

# **Some prerequisites for access programmes that contribute to academic success in higher education**

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## **Abstract**

The balance between the cost and value of access programmes is a concern in higher education. The function of access programmes is to provide support and additional time for under-prepared students to cope with the academic workload during the first year. This article aims to indicate the value students place on participation in an access programme. In this qualitative study, group interviews were conducted and the findings indicate that Engineering students attribute their success in the mainstream to the way in which participation in an access programme had integrated them academically into the university and exposed them to discipline related experiences in a non-threatening environment. The findings of this study indicate what aspects of the access programme students considered helpful for perseverance in mainstream studies. It is recommended that institutions that offer access programmes should not only be aware of the reciprocal influence of the cognitive and non-cognitive factors that affect students' success, but also purposefully combine these factors in the design of their access programmes.

## **Key Words:**

Access programmes, Engineering, academic success, foundational provision, higher education

## **Introduction**

Higher education institutions in South Africa continue to be plagued by high student attrition rates resulting in the loss of subsidy. This situation appears to have persisted after 2001 when the National Plan for Higher Education (NPHE) stated that "...if the current graduation rates were to persist then a head count enrolment of 670,000 would be needed to produce a total of 100,000 graduates" (Ministry of Education 2001, 29). However, with appropriate support underprepared students can succeed in their mainstream studies.

These students enter Higher Education through alternate pathways which widen access to higher education. Foundational Provision is then aimed at supporting the students who have gained access to a Higher Education institution and at providing them with the opportunity of being successful in their studies. Entry into these programmes usually involves alternative admissions procedures and the adjustment of traditional entry requirements (Council for Higher Education 2003, 41). Bridging, foundation or extended curricula programmes are all access programmes but for the purposes of this article the term will only refer to foundation and extended diploma programmes. Foundation programmes aim to prepare students for success in Higher Education and are designed to help prepare students for their future studies (Snyders 2002). Extended diploma programmes are first undergraduate degree or diploma programmes that incorporate substantial foundational provision that is additional to the coursework prescribed for the regular programme, which usually adds a study year to the duration of the programme (Department of Education 2006).

Various studies have been conducted on many different aspects of access programmes, for example, broadening access to higher education (Boughey 2005); student retention in higher education (Favish 2005); selection criteria and entrance examinations (Zaaiman, van der Flier &

Thijs 2000; Mori 2002); and placement assessment of students (Koch, Foxcroft & Watson 2001). However, little evidence of research seemed to be available on students' perspective on why they benefit from access programmes.

The aim of this article is to give insight into how Engineering students at a South African university think participation in these programmes has contributed to their success not only in the extended programmes but also in the mainstream. The core question dealt with in this article is: How have the perceived benefits derived from the programmes helped to prepare the students for mainstream study?

The first section of this article deals with the underlying principles and methodology of access programmes. This is followed by a description of the collection of qualitative data by means of group interviews. The results indicate what aspects of the access programme students perceived to be beneficial for mainstream study. The article concludes with some recommendations for meaningful access programmes.

## **Theoretical framework**

### ***Rationale and principles underpinning access programmes***

Initially, academic development was concerned with equity in the student body and redress. According to Scott (2009, 3), by "harnessing the talent in all communities" and empowering individuals higher education can bring about transformation which should have widespread impact on development. With time it was realised that access without support and success is not opportunity but rather a 'hollow concept' (Engstrom & Tinto 2008; Scott et al 2005, 8). Therefore the core educational challenge for Academic Development is to develop and implement educational structures and teaching-and-learning approaches to not only meet the

needs of underprepared students but which are also flexible enough to accommodate the students' diverse educational backgrounds, so that under-prepared students can succeed in their mainstream studies (McAlpine 2006). This implies that approaches to curriculum and teaching-and-learning should be alternative to and sometimes fundamentally different from the dominant traditional approaches used in mainstream curricula.

