



This is the author-approved manuscript version of a journal article published in:

Davidowitz, B. & Schreiber, B. 2008. Facilitating adjustment to higher education: towards enhancing academic functioning in an academic development programme. *South African Journal of Higher Education*. 22(1): 191-206. DOI: 10.4314/sajhe.v22i1.25781.

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Facilitating adjustment to higher education: Towards enhancing academic functioning in an Academic Development Programme

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Abstract

Several studies have emphasised the importance of addressing social and emotional factors in facilitating adjustment to tertiary education. This article describes the Skills for Success in Science programme at the University of Cape Town. The broad aims were life skills development and improved adjustment which are assumed to underpin academic performance. Weekly small group sessions were held which addressed several areas, namely adjustment, group work and co-operative learning, coping and stress management, resources on campus, assertiveness and communications, time management, study skills and examination competence. The intervention was experiential and participative, and while not compulsory, attendance was very good. Evaluation via self-report questionnaires using standardised psychological scales as well as focus groups provided positive feedback from students who described it as a 'must' for all first year science students. The article supports the notion that student development should be located within their daily experience at universities.

INTRODUCTION

The educational dispensation generated by the changes post 1994 has given impetus to the notions of retention and efficiency. It is widely recognised that 'underlying factors' (NPHE 2001 Executive Summary 3, 2) contribute to retention

and efficiency rates and that these include affective factors. As Hay and Marais (2004) point out, there is an educational back log of 'millions of school leavers who are not adequately prepared for higher education'. Being ill-prepared for the higher education (HE) environment affects graduation rates which are indicators of institutional efficacy (NPHE 2001). The deleterious effects of the previous DET may still exist in historically disadvantaged schools and render students under-prepared for the demands of the HE environment (Huysamen 2000; Sennett, Finchilescu, Gibson and Strauss 2003).

Historically white universities need to review their practices in order to address issues around access, retention and efficiency. As the National Commission of Higher Education (NCHE) Report, A Framework for Transformation, (1996, 32) highlighted, the admission and throughput rates were significantly different for historically white and black institutions. In addition, these issues were different for different faculties: the spotlight for increased output is on the natural sciences, engineering and the health sciences.

Urged by the imperatives of the Department of Education, South African Higher Education institutions seek to address retention and efficiency by adding on extra academic development and life skills programmes to their campus life.¹ The approaches vary in content, aim, outcomes and positioning across structures within universities. Approaches which broadly focus on psycho-social and affective factors include mentoring programmes, skills development programmes, orientation programmes, etcetera, while programmes focussing on more cognitive and academic factors include access, bridging, foundation and extended programmes, amongst others. Inherent in the philosophy of 'bridging the gap' is the understanding that under-preparedness is temporary and remedied by appropriate intervention.

While the add-on student development programmes allow for very specific skills development, some of the philosophy is criticised for further fragmenting students' experiences of the HE environment. Instead of promoting integration of experience, they run the risk that the skills that are taught are only poorly connected to the students' actual academic experience. Add-on skills development programmes may simply maintain the essential status quo of the institution while the fundamental nature of the institution is not challenged. As Tinto (1997) points out, the discourse on retention is largely located in the students' realm and de-emphasises the role the educational context plays in promoting retention and efficiency. Add-on programmes, focusing mainly on the 'at risk' or 'identified' groups of students further increase the pressure on these students to assimilate to an environment which might in itself be problematic.

This study attempts to contribute to the increasing body of research which critically and empirically investigates the relationship between affective factors

and academic performance, including retention and efficiency rates. Several studies (Case 2007; Honikman 1982; Klagsbrun 1992; Sennett et al. 2003; Woosley 2003) have emphasised the importance of addressing social and emotional factors in facilitating adjustment to the tertiary environment. Baker and Siryk (1989), Malefo (2000), Sennett et al. (2003), and Woosley (2003) highlight the critical role that initial adjustment plays in setting the framework for subsequent success at the tertiary institution. Poor adjustment on various levels might precipitate poor functioning in academic, social and personal activities. Several authors (Honikman 1982; Sennett et al. 2003; Woosley 2003) agree that improved adjustment facilitates overall functioning and that interventions aimed at adjustment, psycho-social functioning and affective improvement need to occur early in the academic career.

