Simpson 2003, 17–20). In assessing the success and cost of different interventions to increase student

success and retention, Simpson (2004, 93 and 94) claims that more research is needed, and that it is not clear how *many* interventions will turn around student success or who bears the responsibility for the interventions (and the cost). In a follow-up study, Simpson (2006) reported on the use of a questionnaire based on a predictive model. The possible impact of such self-assessment questionnaires can be found in the literature on self-authoring or autopoiesis.

*Autopoiesis* describes the process of ‘self-creation’ or ‘self-authoring’, as researched by Maturana and Varela (1980), Bandura (1997), Baxter Magolda (2001) and Pizzolato (2003, 2004, 2005). Autopoiesis is linked to attribution theory and research on individuals’ locus of control. Pizzolato (2005, 624) describes self-authorship as ‘a relatively enduring way of orienting oneself toward provocative situations that includes recognising the contextual nature of knowledge, and balancing this understanding with one’s own internally defined beliefs, goals and sense of self’. The process of authoring the self, according to Baxter Magolda (2001) and Pizzolato (2003), is often triggered by a ‘provocative experience’ that causes disequilibrium, dissonance or dislocation. This experience challenges students to reconsider and re-appropriate assumptions, beliefs, goals and identities. By naming their worlds and their identities, students and educators take responsibility for not only ‘mapping’ themselves against provided categories, but also for plotting their own trajectories of development and even questioning the provided categories. This act of mapping, plotting and questioning is, in its essence, an action of autopoiesis or self-authoring.

The questionnaire developed by Simpson (2003) can be seen as such an event – temporarily causing disequilibrium in students’ self-belief and resulting in a re-assessment of their actual abilities and chances of success. Pizzolato (2003, 803; 2005, 625) found that not *all* disequilibrium results in perspective change. Students either avoid coping with the disequilibrium or use a variety of individual and supported coping mechanisms (Pizzolato 2004, 433). Some students – after initially reflecting and re-appropriating beliefs, assumptions, goals and identity – return to their pre-disequilibrium beliefs, assumptions, goals and identity (Pizzolato 2004, 435). Answering questions in a self-administered questionnaire was, therefore, not a ‘fool-proof’ intervention, but was worthy of exploration. International literature seems to confirm that if students are made aware of their personal risks of failing, such a process of becoming aware of the risk might in fact be a ‘crossroads’, as envisaged by Pizzolato. In light of the huge number of repeaters at Unisa (specifically in first-level Economics), the current research, *as a pilot project*, set out to develop a ‘crossroads’ experience for students who registered for Microeconomics in the second semester of 2006. In a comparable research project in the context of teaching Financial Accounting

at first-year level, Prinsloo, Müller and Du Plessis (2009, 13) found 'an increase in the performance of these repeater students because of these students self-assessing their risk'.

## **METHODOLOGY**

A questionnaire (Appendix A) was developed on the basis of research conducted by Simpson (2003) and was piloted in a project in the teaching of Financial Accounting at Unisa in 2008 (Prinsloo, Müller and Du Plessis 2009). The questionnaire was in the format of a fill-in quiz that students had to complete on their own. Based on his/her answers, each student could then calculate his/her own score, which would give an indication of the student's potential to be successful in the forthcoming examination. The design of the questionnaire was based on an analysis of the results of 13 483 students who had either passed or failed the ECS1016 examination in May/June 2005 (see Pretorius et al. 2009). In the questionnaire, students were requested to start with an initial score of 30 and add specific values to it if they exhibited certain characteristics that would improve their chances of passing the module. The exact values that were used, were derived from the general trends observed in the 2005 data (Pretorius et al. 2009).