Scott (2009) and Scott et al. (2005) identified six guiding principles for the design of access programmes. These are to: ensure equity of access and outcomes of under-prepared students; ensure the academic success of talented students; develop innovative pedagogic strategies; counteract the 'articulation gap' between the students' prior learning and higher education's expectations; enhance the quality and effectiveness of teaching and learning in higher education and to exert a positive influence on the structure of mainstream curricula.

The research that is reported in this article was done at the University of Johannesburg (UJ), therefore it is necessary to explain how these principles are translated to the context of the students who took part in the study.

The following principles underpin the access programmes at the UJ: content is based on the needs of first year students not the matric syllabus (Snyders 2002, 4); innovative pedagogical strategies and teaching methodologies are employed to ensure the acquisition and application of skills rather than the rote-based learning of content (Scott 2009, 12); content is presented in a scaffolded manner in order to provide students with the support and structure which they require (Krause 2006, 8); regular monitoring of students' progress is carried out through continuous assessment, a variety of assessment methods are employed to cater for the students' diverse

learning styles and a holistic approach is embraced which provides for students to be supported through both academic and non-academic problems (Hunter 2006, 7).

The nurturing environment encourages students to share their apprehensions, their problems and their doubts about their abilities in an environment where they will be offered advice or assistance. Since students are often intimidated by the new environment and the difficulties that they have to face while transitioning from their high school to university, the access programmes can serve to integrate them appropriately into the new institution (Shandler 2009).

### ***Methodology of access programmes***

In order for under-prepared students, who have not achieved the minimum entrance requirements for mainstream study, to be successful in the access programmes the methodology must differ considerably from that of the mainstream programmes. One of the fundamental objectives of the access programmes is to build the self-confidence and self-esteem of the under-prepared students. This objective is supported by Bandura (1997, 3) who defines the term self-efficacy as the students' belief about their own capability "to organise and execute the courses of action required to produce given attainments".

Pedagogical teaching strategies are employed initially to start the students on a path of guided but self-directed lifelong learning. It is for this reason that foundational provision, which is defined by the Department of Education (2006) as "the offering of modules, courses or other curricular elements that are intended to equip under-prepared students with academic foundations", is intrinsically woven into the access curriculum. Since we cannot expect students entering university to already know how to respond to a reading list and a set of essay questions,

how to engage with texts and critically analyse them (Haggis 2006, 526), special attention is given to this crucial skill for success in the higher education environment.

The access programme methodology is made possible through the use of small group teaching. Groups range from 35 to 45 students which make it possible for the lecturers to determine and address each student's level of preparedness on entering the programme. To address the articulation gap access programme lecturers make a realistic appraisal of the students' prior learning and knowledge which informs their starting point for teaching unlike mainstream programmes in which the students' prior knowledge is taken for granted. Snyders (2002, 5) endorses the value of interactive small group teaching in addressing the special needs of students so that they can be met at their level of preparedness and they can be given a lot of individual attention to help them adapt to the challenges of higher education. According to Barefoot (2000, 15) small group size increases the opportunity for student-to-student interaction which allows the students to cultivate a sense of belonging and camaraderie revolving around academic course work. Astin's research (1993, 398) confirms that students need to be given the opportunity to connect with other students since "the student's peer group is the single most potent source of influence on growth and development during the undergraduate years". Another advantage of small group teaching is that it allows for the holistic management of the students who will not simply become "anonymous failures, unrecognised, unseen and deeply troubled" (Pandor 2008). Thus, the student who is struggling – whether academically or because of non-academic factors – can easily be identified and managed appropriately by the lecturer.