Tinto (1997) locates the conditions which promote retention not exclusively within the student but shifts the focus towards the relationship that the student has with the institution. The cooperative involvement with other learners, the active engagement with staff and the integrated application of relevant skills seem to foster attachment to university which increases retention and improves efficiency. He speaks of learning communities and collaborative shared learning experiences where students require engagement with peers and staff to facilitate commitment to the university. Other studies (Bean 1985; Davis and Murrell 1993; Granger 2002) have underscored the importance of social and academic integration as determinants of attrition and are in agreement with the importance of person-environment fit in contributing to retention.

This emphasis on the students' relationship to the institution is also mirrored in the work by Mann (2001) as highlighted by Case (2007). The idea of disconnection and feeling separate from the context seems to feature increasingly in the literature on students' experience. The tenuous nature of the relationship to the HE context increases the fragile attachment prevailing at the beginning of the campus experience. Furthermore Case (2007), Jansen (2004) and Sennett et al. (2003) have highlighted the sense of alienation some groups of students experience in adjusting to HE. There is an emotional void in which some students might find themselves by belonging neither to the context of origin nor to the new context of HE, which is experienced, at best, as a newly acquired pseudo home with which they try to assimilate at a considerable personal price. The educational theories of Tinto (1997) and Bean (1985), in addition to the theories on person-environment fit, underscore the issues on alienation in that they highlight integration into the HE context as one of the predictors of student success and retention.

This article will evaluate what is broadly termed a 'life skills development' programme. The programme rests on the premise that the capacity for life skills, adjustment, coping, managing stress and personal development constitute affective,

and thus 'underlying factors', which can significantly impact on efficiency rates at HE institutions. In particular, the affective factors the programme aims to develop are: improved adjustment to the tertiary environment, improved ability to cope and manage stress and academic workload, and social and personal development. The programme rests on the assumption that these factors contribute indirectly to the overall academic functioning of students.

THE INTERVENTION: SKILLS FOR SUCCESS IN SCIENCE, S³

The Skills for Success in Science programme, S₃, is an intervention with first year students enrolled in the General Entry for Programme in Science, GEPS, which is part of the Academic Development Programmes at the University of Cape Town (UCT). GEPS is a Foundation Programme designed for students identified by the institution as being from educationally disadvantaged backgrounds and provides an alternative, one year access route for students registering for the BSc degree. It offers a curriculum that attempts to take account of poor preparation at school, particularly in Mathematics and Science, as well as the fact that the majority of the target group of students do not speak English as their first language. The aim, over the year, is to identify, select and prepare students with the potential to succeed in one of the Programmes in the Science Faculty. Courses in the GEPS programme have the same contact time as full year mainstream courses. Their aim is two-fold, namely to cover about half of the content of the first year curriculum while at the same time building a deep understanding of the concepts through the inclusion of aspects of the particular discipline which are key to both understanding the nature of that discipline and engaging with it at higher levels. Students are encouraged to understand concepts rather than depending on rote learning, a strategy which is prevalent at secondary level. The minimum time for a GEPS student to complete the B.Sc. degree is, therefore, four years.

The Skills for Success intervention is infused into the GEPS curriculum. According to Wood and Lithauer (2005) students who perform successfully in Foundation Programmes tend to perform better in later degree studies than directly admitted students with similar academic profiles. Our Skills for Success in Science Programme aims to contribute to GEPS in a way similar to other programmes at the Nelson Mandela Metropolitan University (Wood and Lithauer 2005) and at the University of the Free State (Hay and Marais 2004). The examples at other universities in SA also rely on the assumption that improved self-concept, self-management skills and communication skills, and improved support systems foster social and emotional wellbeing, enabling students to engage successfully with university life and their academic demands (Hay and Marais 2004; Wood and Lithauer 2005).

The intervention is based on the notion that group work has the potential to enhance students' learning (Van Rheede van Oudthoorn and Hay 2004). The study by Gatfield, cited in Van Rheede van Oudtshoorn et al. (2004), demonstrated that group based interventions generated higher grades for students compared with those based on individual and formal teaching situations of the control group. The interactive, participative learning process tends to contribute to the improved engagement with fellow students, the academic material and the institutions as a whole.