The final mark of the average student who had passed Mathematics in matric was 7 percentage points higher than his/her counterpart who did not offer matric Mathematics. The candidates with Mathematics were therefore instructed to add 7 to their initial score of 30. Students who had passed matric/grade 12 with a full matriculation exemption also obtained 7 percentage points more. Students who were younger than 26 years, on average, scored 3 percentage points more than those aged 26 years and older. The second-most important factor that contributed to success, was whether or not students studied in their home language. Students who did not study in their home language scored 8 percentage points less than those who enjoyed the privilege of studying in their home language. Students who were repeating the module were 6 percentage points worse off than students who registered for the first time. Our study revealed that the major indicator of success or failure is the number of assignments that are submitted during the semester: students who submitted all four assignments on average scored 13 percentage points more than the rest of the students. Submitting three assignments raised the average final mark by 5 percentage points.

Ethical approval to send out the questionnaire was provided by the head of the department.<sup>1</sup> The questionnaire was part of the tutorial letter (Unisa Tutorial Letter ECS1016/103/2/2006) sent to all registered students to provide them with examination information just before the October 2006 exams. Students

were invited to complete the questionnaire, calculate their ‘score’ and return the document to Unisa by post. The lecturers undertook to respond individually to each student who completed the questionnaire. The tutorial letter (Unisa Tutorial Letter ECS1016/103/2/2006, 27) also gave extensive guidance regarding the assistance Unisa offers at various reading and writing centres.

In addition to the questionnaire, students were asked to respond to two questions, namely:

**Question 1:** Did this questionnaire encourage you to prepare better for the coming examination?

**Question 2:** Would you have benefited more from this questionnaire if you received it earlier in the semester?

The respondents had the opportunity to post ‘further comments’.

In total 254 questionnaires were received; however, since not all of the respondents answered all the questions, the total number of respondents was adapted with each of the questions, to allow for the variation. With regard to the two extra questions and ‘further comments’, one of the researchers classified the students’ responses into categories, and these were verified independently by the other two researchers, who used a grounded theory approach (Glaser and Strauss 1967). Anomalies were discussed and consensus was reached.

The researchers first verified the information that the students provided regarding the number of assignments they had submitted, by comparing it to the university’s records. The next step was to verify the calculation of their scores. We acknowledge that the small percentage of questionnaires returned does not allow us to make generalised statements regarding the validity of the questionnaire in raising the risk awareness of students. The findings do, however, confirm the research done by Prinsloo, Müller and Du Plessis (2009) and provides a valid basis for future research validating the findings in a bigger sample.

We will now analyse and discuss the findings.

## **ANALYSIS AND DISCUSSION OF FINDINGS**

In total, 254 questionnaires were received back.<sup>2</sup> Males constituted 32.3 per cent (82 students) of the total number of respondents, and females 67.7 per cent (172 students). The racial profile of the students who responded is as follows: 63.8 per cent (162 students) black, 24.4 per cent (62 students) white, 3.9 per cent (10 students) coloured and 7.9 per cent (20 students) Asian. Students studying in their home language comprised 34.6 per cent (88) of the respondents, compared



to 65.4 per cent (166) of respondents who indicated that they were not studying in their home language.<sup>3</sup>

An alarming number of students provided incorrect information on the number of assignments they had submitted. In some cases where students gave the correct information, they did not calculate their scores correctly. Of the respondents, 58.3 per cent had an incorrect score. Table 1 gives a summary of the statistical characteristics of the two sets of scores. This raises serious concerns about the students' ability to complete such a questionnaire and at the same time calculate their own scores correctly. Although one would expect the students to inflate their scores to end up in a better category, some students also awarded themselves a lower score than what they actually had. According to Table 1, the average score students calculated was 60.74 per cent, while the verified scores averaged slightly lower at 59.41 per cent.

**Table 1:** Calculated student scores

	<b>Score provided by student</b>	<b>Verified score</b>
Mean	60.74	59.41
Median	61.00	59.00
Maximum	80.00	80.00
Minimum	35.00	35.00
Std. Dev.	9.59	9.80
Skewness	-0.083	0.070
Kurtosis	2.59	2.56

Table 2 compares the academic performance of the respondents with the performance of the entire group of registered students. On average, the respondents' year-marks were better than the class average. They also achieved a higher examination mark and pass rate compared to the rest of the class. This was not surprising, because the researchers expected the students who performed better to be more inclined to respond to the request in the tutorial letter (Unisa Tutorial Letter ECS1016/103/2/2006) to complete the questionnaire.