Since high school teaching uses the rote-learning approach extensively students often have little understanding of the fundamental principles of their subjects and, thus, struggle when they are confronted with more advanced content and the application of theory to real life situations (Dison & Rule 1996, 87). They also have problems engaging with the learning materials/manuals, lecturers and textbooks as the examples used are not taken from their own frame of reference and this prevents them from integrating the new information from textbooks and lectures into their existing knowledge. A further problem is that the language, in the materials and the lectures, is not at the level of a second/third/fourth-language English speaker (Technikon Witwatersrand 2004). Deficits in their English proficiency or mathematical and scientific ability impact directly on their performance in all other subjects. It is thus essential that the content which is provided to learners is scaffolded. Thus, in access programmes theory is taught in small sections and each section is followed by case studies and examples which require the theory to be applied to real life situations. This strategy is supported by Biggs (1997, 2) who maintains that the lecturer should “provide the scaffold to support students” and in so doing will give them a “better chance” to do what is required of them. Students in the access programmes have multiple formative assessment opportunities per term, as suggested by Hunter (2006b, 7), in order to ensure regular monitoring of their progress. Continuous assessment allows for the identification and tracking of at-risk students and for the institution of subject-specific academic development interventions in order to ensure that the student receives additional support (Seidman in Eiselin & Geyser 2003, 119).

Since each discipline has specific academic requirements, students are immersed in the field within the discipline in which they are studying and they are encouraged to become members of

student bodies specific to their field of study. In this way, they have the opportunity to interact with older students who have more experience of the faculty and who can become their mentors. These peer mentors have already attained the goal that the access students are striving towards and thus their interaction serves as a source of motivation to work harder (Wood & Olivier 2004, 291).

In the access programme, students are regarded as customers who participate in their own learning (Engstrom & Tinto 2008, 48). The collaborative nature of teaching and learning is endorsed and any threatening, competitive or ranking practices are rejected. Access students are required to take responsibility for their own learning, and when they are encouraged to do this they learn that they and their peers are sources of knowledge (Engstrom & Tinto 2008, 48). The access programme upholds the belief that all students have the potential to learn and strive to empower students to become confident and successful life-long learners. In his 2006 presentation on Student Success in College, George Kuh, emphasises that “student success is the product of thousands of small gestures extended on a daily basis by caring and supportive educators ... who enact a talent development philosophy”.

### **Research design and methods**

A qualitative study was undertaken with first year students who had passed through an Engineering Access Programme at the University of Johannesburg. Only those students who had completed the programme and who had continued into mainstream and completed at least one year of mainstream study were included. In order to learn as much as I could from my participants, it was essential for me to identify “*information-rich cases*” (Patton 2002, 230), thus, I used purposive sampling.



Students who had completed the programme in 2005 and had had two years of mainstream study and secondly, those who had completed the programme in 2006 and had had one year of mainstream study were identified using the Information Technology System (ITS) of the UJ. Out of 289 students a purposive sample of 40 students was drawn. I selected 20 students from each of the year groups and extended a telephonic invitation to them to participate in the group interviews. On the days that the interviews were scheduled 9 students from the 2005 and 6 students from the 2006 cohort arrived to participate in the group interviews.

Two central open-ended questions were asked to determine firstly, the possible benefits that the students derived from the access programme and secondly, how they think these benefits could have prepared them for and/or contributed to their success in their mainstream studies?

### *Data Analysis*

I followed Reid's (1992, 126) system of data management in order to deal with the copious amounts of data generated from the group interviews. This implied firstly, data preparation which involved typing notes, transcribing the interviews, editing and formatting them into a workable format. Secondly, I made use of content analysis which begins with a comparison of the words used in the answers (Krueger 1988, 109) during data identification. Lastly, I engaged in data manipulation when I sorted the labels into codes, categories and themes.

In order for this study to comply with ethical standards, I obtained written permission from the institution to conduct the research. Students were informed about the objective of the study, the process that would be followed to obtain the data and also that their participation was voluntary.

Students were also assured of their right to privacy and confidentiality through anonymity and their written consent for participation in the interviews was obtained.

I was the primary instrument of data collection which enabled me to ask the same questions, phrased in the same way to ensure that the participants could understand the topic under discussion. In addition, the careful selection of the participants as indicated before all enhanced credibility of the study.

### **Findings and Discussion**

The reference system used with the verbatim quotes is as follows: 2:14:296-298 indicates that the quote is found in interview transcript 2 on page 14 in lines 296-298.