Weekly small group sessions with about 20 students per group over the first semester in 2005 were conducted by psychologists who were contracted for this programme. Skills in the following areas were developed: adjustment, group work and co-operative learning, coping and stress management, resources on campus, assertiveness and communications, time management, study skills and examination competence. The process of the interventions was experiential and participative, while containing didactic aspects. The themes were introduced using worksheets, exercises, or paired discussions and psycho-educational information was shared. Students were encouraged to share their experiences, their opinions and any concerns they had, to present problems and ideas and find shared solutions using role plays to develop certain behavioural repertoires and generally make the material as relevant as possible to their current lives.

AIM OF THE STUDY

Adjustment to university is conceptualised as a multidimensional concept that encompasses four different aspects: personal-emotional, social and academic adjustment, and institutional attachment. It is proposed that adjustment to university is mediated by assisting students in developing necessary life skills, increasing their self-esteem and motivation, reducing their stress levels, and developing the students' sense of belonging at UCT. The S₃ programme is represented in Figure 1.

The aim of this research was to evaluate the efficacy of the S₃ programme in facilitating the personal and academic adjustment of the GEPS students to UCT.

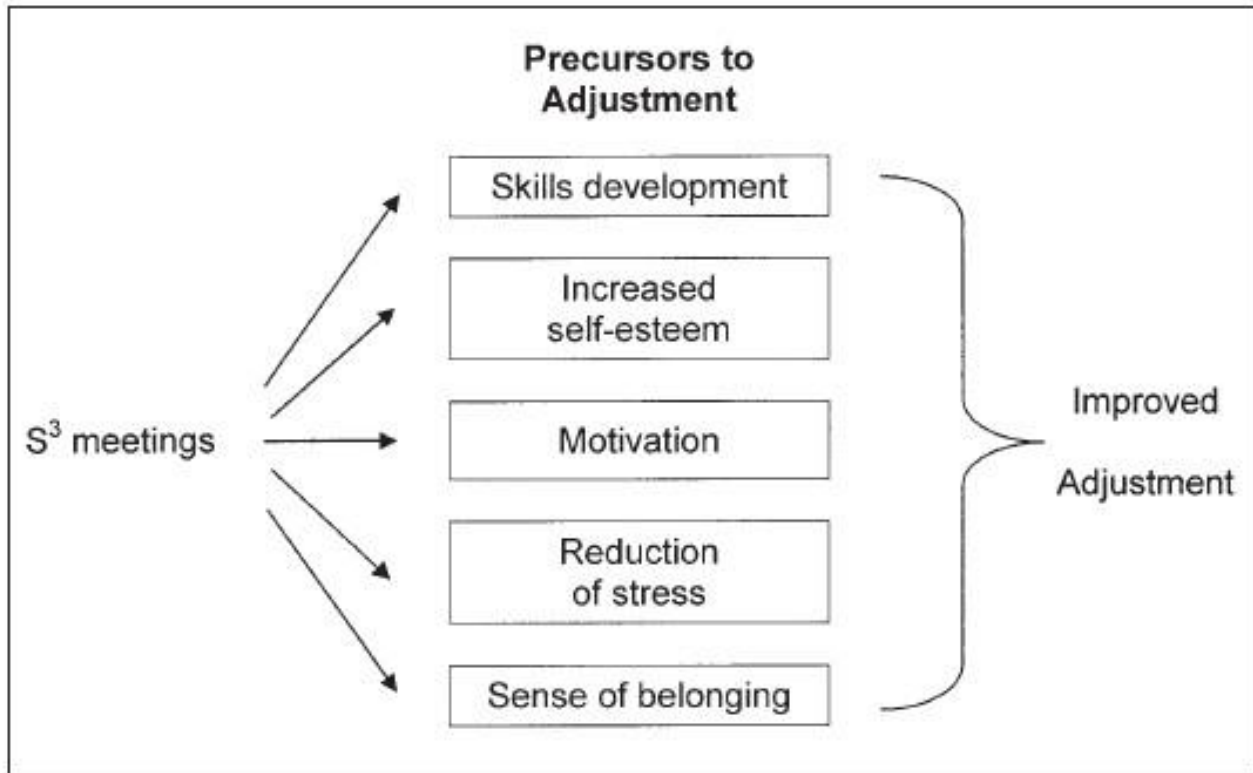


Figure 1. The conceptual outline of the S₃ programme

METHODOLOGY

Data was collected using self-report questionnaires and focus group discussions. Data from the self-report questionnaires was analysed using t-tests and Analysis of Variance, while the discussions from the focus groups were analysed using thematic content analysis. In order to ensure impartiality, an independent researcher was used to perform the evaluation, to administer the questionnaire, to gather and carry out the statistical analysis of the data. She conducted the focus group discussions and analysed the themes emerging from the content. This researcher had previously worked in academic development programmes in the HE sector and was thus versed in the issues and sensitive to the themes.

SAMPLE

The sample consisted of first year students enrolled in the General Entry Programme for Science in the Faculty of Science at UCT in 2005 (N=119). Of this cohort,

93 completed the questionnaires at the end of the programme. The mean age of the group was 19 years (range 17–41 years). We had slightly more males (58%) than females (42%) and most (94%) of our group were South African. Almost three quarter described themselves as black₂ (73%), while twenty per cent (20%) described themselves as coloured, two per cent (2%) as Indian and one per cent (1%) as white. Over two thirds (67%) indicated that their first language was an African language and 28 per cent indicated that English was their first language. The students were invited to join the evaluation, the purpose of which was explained and their anonymity ensured.