**Table 2:** The respondents versus the class

	<b>Respondents</b>	<b>Whole group</b>
Number of students	254	10 313
Pass rate October 06	30.31%	25.00%
Average final mark	42.67%	38.60%
Average year mark	47.66%	35.50%
Average paper mark	47.79%	39.36%

### Analysing the scores

A positive correlation of 0.40 was estimated between the respondents' verified scores and their final marks, indicating that students with a higher score performed better in the Microeconomics module. Although 0.40 may not be regarded as a very strong correlation, it is highly statistically significant, with a t-statistic of 6.57 and probability of 0.00. The next step was to classify the verified scores of the students according to three distinguished categories. The results are reported in Table 3.

**Table 3:** Categories of scores and final marks

	<b>Verified score</b>		
	<b>30-40</b>	<b>41-55</b>	<b>55+</b>
Number of respondents per group	4	82	163
Average final mark per group	32.25%	37.12%	45.84%

Only four of the 249 (1.6%) respondents had a verified score between 30 and 40, classifying them as being at risk, while 82 (32.9%) of the respondents fell into the middle category of between 41 and 55 (the borderline group). The majority of the respondents (65.5%) scored above 55, exhibiting characteristics that are usually associated with the successful completion of the module. The last row of Table 3 indicates the average final mark of the three categories of students. The group with a verified score of between 30 and 40 obtained an average final mark of 32.25 per cent. This group was identified as being at risk of failing, and it is therefore not surprising that their average final mark was the lowest of the three groups. The middle group, with verified scores ranging from 41 to 55, obtained an average final mark of 37.12 per cent. This is still low, but higher than that of the first group. The group with a verified score of above 55 was supposed to be the guaranteed successful candidates. Although their average final mark was

significantly higher than the other two groups, the students in this group, on average, did not pass the module.

Comparing the average final mark of the three distinguished categories indicates that our questionnaire was successful in discriminating between students of various levels of performance. Statistical analysis in the form of an analysis of variance confirms that there is a significant difference in the final marks obtained by the students in the three different categories. The variance between the categories was estimated at 2333.64 and the variance within the categories at 243.58, resulting in an estimated F ratio of 9.58 which indicates that the means (average final marks) of the three categories differ significantly at a 0.0001 level of significance.

Our questionnaire and the initial boundaries of the three categories did, however, tend to overestimate the students' probability to pass the module. This was partly expected, since we did not want to discourage students. (We would rather encourage borderline students by telling them they still have a chance to be successful, instead of discouraging them by telling them directly that they are at risk.) In an attempt to address the abovementioned shortcoming, the respondents were regrouped according to their final marks. The average verified score per group was calculated, and is reported in Table 4.

**Table 4:** Verified scores according to final mark

	Final mark		
	<50 (0-45%)	50-68%	≥75%
Verified score per group	57.05	64.41	67.18

The average score of the respondents who completed the questionnaire and failed the module was 57.05. In comparison, the respondents who passed the module without obtaining a distinction had an average verified score of 64.41. The average verified score of the respondents who passed the module with a distinction was 67.18. The information in Table 4 therefore suggests that it would be better to use the three categories to distinguish between the three groups, if the scores were adjusted to 30–55 for at-risk students; 56–64 for students who would pass, and 65+ for above-average students. Repeating the analysis of variance exercise on the three categories with the newly suggested boundaries resulted in a 'variance between' of 4322.41, a 'variance within' of 227.39 and a resulting F ratio of 19.01. The variance between and the resulting F ratio have roughly doubled, compared to calculations based on the initial boundaries. This indicates

that the newly proposed boundaries are significantly better in discriminating between students of various levels of performance.