The results indicate the benefits that the participants have derived from the access programmes, how these benefits have helped to prepare them for mainstream study and finally, the way in which these benefits have contributed towards their success in their mainstream studies. These benefits do not exist in isolation but form part of the holistic experience that the students are exposed to during the access programmes. Three main themes were identified, namely students are appropriately academically integrated into mainstream by access programmes; students are motivated to pursue further studies in higher education and the nurturing environment experienced by students in the access programmes has supported them in their studies.

*Students are appropriately academically integrated into mainstream by access programmes*

Insert Figure 1 here

Academic integration was chosen as starting point since it deals with the students' initial exposure to an environment that is both unfamiliar and daunting. The students believed that the programmes had helped them fit into the institution since they had become accustomed to and familiar with 'the new ways of doing' required by the University. Haggis (2006) emphasises that attention must be given to new crucial skills required by students. The students mentioned that they had initially been brought into closer contact with their peers and lecturers through the access programme-specific orientation. The orientation also serves to alert students to the fact that academic activities are of top priority in the programmes. Although students arrive on campus without "student success skills" (Hunter 2006a, 8) it is through participation in the programmes that they are made aware of the university rules and regulations and faculty requirements. Some students contend that through their interaction with lecturers, administrative staff and their peers they come to realise

It was a good thing in the sense that we adapted to the school and to the institution and to some of the subjects as well... (2:3:42-43)

which in most cases prompts them to acquire good academic habits. For example, the students reiterated that knowing that they have to qualify and write exams had taught them to manage their time effectively, to study continuously throughout the year, and to attempt never to miss a lecture where important information and terminology is explained because

you won't be able to understand...you need someone to explain those terms to you and what's happening and everything (2:37:773-777).

Moreover, in this study the students claimed that as a result of acquiring good academic habits they were not swayed by peer pressure and had learnt to balance their study time with socialising in order to ensure that their work was up to date. One student explained:

...you already know how things work and you know how lecturers are. When you go home you know how to do your things. You know how to manage your time, you know how to do everything (2:21:435-438).

Thus, the access programme succeeded in preparing the students for mainstream since it focused on their education and ensured that they acquire the skills to become successful higher education students.

Another benefit noted by the students was that their English proficiency had improved to a large extent by the time they entered mainstream. This was attributed to their being forced to speak to their lecturers and their peers although many of them are foreigners.

...find(ing) that I can't talk their language, I had to like talk to them using English so I started learning it there. And when I came to S1 [semester 1] there things started to go better and better and better (2:9:184-188).

It is for this reason that they were able to engage with the level of language used by academics (Haggis 2006, 528) which put them at an advantage over the direct entry students who were still struggling with English.

In addition to an improvement in the students' English ability the students were aware that lecturers "don't teach" (2:16:338). They were prepared for this as they had been trained to take notes in lectures, knew that they needed to do their own research after lectures even if they hadn't been told to do so and had been familiarised with the increased pace of lectures. They were also aware of the necessity to start studying from the first day of term in order to succeed. Furthermore, they explained how they had valued the way in which the access lecturers had started their lectures for the year by explaining their expectations to the students, i.e. the consequences of not meeting deadlines and requirement that students go to the library and make use of the internet in order to find additional information and do research. Moreover, they felt that they had had the whole year to adjust to the different teaching and learning methods employed by university lecturers.

...some lectures (sic), they were reading to us, and they were quoting things, like in a book as big as this, the first lecture would be the first 65 pages. What the lecturers would do, they would point out things. They would read the title, and then skim through it and move on (1:36:357-361).

One of the factors preventing academic integration is concerns about career choice. Many mainstream students are insecure and anxious about their career choice, and even though they want to adjust to campus and make friends their consistent underlying concerns are in the academic and career areas. However, from the results it was evident that the access students were not so anxious anymore.

...We'd find out everything you can about Mechanical or whichever course you were doing, so that you know that, okay, I'm going on this full force... (2:24:507-509).

The programmes had allowed them the opportunity to reflect on and gain as much information as they could about their career choice during their lectures. They also made industry visits which enabled them to see exactly what work they would be doing once they had qualified. This had helped them to integrate academically as many concerns relating to their career had been resolved.