INSTRUMENTS

The following psychological scales commonly used as assessment tools in psychological practice were used:

1. Adjustment

The Student Adaptation to College Questionnaire, SACQ (Baker and Siryk 1989) is a 67-item self-report questionnaire assessing student adjustment and conceptualises it as multidimensional, identifying four different aspects: academic, social and personal-emotional adjustment and institutional attachment. The alpha coefficient for the full scale ranged from 0.92 to 0.95 (Baker and Syrik 1989). The standardised mean of 50 is particularly relevant to US-compatible samples but less so for different populations, although the SACQ has been used in various cross-cultural settings in South Africa (Sennett et al. 2003). Hence, comparison between subscales is more valuable than absolute values in this research context.

2. Academic motivation

The instrument was an adaptation of a scale used by Muller and Louw (2004), who explored the relationship between students' motivation and the academic environment. This is based on self-determination theory and constructs motivation as multi-dimensional, using 5 sub-scales: Amotivation, Intrinsic Motivation, and Extrinsic Motivation (consisting of 3 sub-scales, Extrinsic Regulation, Identified Regulation, Introjected Regulation). The alpha coefficient is reported to lie between 0.60 and 0.85 (Muller and Louw 2004). While this is low, the authors suggest that this is sufficient for group analysis. This test uses a 5-point Likert scale and is standardised to the SA population.

3. Academic overload

This 5-item psychological scale by Muller and Louw (2004) assesses the experience of academic workload and uses a 5-point Likert scale. It is based on the constructivist learning perspective and measures the match of requirements between student and academic context. The reported reliability coefficient is 0.84 (Muller and Louw 2004) and it is standardised to the SA population.

4. Perceived stress

The Perceived Stress Scale (PSS) proposed by Cohen, Kamarck and Mermelstein (1983) assesses the perception of stress. It is a 14-item self-report psychological scale designed to measure the extent to which the respondents 'found their lives unpredictable, uncontrollable, and overloading' (Cohen et al. 1983, 387). The alpha coefficient is reported to lie between 0.83 and 0.87, the scores range between 14 and 70, and this test has been widely used in SA.

5. Self-esteem

The Rosenberg Self-Esteem Scale (Rosenberg 1979) uses 10 items to assess global self-esteem, including depressed affect, anxiety and peer appraisal. The reported reliability coefficient is 0.67 to 0.88 (Rosenberg 1979). It uses a 1-4 point Likert scale and has been widely used in SA.

