# AN INDUCTIVELY DERIVED RESEARCH FRAMEWORK FOR STUDENT SATISFACTION IN ODL: THE HIGHER EDUCATION ENVIRONMENT

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## ABSTRACT

Student satisfaction, as a key psychological-affective outcome of tertiary education, is a direct measure of the success of Open Distance Learning (ODL). It is therefore vital for ODL Higher Education Institutions to assess and improve student satisfaction constantly. Existing theories on student satisfaction are mostly derived from deductive research, i.e. from research that considers the existing body of knowledge, followed by an investigation of a specific aspect or component, in order to reach a specific conclusion. We, however, maintain the inductive stance that a research framework for student satisfaction in ODL should be derived from students themselves. Accordingly, we purposively collected qualitative data from N=34 South African postgraduate ODL students, representative of various cultural language

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groups, with regard to student satisfaction. Supported by Atlas.ti, we composed an integrated dataset comprised of students' responses to two focus-group interviews, as well as students' written narratives in response to qualitative questions. Through meticulous qualitative data-analysis, we detected data categories, sub-categories, patterns and regularities in the integrated dataset. Theories and findings from the existing corpus of knowledge pertaining to student satisfaction in ODL illuminated our qualitative findings. This paper reports on the knowledge we gained from our participants pertaining to their student satisfaction with the Higher Education (HE) environment, the first of three main research components of an inductively derived research framework for student satisfaction in ODL.

**Keywords:** Student satisfaction; ODL; HE environment; distance education; research framework; inductive research.

# 1. INTRODUCTION AND PROBLEM STATEMENT

South Africa has a population of 51.77 million people (2011 census) of diverse origins, cultures, languages and beliefs (SouthAfrica.info 2016). Approximately 79% are African, 9% are of mixed European descent, 9% of mixed ethnicity, and 2.5% of Indian descent. With a surface area of 1.2 million km$^2$, South Africa is divided into nine provinces, and about half of the population lives in rural and semi-rural geographical areas (SouthAfrica.info 2016). South Africa has eleven official languages. Around 40% of the population speak either isiZulu (23.8%) or isiXhosa (17.6%); followed by Afrikaans (13.3%), Sepedi (9.4%), English and Setswana (8.2% each), and various other African, European and Asian languages (Blignaut, Hinostroza and Els 2010; SouthAfrica.info 2016).

Since 2011, South Africa has been listed as a newly industrialised country (NIC) by the International Monetary Fund (2011). NICs are characterised by: (i) an economy that has not yet reached First World status but has, in a macro-economic sense, outpaced its developing counterparts; (ii) rapid economic growth that is export-oriented; (iii) an increasingly open-market economy that allows free trade; (iv) ongoing industrialisation; (v) migration of populations to cities to work in industries, factories, and mines; (vi) increased social freedom and civil rights (International Monetary Fund 2011). Despite recently advancing from a developing country to a NIC, a large number of unqualified and underqualified in-service teachers are haltering socio-economic development in South Africa (Van Zyl, Els and Blignaut 2013).

Due to a dire shortage of qualified teachers in South Africa (Pandor 2004), a large number of unqualified and under-qualified teachers were appointed in the education system to compensate for this backlog. In 1994, there were an estimated 85 000 unqualified and underqualified teachers in the South African education system, and in 2004 there were still 20 000 unqualified practising teachers in the system (Pandor 2004). Since 2005, our Department of Education has released no further statistics in

this regard. Socio-economic, demographic and itinerant barriers as well as family and occupational responsibilities prevent unqualified and underqualified teachers from attending traditional on-campus classes. In order for these teachers to enrol full-time at on-campus universities, it would be necessary for them to temporarily halt or abort their teaching responsibilities at already under-staffed schools, which is demographically and financially difficult or impossible (Cilliers, Basson and Kirschner 2000; Pandor 2004; Van Zyl et al. 2013). Since the majority of these teachers live and work in geographical isolated rural areas, Distance Education (DE), and more specifically Open Distance Learning (ODL), is proving to be the most viable option to deliver professional development to these in-service teachers (Pandor 2004; Van Zyl, Spamer and Els 2012). In 2013, over 40% of the 938 201 tertiary students in the country pursued their studies through DE/ODL (South African Department of Higher Education and Training 2013).