Academic integration in this context means to assist students to function effectively in a higher education institution. The results indicated that the students believed that they had acquired the indispensable academic skills to cope with higher education studies which enabled them to participate in on-going academic conversation and made them feel validated as members of the institution. According to them, a positive effect of being appropriately academically integrated into the university was their realization that "...you are familiar...you are accepted...you are part of the group" (1:65:602-603) which confirmed their sense of belonging and contributed to the higher academic grades they had achieved at the end of the academic year.

***Students are motivated to pursue further studies in higher education***

Insert Figure 2 here

A second important theme that was identified is motivation. Any discussion on motivation needs to take the intrinsic (internal) motivating factors and the extrinsic (external) motivating factors into consideration. Since the intrinsic factors appear to be far more significant to the students than the external factors I will discuss them separately.

Freeman, Anderman and Jensen (2007, 218) contend that the psychological sense of belonging (i.e. academic integration) of first year students was significantly related to their academic motivation. In the data gathered the students revealed that they felt ashamed and demotivated when they were referred to the access programmes instead of gaining entry into the mainstream course for which they had applied. This was evident when a student said “I came from ... High School and I thought my results were the best, and then I came here and people told me a different story” (2:4:77-78). Furthermore, the students remarked that as a result of being placed in the access programmes they felt that they had been “labelled as ‘remedial’ not only by the faculty to which they had applied originally but by their peers as well” (2:25:257-258). However, as a result of the encouragement and reassurance that they had received from the access staff as well as from their peers, the students gradually came to the decision that they were not prepared to fall victim to this self-fulfilling prophecy. This change in attitude is indicated when they say “you want to prove a point, and once you start proving a point, you pass” (1:5:48-49).

In addition, the students stressed that they were extrinsically motivated to succeed due to the pressure exerted on them by their parents, their guilt about the financial burdens they had caused for their families and the knowledge that they were already committed to an extra year of studies. This motivation is evidenced by a student saying “...I must finish because they have been paying” (1:32:321).

It became evident that students attributed their new-found self-confidence to the access lecturers who had shown optimism in their academic abilities, entrusted them with the “responsibility for their own learning and respected them as students who could succeed” (2:14:296-298). Thus, as the students’ self-efficacy, i.e. their “perception that they are capable of achieving academic success”, increased (Schreiner and Hulme 2008, 7) so they became intrinsically motivated to make a success of their studies. This was apparent when a student stated “you can build your confidence. If you achieve 86%, 96% you develop confidence” (1:48:450). The students acknowledged that the access programme lecturers adopted a talent development approach by saying “... while other people were telling us we wouldn’t pass ... she encouraged us, and five of us passed with high marks” (2:17:350-352). Moreover, when the students noticed that if they “fail a test, your lecturer might talk to you, so at least you know you can start picking up from there” they realised that somebody who cared about them and was interested in their success was there to ensure that they didn’t lose interest in their studies. In other words, in line with Scott’s (2009) contention to develop all talent in communities, the lecturers recognised the strengths that the students brought to the classroom in direct contrast to the deficit-remediation strategy which, although designed to promote student success, actually reduces students’ motivation.

With the realisation that they had been recognised as students with the potential to succeed in higher education their hope for a successful future was renewed and they could once again visualise being gainfully employed, earning a good salary and being able to support their families due to their higher education qualification. Renewed hope in their ability to succeed in higher education was another benefit highlighted by the students. That they were aware of a second chance was evident when a student remarked “... they’re actually giving me a chance, I



don't deserve to be here at all ...” (2:12:252). By first valuing the things that the students did well the access lecturers shifted the focus from areas of weakness to areas of talent which led to an increase in the students' motivation which is supported by Bandura's (1997) claim that students can attain their goals if they have confidence in their capabilities.

Students indicated that they had become aware of their academic strengths, which they believed had led to increased levels of self-confidence which had motivated them to pursue further studies in higher education. Their awareness of their academic strengths is illustrated when a student remarked “... in S2 I managed to qualify for all my subjects ... with distinctions ... where, most of the students that's where they failed ...” (2:19:400-403) and in this way they were able to prove to the mainstream students that they were in fact students who mattered.