FOCUS GROUP DISCUSSIONS

The aim of the focus group discussion was to obtain feedback from the students about the S₃ programme. Two focus group discussions were held at the end of the first semester of 2005. Seven participants took part (5 male and 2 female; 5 students identified themselves as Black, 1 as Coloured and 1 as Asian). This is a small group probably due to the focus group discussions being scheduled close to the mid-year examinations which created significant time constraints for students. Thematic content analysis was done illuminating emerging themes. Students were asked to speak about their experience of being a first year student at UCT, the main stressors they faced and how the S₃ programme had or had not helped them to deal with the stressors. They were asked to discuss the possible skills they developed through their participation in the programme and what recommendations they might have for future programmes of this kind. Thematic content analysis was used to analyse the data.

FINDINGS

While the S₃ programme was not compulsory, students were strongly encouraged to participate and the overall attendance rate was over 80 per cent despite some sessions being held during the first lecture period of the day.

RESULTS OF SELF-REPORT QUESTIONNAIRES

The results in Tables 1 to 5 are summaries of the data from the self-report questionnaires.

Table 1: Student adaptation to college questionnaire (Adjustment measure)

T-Scores	N	Mean	(Std dev)
Full Scale SACQ	89	45.53	(8.896)
Sub-scale: Academic	87	46.67	(9.228)
Sub-scale: Social	90	46.69	(8.173)
Sub-scale: Personal/Emotional	91	42.98	(9.480)
Sub-scale: Institutional Attachment	90	51.20	(7.632)

(Standardised mean of 50).

The results illustrate the below average adjustment for the full scale and for all the SACQ sub-scales (except Institutional Attachment), indicating a low level of self-reported adjustment to UCT.

Table 2: Academic motivation

	N	Mean	(Std dev)
Amotivation	93	11.97	(2.53)
Intrinsic Motivation	93	18.98	(3.60)
Extrinsic Motivation	92	7.54	(2.00)
Identified Regulation	93	13.56	(2.26)
Introjected Regulation	92	13.82	(3.83)

The results show a low level of Amotivation and Extrinsic Motivation, and a high level of Intrinsic Motivation, Identified Regulation and Introjected Regulation. Weighted values (to account for missing data) were used: Amotivation: min=3, max=15, inverse scale: a high score indicates low levels of amotivation. Intrinsic Motivation: min=5, max=25. Extrinsic Motivation: min=2, max=10, inverse scale: a

high score indicates low level of extrinsic motivation. Identified regulation: min=3, max=15. Introjected Regulation: min=4, max=20.

Table 3: Academic overload

	N	Mean	(Std dev)
Overload	93	13.18	(3.33)

The results show that overall the students reported a high level of academic overload. Weighted values were used to allow for missing data: min=4, max=20.

Table 4: Perceived stress

	N	Mean	(Std dev)
Perceived Stress	90	33.21	(8.26)

The results suggest a high level of Perceived Stress. Weighted totals were used to deal with missing data: min=12, max=60, the scale is inverted, a high score indicates low levels of perceived stress.

Table 5: Self-esteem

	N	Mean	(Std dev)
Self-Esteem	90	14.97	(4.53)

The results show a low level of self-esteem. Totals were weighted to allow for missing data: min=9, max=36.

RESULTS OF FOCUS GROUP DISCUSSION

Only seven students participated in the focus group and while these discussions yield interesting ideas, these need to be considered cautiously and merely raise material for further qualitative research. Nevertheless they are valuable in that they allow the students' voices to emerge.

The skills that the participants found useful were time management, dealing with stress and coping with the demands at UCT, acquiring study skills and developing competencies with taking examinations, communication and group work and awareness around dealing with different people in group settings, such as tutorials. It emerged that many of these skills were not learnt in isolation but intersected. The following comment illustrates some of these themes: 'I used to struggle to work on

my own. Like tutorials I used to try on my own, didn't want to ask others for help and ended up not finishing work or else I'd see if I could copy it from someone else and see if I can understand. Then she (the facilitator) said you must ask and form study groups ... I formed a study group. But, yah, ... it really did help me.'

Another comment illustrates the participant's experience of learning to deal with different people in a new environment: 'Adapting to the new lifestyle. You have to consider other people's backgrounds ... where they come from ... certain things you may not like because of where you come from but you have to accept. You have to be very careful about the jokes that you make.'