Students' responses to the two additional questions and their further comments were coded and analysed. Although the answers were either positive or negative, many students provided reasons for their answers and this offered the researchers the possibility of classifying the responses into three main themes. Table 5 shows the responses to the first two questions.

**Table 5:** Responses to questions

	<b>Question 1</b>	<b>Question 2</b>
Yes	196 (77.8%)	180 (71.7%)
No	56 (22.2%)	71 (28.3%)
Total respondents	252	251

Table 5 indicates that 77.8 per cent of the respondents felt that the questionnaire encouraged them. The majority of the respondents also felt that the questionnaire should have reached them earlier in the semester. Some of the further comments (see appendix B for a complete list) confirm this view.

In terms of question 1, four students responded negatively, stating that they had received the questionnaire only after the examination or only took notice of the questionnaire after the examination.

Two main themes were identified from the open-ended questions. The first was one of *encouragement*. Students felt that the questionnaire had built their confidence before the examination. Their scores indicated to them that they had the potential and capacity to pass. They felt 'empowered'. One student responded by saying: *Thanks for sending me these questionnaires. You have opened my eyes in a positive way. From now on, I will work hard in all my studies.* Another student indicated that (s)he could now concentrate on working towards a distinction since (s)he knows that (s)he will be successful. Another student wrote: *I think this questionnaire good because they build self esteem and build my spirit of studying.* Of the 22 students who posted further comments, eight specifically commented that the questionnaire showed them that the lecturers cared and that they were encouraged by this gesture. One student remarked: *It is beneficial to receive questionnaires and feedback because it gives contact between the student and university, which is great because its long distance education.*

The next theme was one of taking *responsibility for one's own studies*. The students realised that they had to work harder, because they had been identified as being at risk of failing. Their weaknesses had been identified. One student wrote: *Thanks to you this form helped me, to fix things in advance.* Another student

indicated that the questionnaire could encourage students to submit all their assignments. Yet another student indicated that (s)he could relax now because (s) he knew (s)he would pass.

Although it does not fall into any general theme, one final individual comment is worth mentioning. One student wrote that the questionnaire made him/her aware of the difficulties faced by students who do not study in their home language.

## CONCLUSIONS

Despite the small number of returned questionnaires, this research confirms the findings of research done by Prinsloo, Müller and Du Plessis (2009), that the questionnaire *can* contribute to students' awareness of their risk in failing the module. Although the sample is too small to make generalised statements, this research (and that by Prinsloo, Müller and Du Plessis 2009) point to a need to validate the findings in a bigger study.

Previous research found a positive correlation between raising students' awareness of their risk profiles and their success (see Prinsloo, Müller and Du Plessis 2009; Simpson 2003, 2006). This pilot study confirmed that students experienced the questionnaire as a 'cross-roads experience' (as proposed by Pizzolato 2003, 2004, 2005) and that there is a positive correlation between the results of the questionnaire and the various probabilities of successfully completing the module. Taking into account that student success (especially in a distance education setting) is a complex and multi-layered phenomenon, this research confirms the potential of raising students' risk awareness as a valid and low-cost intervention.

However, this research also pointed out the somewhat disconcerting fact that students' ability to complete and calculate their own scores is an assumption that should be questioned. We found that students not only miscalculated their scores, but also misrepresented their own situations – something which would have impacted on the ability of the questionnaire to raise their awareness of their own risks of failing.<sup>4</sup> Despite this, the evidence does validate the questionnaire's use in raising risk awareness in students, and shows a positive correlation between students' risk categories and their final results. This pilot study's use of a questionnaire in two different academic settings at Unisa (Financial Accounting and Microeconomics) has shown the potential of roll-out in a full-scale intervention in these contexts, as planned for 2010 in Financial Accounting.

## NOTES

1. At the time of this research, Unisa's Ethics in Research policy was still being developed and the researchers therefore requested permission from the Department of Economics to send out the questionnaire and report on the findings.
2. Although the sample comprised 254 students, the examination marks of five students could not be confirmed due to outstanding fees, which meant their results were being withheld.
3. The researchers acknowledge that these percentages necessitate further investigation and it is envisaged to form part of a follow-up research project.
4. In the future use of the questionnaire, additional information will be provided to students, highlighting the findings of this research that found that students misrepresented their scores and therefore compromised their ability to really establish their own risk profile.