South Africa's Higher Education Institutions (HEIs) are facing an increasingly competitive and dynamic educational environment with numerous challenges. HEIs are confronted with declining student enrolments, unsatisfactory pass, throughput and dropout rates, and low levels of student satisfaction, motivation and self-efficacy (South African Department of Higher Education and Training 2013). There is mounting pressure on HEIs to serve a broader segment of the population. The South African Government aims to increase university enrolments from 900 000 to 1.5 million by 2030 (South African National Department of Education 2012). This ambitious goal will put even more pressure on the 23 HEIs in the country to attract, retain and successfully deliver large numbers of students in Higher Education (HE). Besides traditional on-campus tuition, ODL is increasingly being used by HEIs as delivery mode for tertiary and further education. Student satisfaction is a decisive measure, not only for the success of ODL, but for the success of HEIs and HE in general. Both Government and the HE sector are therefore concerned with the performance and satisfaction of students (Fraser and Killen 2005).

Student satisfaction involves various aspects of tertiary education, including student needs, expectations, perceptions, values, learning experience, motivation, academic relationships, programme design, content of study material, resources, infrastructure, and student support (Allen, Bourhis and Burrel 2002; Bean and Bradley 1986; Bollinger and Martindale 2004; Elliott and Healy 2001; Liegler 1997; Sahin 2007). In order to attract and retain students, universities must identify and meet student expectations (Elliott and Healy 2001,1). Sahin (2007) and Douglas, Douglas and Barnes (2006) maintain that student recruitment and throughput rates in distance education are connected to student satisfaction and expectations. However, students' satisfaction in HE has been overlooked in the past by various researchers (Astin 1993; DeBourgh 1999; Navarro and Schoemaker 2000). To date, no other research study has specifically explored student satisfaction with the HE environment at our institution. Considering that student satisfaction is a 'short-term attitude that results from an evaluation of a student's educational experience and results when the actual performance meets

or exceeds the student's expectations' (Elliott and Healy 2001, 2), and as a person's attitude results from a unique set of complex cognitions, emotions and behavioural tendencies (Aldemir and Gulcan 2004), we decided to qualitatively explore the student satisfaction of ODL students, and through an inductive research process, to derive a research framework for student satisfaction in ODL, based upon our findings.

# 2. THE INDUCTIVE RESEARCH PROCESS

In the process of induction, one starts by collecting data through observations or measures. After one has detected categories, patterns and regularities in the data, one determines which theories could possibly explain these patterns of findings. One then draws conclusions, makes broader generalisations, and ends by developing a theory, a model or a framework (Babbie 2001; Crossman 2014; Internet Encyclopedia of Philosophy 2014; University of Utah 2014). The structure of this paper follows accordingly.

## 2.1. Research Design and Methodology

An inductive qualitative research approach was used to investigate (i) ODL student satisfaction with the HE environment, (ii) ODL client satisfaction with the HEI, and (iii) student satisfaction with the ODL environment, amongst students enrolled for a BEd Hons programme through the Unit for Open Distance Learning at the North-West University (NWU) in South Africa, that delivers professional development programmes to unqualified and underqualified in-service teachers via ODL. This article reports on the knowledge we gained from our participants regarding their student satisfaction with the Higher Education (HE) environment, which is the first of three research components of an inductively derived research framework for student satisfaction in ODL. The qualitative, subjective nature of this study anchors it within the interpretivist research meta-paradigm (Burrell and Morgan 1979), as it attempted to understand the subjective contexts, experiences, beliefs, behaviours, practices, expectations, fears and needs of ODL BEd Hons students related to their student satisfaction with the HE environment.

Two qualitative methods were used to collect data, namely focus-group interviews, and written narratives in response to qualitative questions. Two semi-structured open-ended focus-group interviews, in the form of conversations (Cohen, Manion, and Morrison 2007; Fraenkel and Wallen 2003; Merriam 1998) with n=15 student-teachers, rendered thick, rich and in-depth data to explore, uncover, and understand ODL student satisfaction with the HE environment among a purposively selected sample of BEd Hons students. However, as our initial dataset was not yet saturated, additional qualitative data (in the form of written narratives) were obtained by means of a structured open-ended questionnaire, administered to n=19 BEd Hons students during a contact session. As no new information came to light, data saturation was assumed, as proposed by Masson (2002) and Merriam (1998).