The facilitators were generally described as helpful, approachable and friendly, making the students feel very comfortable and relaxed in the groups. The group members would openly share their experiences and discuss any difficulties they experienced. The participants felt that the facilitators were good listeners and were qualified to assist them with any difficulties that they experienced. They said that the facilitators 'made you feel like you could talk about anything, she listened even when people said stupid stuff'.

All participants said that the most valuable aspects of attending the meetings were learning valuable skills and the group experience. The S₃ programme gave them the opportunity to share their experiences and difficulties with other first year science students and learn from others' experiences. In the meetings their feelings were normalised, which resulted in their realising that others also had similar experiences, and were there to listen to and assist them with difficulties they experienced. Students said that they preferred the meetings to start early in the morning even though they complained about having to wake up early. Their participation in the meetings gave them the motivation and energy for attending classes the rest of the day. They could also practise what they had learnt in the meetings in their lectures.

Members of the focus groups agreed that the S₃ Programme provided a useful service. It had facilitated their adjustment to UCT and helped them cope with the daily stressors of being a first year student e.g. managing their academic workload (identified as their main stressor). They thus recommended that all first years attend the meetings in 2006. In addition, the participants discussed how helpful it was that the sessions were integrated into their timetable and were part of their daily experience. The following comment illustrates how a student made use of the sessions and applied the experience in his/her engagement with the lecturer. 'When you are here (S₃ meeting), you get something to uplift your spirit, whereby you can go through the day. When you are here you get like a different message ... like you learn something here ... you learn something that you use to your advantage ... it's early and the lectures are still ahead, then (in the lectures) you are not ... afraid to ask questions.'

In terms of the overall experience of participating in the S₃ Programme, the participants said that they thoroughly enjoyed attending the meetings. They referred to the S₃ meetings as 'a break in the day' and a 'must' for all students.

DISCUSSION

The variables measured by our self-report instruments were: adjustment (personal-emotional, social, academic and attachment to university), perceived stress (perception of unpredictable and uncontrollable life), academic overload, motivation (intrinsic and extrinsic) and self-esteem (depressive affect, anxiety, and peer appraisal).

Overall, students showed a high level of intrinsic motivation. Motivation is considered as one of the central psychological constructs in academic success (Graham 1989; Granger 2002). Intrinsically motivated behaviours are reinforced by internal consequences which are experienced as rewarding (Muller and Louw 2004). It can thus be assumed that our sample experienced their studies as personally rewarding, which is similar to the findings of Muller and Louw (2004).

At the same time, students scored particularly low on the personal-emotional subscale of adjustment. This indicates that, compared with the other three subscales, our sample had particular difficulties with intra-psychic states, resulting in emotional distress and concomitant somatic problems (Baker and Syrik 1989). The behavioural correlates are anxiety, depression, fewer coping mechanisms, conflictual dependence on parents or the home environment and greater emotional reliance on others, and decreased mental or physical well-being. (Baker and Syrik 1989). This subscale of the SACQ gives an indication of the extent to which students internalise their difficulties. It might be speculated that our sample locates any difficulties they might have within their own capacities and internalise the distress, rather than locating the difficulties outside of themselves, in their relationship with the institution or in the institutional context.

The SACQ institutional attachment subscale was high which indicates that our sample experienced a relatively high degree of commitment to their studies in general and to UCT in particular. Sennett et al. (2003) have found similar results with students at UCT and raised questions around the development of pseudo-identity. As suggested above, students might tend to internalise difficulties rather than locating difficulties in their environment thus preserving a high institutional attachment.

In addition, a high score on this institutional attachment subscale is associated with reduced attrition (Baker and Syrik 1989). Attachment to the institution is similar to the central concept in Tinto (1997) and Bean's (1985) student integration and attrition models where concepts similar to attachment underscore overall adjustment and retention.

High levels of academic overload are negatively associated with academic performance (Agar 1990; Muller and Louw 2004). The results on the academic overload and perceived stress indicated that students felt that there is a poor fit between their ability to cope and the demands of the HE environment. They seemed to find themselves overloaded and the environment uncontrollable and unpredictable. This is also reflected in the results on the personal-emotional adjustment score which also underscores this emotional distress.