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**APPENDIX A** (extract from Unisa Tutorial Letter ECS1016/103/2/2006)

The following is designed to give you an indication of your potential success during the upcoming ECS101-6 examination. Start with a count of 30 and then add the indicated values if the conditions apply to you.

		Initial score: 30
1.	If you passed Mathematics in matric/grade 12, <b>add 7.</b>	Revised score: ....
2.	If you passed matric/grade 12 with a full matriculation exemption, <b>add 7.</b>	Revised score: ....
3.	If you are younger than 26, <b>add 3.</b>	Revised score: ....
4.	If you are studying in your home language, <b>add 8.</b>	Revised score: ....
5.	If you are registered for ECS101-6 for the first time and are not repeating the module, <b>add 6.</b>	Revised score: ....
6.	If you have submitted three assignments, <b>add 5.</b> If you have submitted all four assignments, <b>add 13.</b>	Revised score: ....
7.	If you are registered to write no other module during the coming exam, <b>add 2.</b> If you are registered to write four other modules during the coming exam, <b>add 2.</b> If you are registered to write five or six other modules during the coming exam, <b>add 6.</b>	Revised score: ....
		Final score: ....

**What your score means**

The above questionnaire is based on an analysis of the results of the 13 483 students who either passed or failed the ECS1016 examination in May/June 2005. The exact values that were used were derived from the general trends that were observed in the data. In short, this means that the final mark of the average student who did pass Mathematics in matric was 7 percentage points higher than his/her counterpart who did not have matric Mathematics. Those students who passed matric/grade 12 with a full matriculation exemption also obtained 7 percentage points more. Students who were younger than 26 years on average scored 3 percentage points more than students who were 26 years and older. The second most important contributing factor is whether or not you study in your home language. Students who did not study in their home language got 8 percentage points less than those who enjoyed the privilege of

studying in their home language. Students who were repeating the module were 6 percentage points worse off than students who registered for the first time. Our study revealed that the major predictor of success or failure is the number of assignments that are submitted during the semester. Students who submitted all four assignments on average scored 13 percentage points more than the rest of the students. Submitting three assignments raised the average final mark with 5 percentage points. It is therefore of the utmost importance that you work through your study material and submit your assignments on time. In this way, you will cover the content in time and have enough time to prepare for the examination.

### **30–40**

For a variety of reasons, some students find studying through distance education more challenging than others. If you scored less than 41, you are probably one of them. This does not mean that you will not pass ECS101-6, but it does indicate that the hurdles that you face might be a bit higher for you than for other students.

Look at the questionnaire to identify the areas where you did not score any points. Are there any that you can change? For example, if you did not submit all four assignments before the due date, work through them now and compare your answers with those in TL ECS1016/103/2/2006. If you are not studying in your home language, try to improve your reading and writing skills.

Good luck and remember that if you really want to succeed, you will!

### **41–55**

If your score is 41–55, you already have many of the characteristics of successful students and you are doing the things that predict success in this module. You might, however, still find studying a bit challenging.

Look at the questionnaire to identify the areas where you did not score any points. Are there any that you can change? For example, if you did not submit all four assignments before the due date, work through them now and compare your answers with those in TL ECS1016/103/2/2006. If you are not studying in your home language, try to improve your reading and writing skills.

Good luck and remember that if you really want to succeed, you will!

### **55 and more**

It appears that you have a sound foundation for a successful academic year. Just remember that a high score alone does not guarantee success. So do not take things too easy up until the examination!

## APPENDIX B

### Q1: Did this questionnaire encourage you to prepare better for the coming examination?

#### Question 1: Comments

'I only noticed it after writing the exam.'

'It helped based on the total score that I have scored that I can do it in this course.'