The students maintained that the benefits discussed previously were enhanced by their sense of belonging to the programmes as well as the supportive social and academic bonds that they had formed with their lecturers and peers.

*The nurturing environment experienced in the access programmes has supported students in their studies*

Insert Figure 3 here

Most access students were anxious and stressed as they took the “intimidating leap into the unknown” when they entered higher education. They felt that “the school is big and you know

your mother is not around to say you know, do this ...“(2:4:84-85) and as a result their levels of anxiety and stress increased. They maintained that this period of transition had encouraged them to develop networks with their peers, other access students, mentors and lecturers who provided them with emotional and social support during the university year. As these networks develop the students feel that the programme increases their sense of belonging to the programmes and the university and their perception that they are “part of a family”. (2:33:681). This is in accordance with Astin’s (1993) assertion that the student’s peer group is most influential during undergraduate study.

The students believed that the access programme staff members were determined to create a warm, respectful, inviting and caring environment for these students which encouraged them to actively participate in their studies

Once you see that there’s someone who cares about you, you don’t want to disappoint that person. ... Now after some time you realise that this person is helping me. You’re not only doing it for her, you’re also studying for yourself (1:69:627-632).

Students also reported that their frequent interactions with lecturers who spoke to them and assisted them and made them feel valued and respected as students and answered their questions “even if it’s after hours” (1:64:593-594) contributed to their academic success by encouraging them and providing personalised attention when they began experiencing academic difficulties. This is illustrated when the students say

...in Foundation/Access they try to encourage you, you know what, do it this way, try it this way, try it this way. And then you find that maybe you're coming along nice (2:14:296-298).

It appears that the students regarded the access lecturers, in particular the Life Skills lecturers who helped them to identify the factors contributing to their academic difficulties and who guided them through the process of reaching their goals, as "family" (2:67:616). They felt that these lecturers had helped them not to bow to peer pressure and as a result to be distracted from passing all their subjects.

"here you find lecturers who are sort of like your parents ... harsh ... but most of the time ... trying to almost make you see the light" (2:14:279-281).

The small class teaching, according to the students, encouraged them to bond with one another and become friends which resulted in their feeling that peers supported them.

...you end up bonding in these small classes, you all end up being friends. And as you go to S1 together you motivate each other (2:33:681-682).

This is consonant with Barefoot's (2000) assertion that small groups encourage academic fellowship.

Most students who struggle academically study alone, and as a result they deprive themselves of the opportunity to learn from their peers (Markwell 2007, 7). This was contrary to what was

found in this study when the students revealed that they "... were used to work with groups" and that "when we came here ... you had to learn to do things on your own ... there's no one who's going to help you" (2:26:541-546). It is for the reasons discussed above that the access lecturers promote the development of learning communities and study groups by employing group work and collaborative learning strategies. The advantages of group work are recognised by the students when they state "it helps to have good group members, ... they can come and compare, and they can say this is where you need to correct and that and that" (2:43:898-899). They viewed their extended diploma group of 35 – 45 students as a learning community and viewed their classmates not only as a source of confidence but also as a source of assistance. Through their commitment to their studies they spent a lot of time together studying both in class and afterwards. Since all members of the study group had the same ambitions the group members became very proud not only of their own but also of their group members' academic accomplishments, reflected in the following observation "she did very good. Because now she's doing full S3. And most people say in Metallurgy, it's rare to find students doing full S3. So she's from foundation" (1:58:539-541). Furthermore, the students from these tight-knit learning communities and study groups spoke proudly of another access student who "didn't even fail one subject" (1:58:537) and of themselves who now had "distinctions in (their) academic record" (1:54:509). The students advised that "there's also the confidence you've got from the classmates" (2:44:436) that empowered them to ask questions or seek clarification on a point in their mainstream classes.

The students emphasised their viewpoint that most of the benefits that they derived from the Access programme were only evident once they compared themselves to the direct entry students.