Interestingly, our students were enrolled in an extended programme which has a measured pace and while it has the standard lecture and tutorial time, it is defined by the academic content being half of the traditional load of the first year courses. The finding on academic overload requires more investigation. It might highlight the students' experience of their courses as requiring a high proportion of quantitative work or it might indicate the level of under-preparedness with which the students enter university.

The overload and stress results are in line with the low score on the personal-emotional subscale and might indicate that while our sample is well attached to the university and has high levels of intrinsic motivation to succeed they find themselves in distress over the demands made on them. Studies by Sennett et al., (2003), Malefo (2000) and Hay and Marais (2004) suggest that under-prepared students face particular challenges and experience high levels of stress at university.

In terms of correlations with adjustment, the following emerged: students who were well adjusted, i.e. students who indicated that they coped well with the academic demands and were comfortable with the academic environment, felt that they coped well with the inter-personal-societal demands of campus life. They felt low psychological distress and were committed to UCT. These students showed a high level of self-determined behaviours, they experienced low levels of stress, showed low levels of depressed and anxious affect and enjoyed high peer appraisal.

Regarding the correlations with perceived stress, the following emerged: students who felt in control of their lives (low perceived stress) showed high self-determined behaviours and low levels of depressed and anxious affect, and enjoyed high peer appraisal. In terms of correlations with self-esteem (levels of depressed affect, anxiety and peer appraisal), students who showed high levels of self-esteem tended to have high self-determined behaviours.

This is in line with other research which suggested that well-adjusted students who are satisfied with their academic adjustment present with lower stress levels and lower emotional distress (see review in Baker and Syrik 1989). These results suggest a strong relationship between overall well-being and adjustment and it can be surmised that these results contribute indirectly to academic adjustment, and by extension to academic functioning.

LIMITATIONS OF RESEARCH

While the research instruments had been used in South Africa before, not all were standardised to South African student populations. In addition, reliability and validity always pose potential problems. The reliance on self-report scales raises issues regarding misinterpretation by students which present additional potential limitations.

A serious limitation in the interpretation of the results is the lack of pre-intervention data. Any comparison with aggregated academic results from previous years is fraught with difficulties given that numerous variables can influence the data. To measure the efficacy, and thus establish direct causality between intervention and outcome of this sort of programme is extremely difficult as it competes with numerous other variables which could have impacted on the students' experience and performance, especially in the beginning of their first academic year.

While the evaluation of the students' psychological states (self-esteem, motivation, stress, adjustment) is emphasised, it might have been valuable to add evaluations of actual skills development. Any future evaluations of the S³ programme ought to include the assessment of changes in skills development.

CONCLUSIONS

Our findings support the assumption that improved affective factors correlate with improved overall adjustment and academic functioning. The psycho-social variables which the programme aimed to develop are significant predictors of adjustment and academic performance. Thus by improving adjustment, coping with stress and managing the work load, students improve their academic adjustment and functioning. The responses to the questionnaires suggest that our sample has high levels of intrinsic motivation and is committed to their studies and attached to the goals of UCT; the students nevertheless experience their studies as provoking anxiety with relatively high levels of perceived stress.

This study also supports the notion that psycho-social development of students needs to be integrated into students' academic lives and should be located within their daily experience of themselves at universities. The evaluation of this programme generates encouraging results regarding the efficacy of the intervention. This programme seems to have enhanced the students' experience of and adjustment to UCT and by extension possibly enhanced their academic functioning and performance. Further research is required to illuminate the link between affective factors and academic performance.

More programmes of this kind ought to be accessible to more students across the HE sector. While the discourse on student retention and efficiency rates focuses largely on internal factors of the student, Higher Education institutions need to critically self-reflect on their role in providing an enabling context.

ACKNOWLEDGEMENTS

We gratefully acknowledge a grant from the University of Cape Town Research Committee. We also acknowledge the contribution of Il-haam Petersen who carried out the data collection and statistical analysis. We thank Norman and Judith Lederman from the Illinois Institute of Technology for helpful comments on this article.

NOTES

1. The NPHE (2001) proposed strategies to address issues of under-preparedness of previously disadvantaged students one of which is the increase in funding for academic development and support programmes intended to bridge the gap between secondary and tertiary education.
2. This term does not imply an acceptance of political/racial categories of identity and is only used for research purposes.

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