'It came so late for me to prepare for the exam.'

'I haven't study Economics even in Secondary School level so the questionnaire helped lot.'

'Did not read the questionnaire on time.'

'It reminds me of the fact that more efforts must be focused on part of work that I don't know.'

'At least I saw some challenges in order too (sic) better understand the Economics.'

'Very useful and can guide you in the right direction.'

'Hard working is a good result in Education. It would encourage (sic) me to study hard so that I can get good results.'

'Because it encourages me to study very hard and prepare for the examination.'

'Because the more hard I work the more I will score and this shows me that I must away be updated.'

'Ek het ongelukkig te laat begin met my studies. My tyd was beperk.'

'This questionnaire has encouraged me but it would be better if it was also given in the 1<sup>st</sup> semester.'

'It reminded me that I have a lot of responsibility.'

'It is very helpful to know your potential.'

'We really need more of these questionnaires especially us who will continue with Economics studies.'

'It makes the students feel as if they have the capability to pass this exam.'

'I think it shows the position we are on and makes us decide whether we want to maintain or progress our position.'

‘Because I don’t want to repeat ECS1016, and it encourages me to give myself more time to do my work.’

‘Because, now that I know I am going to pass, all I am studying for is a distinction.’

‘Knowing the score one received and what it means is really an encouragement to work harder for the exam.’

‘This questionnaire can encourage me to work harder and improve my results.’

‘Die verduideliking oor wat die eindtelling beteken het my gemotiveer, die eindtelling is ‘n goeie teken van wat moontlik is. Dit is ook ‘n aansporing om harder te swat sodat ek dalk ‘n hoër telling/slaagsyfer kan kry.’

‘It made me realize that I have to work harder, to succeed in this module.’

‘I am encouraged and committed to my studies for success and I know I can be successful.’

‘It helps me to find point of improvement.’

‘It really encouraged me because I was now panicking, seeing this message I knew I could do it well.’

‘It is a valuable tool that the Department offer (sic) their learners; keep it up.’

‘It make (sic) me believe I can do better.’

‘Gave me much needed encouragement to believe in my ability.’

‘It helps me to identify my strength and weaknesses.’

‘I will improve myself in my studies in order to obtain better marks for examination.’

‘It was like a challenge. I felt looking forward to write exams as of now.’

‘I saw the need to put in more effort in the work I was doing.’

‘Dit het my positief laat voel oor my kanse om te slaag.’

‘Soms het ‘n mens net iets soos dit nodig om bietjie meer selfvertroue te kry.’

‘Because I’ve realised where I’m standing and I know my strength and weaknes (sic).’

‘Because my final score is not bad, I have to work harder for distinction.’

‘It made me realise that I had to put more effort in in order to be successful in the exam.’

'Because now I'm seriously when see this questionnaire. Before this question (sic) I was not serious.'

'Yes it did because I got lot from it and it empower (sic) me.'

'This questionnaire has helped me realize that if I persist in this module I can achieve more.'

'Because it helps me to manage my studies efficiently and work hard.'

'It showed me there is still hope after repeating this module.'

'I wouldn't say it encouraged me to prepare better but it just showed me what my chances are of passing, not that it's a guarantee.'

'Ja, dit is altyd goed om jouself volgens 'n puntstelsel te meet en te kan weet of daar kans is vir verbetering.'

'The recognition of my participation boost (sic) the morale of learning.'

'I have been able to find my challenges.'

'It boosted my self-esteem, it helped to know that I have accumulated some competencies which could be of value in preparing for the Economics exam.'

'Het gedink aan ander mense wat in moeiliker situasies is' (bv. Nie in moedertaal studeer nie, ens.)

'Dit het my nie regtig aangemoedig nie, want dit was duidelik dat ek reeds my bes gedoen het; dit het my wel verseker.'

'They have proved that I have the potential I can do better this time around.'

'It raises my confidence levels.'

'The small score made me to study very hard.'

'Hierdie vraelys het my weereens besef dat ek tot enige iets in staat is, solank ek gefokus is op my werk.'