... by the time I reached S1, I had a good background ... most of the people from S1 (who) passed with distinction from matric ... they failed all the subjects ... even though I didn't have all those As and Bs. Ja, compared to them I was better (1:25-26:259-264).

This comparison reinforced their conviction that they had derived benefits from participating in the Access programme that helped them in the mainstream.

## **Conclusion**

Discussions on access programmes often include remarks about how expensive access programmes are but if institutions were to examine how much subsidy they would receive if students completed their studies in minimum time they would realise that this additional subsidy would fund effective access programmes based on the guiding principles, characteristics and methodology that have been discussed.

In the context of this study access students have undergone a transformation. This transformation refers to the way in which they have changed cognitively and non-cognitively as a result of the enhanced teaching and learning that takes place during the process of formal learning offered by the access programmes. This is accomplished by providing for both the academic and non-academic needs of the students. It is this type of support that has encouraged

the students to pursue their higher education studies with a newfound confidence in their abilities.

Based on the findings of this study, any higher education institution that offers access programmes needs to consider the following elements in order for the programme to be beneficial: students would have to be introduced to the 'new ways of doing' in a respectful, optimistic, trusting and caring manner; students would have to be invited to become members of the academic community and experience feelings of belonging; students would have to be encouraged to rise above the labels that they were given previously.

Merely extending the time over which the curriculum of a 3-year degree or diploma is offered will not guarantee the success of students in the mainstream. It is what is offered to students in this extra year that is of paramount importance. In order to respond to students' needs it is important to consider both the academic and non-academic aspects that provide students with solid academic foundations for successful higher education studies.

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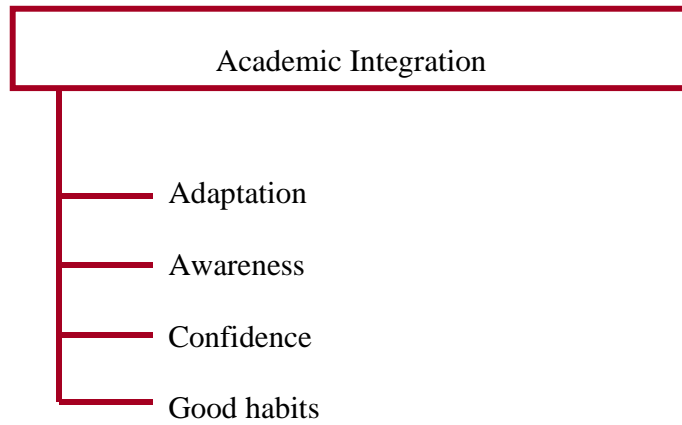


Figure 1. Factors contributing to Academic Integration



Figure 2. Factors related to motivation

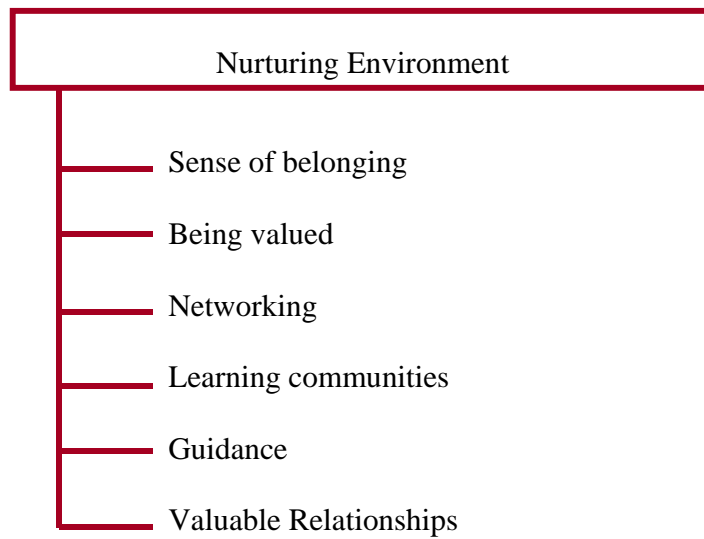


Figure 3. Advantages derived from nurturing environment