'It gave me hope that although I don't have an economics background, but I will pass it if I give myself time to study.'

'It gave me confidence to engage in exam.'

'They helped me to start looking at myself and feel free to identify my problems and to approach others for help.'

'Because now I know where I stand if am (sic) not study hard there is a possibility to failure.'

‘The part «what your score means» gives me the confidence to write this paper.’

‘It did encourage me and I’ve hope that I will made (sic) it in the coming examination.’

‘I once thought of giving up, but this «high score» made me realise that I can make it at the end.’

‘Questionnaire has given me confidence and a positive attitude towards the October Exam (sic).’

‘It helped me see that I have a chance to pass economics.’

**Q2: Would you have benefited more from this questionnaire if you received it earlier in the semester?**

Question 2: Comments

‘It would have helped me improve the methods I used to prepare for the examination.’

‘It would have helped me to improve my reading and writing skills and do better.’

‘I concentrated much on textbook then I should have done in study guide as the main work.’

‘Yes because it makes my mind very broad.’

‘It is always better to get them earlier to prepare better.’

‘It is the first time studying with Unisa it was going to show me how to prepare myself.’

‘Ek dink dalk so, dan kan ek dalk vroeër daai inspirasie gekry het.’

‘Because it is encouraging it makes you want to improve your work and study time.’

‘Receiving the questionnaire earlier would have encouraged more students to submit all assignments on time.’

‘Ek sou harder kon werk aan my opdragte en beter gevaar het.’

‘I would have put more effort early enough.’

‘It gives a lot of encouragement especially in the areas where you note that you have to give attention to every detail.’

‘I would have pulled-up my socks earlier.’

'I would have known in time in terms of knowing what to improve and put more time on the challenge.'

'No. because it was going to make me relax hoping that I have a better chance to pass.' (Anmar/Paul, dit is weer die ander kant van die saak....)

'It would have helped me to concentrate on my weak points, and try to change by allocating more time for my studies.'

'Partykeer het elkeen van ons 'n hupstoot in die regte rigting nodig en ek dink dat die vraelys my "hupstoot" was.'

'I would have pushed in more work and done the 4<sup>th</sup> assignment.'

#### Further comments

'Thanks for an interesting subject.'

'So in future please do send this questionnaire in due 'course' or season before it is too late.'

'I found this module of ECS101-6 stimulating and enjoyable. Definitely intend registering for ECS102-8, if I pass this one of course. Thank you.'

'I don't think this questionnaire is such a good idea...but it depends on each recipient. If I had have scored a low score, it might have discouraged me a lot. People are not the same.'

'Dankie vir al die ondersteuning.'

'It would be highly appreciated and encouraging if it can have maybe 2% on examination. In that way it can encourage us (students) to complete it.'

'Ek is bly dat die dosente die vraelys bekend gemaak het, want dit gee die student die gemoedsrus dat die dosente regtig belangstel in jou studies.'

'Thanks for sending me these questionnaires. You have opened my eyes in a positive way. From now on, I will work hard in all my studies.'

'Hierdie vraelys is regtig iets wat my laat besef het ek kan sukses behaal, want baie dae het ek moedeloos geword. Dit het my in myself laat glo. Baie dankie.'

'Thanks to you this form helped me, to fix things in advance.'

'I was encouraged and motivated to study hard.'

'I think this questionnaire good (sic) because they build self esteem and build my spirit of studying.'

'It will have given me more courage to study harder and pass well in my studies.'

‘I think this is a very good idea. Please keep it up.’

‘Being aware that every students (sic) is being taken note of builds up confidence to one.’

‘Thanks for the encouragement.’

‘Ek persoonlik sien hierdie vraelys as ‘n aanmoediging vir enige module.’

‘I like the fact that you continually encourage us to practice and study. It’s good to know you’re on our side. You really care.’

‘It is beneficial to receive questionnaires (sic) and feedback because it gives contact between the student and university, which is great because its long distance education.’