## 2.2. Sampling Strategy, Selection Criteria and Demographic Profile of Student Participants

We used a purposeful availability sampling strategy for our inductive qualitative investigation. Purposeful sampling is the umbrella term that McMillan and Schumacher (2001) use to refer to a process of selecting information rich cases for in-depth study. Accordingly, we purposefully identified, selected and recruited second year BEd Hons students. Merriam (1998, 61) emphasises that 'purposeful sampling is based on the assumption that the researcher wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned. The logic and power of purposeful sampling lies in selecting information-rich cases for in depth study'. Merriam (1998) further advises that when purposeful sampling is employed, it is important for the researcher to first determine the selection criteria to be used in choosing participants. These criteria must reflect the purpose of the study and guide the process to be followed. In total, N=34 ODL student-teachers participated in our qualitative investigation, selected according to three criteria: (i) major language groups, (ii) gender, and (iii) number of years teaching experience.

Cultural identity encompasses various dimensions, amongst others: language, ethnicity, biological descent, religion, customs, heritage, gender, class, sexuality, norms, values, attitudes and nationality (Coetzee-Van Rooy 2000). This multidimensional nature of cultural identity makes it almost impossible to speak about the true 'identity' of a person or a group, for it may vary according to different circumstances and social contexts (Segers 1997). However, language is often regarded as a salient component and indicator of cultural identity (Coetzee-Van Rooy 2000; Kramsch 1998). Accordingly, we purposively selected participants representative of the diverse student population enrolled in the ODL BEd Hons programme with regard to cultural-language groups. Because there are very few Tshivenda and Xitsonga students enrolled in the selected ODL programme, we decided to include only cultural-language groups representative of the two major African language groups in South-Africa, namely the Nguni language group (which consists of isiZulu, isiXhosa, siSwati and isiNdebele) and the Sotho language group (which consists of Sesotho, Setswana and Sepedi) (Els, van Eeden, and du Plessis 2016). We also decided to include two language groups of European origin, Afrikaans and English. Although most of the participants used English during the interview process, the researchers are proficient in most of the abovementioned languages, and could also converse with participants in their language of choice.

Different gender groups may possibly have different needs and expectations concerning student satisfaction; therefore gender was used as the second selection criterion. Teaching experience was the third selection criterion because the number of years of teaching experience may possibly have an influence on student satisfaction; e.g. teachers who have been practising teachers for more than six years may experience a lighter workload, both when teaching and studying, due to their teaching experience and the availability of already-compiled study resources.

**Table 1:** Demographical Profile of ODL Student Participants (N=34)

| | FOCUS GROUP INTERVIEWS (n=15) | | OPEN-ENDED QUESTIONNAIRE (n=19) |
|---|---|---|---|
| | **Group 1** | **Group 2** | |
| **Gender Groups** | | | |
| **Female** | 4 | 7 | 16 |
| Male | 4 | 0 | 3 |
| **Totals:** | **8** | **7** | **19** |
| **Age Groups** | | | |
| 20-29 | 1 | 0 | 2 |
| 30-39 | 1 | 0 | 7 |
| 40-49 | 4 | 5 | 6 |
| 50-59 | 2 | 2 | 4 |
| **Cultural-Language Groups** | | | |
| Nguni | 3 | 7 | 5 |
| Sotho | 3 | 0 | 9 |
| English | 1 | 0 | 2 |
| Afrikaans | 1 | 0 | 3 |
| **Teaching experience (years)** | | | |
| 0-9 | 2 | 0 | 7 |
| 10-19 | 4 | 0 | 8 |
| 20-29 | 2 | 5 | 4 |
| 30+ | 0 | 2 | 0 |

The participants were identified by searching the university's student database according to the selection criteria, and they were then invited to participate voluntarily and anonymously. We then purposively collected qualitative data on student satisfaction with ODL from 15 postgraduate students during focus-group interviews. Sessions were pre-arranged for the focus-group interviews during contact classes, which form part of our ODL programme. The function of these contact classes is to provide additional study support to students; however, attending these contact classes is not compulsory for students. During an initial qualitative data-analysis, we realised that our qualitative dataset was still unsaturated. As a result, we decided to collect additional data using an open-ended structured questionnaire that was handed out during contact classes. In line with Denzin and Lincoln (1998), focus-group interviews and written narratives, in response to the qualitative open-ended questionnaire yielded multiple opinions from participants on the same issue. Table 1 summarises the demographic profile of the ODL students (N=34) who participated in our semi-structured, open-ended, focus-group interviews, as well as those who completed our qualitative questionnaire. Table 1 reflects the diversity of our study sample in terms of gender, age and cultural-language groups, as well as number of years teaching experience.

## 3. DETECTION OF DATA CATEGORIES, SUB-CATEGORIES, PATTERNS AND REGULARITIES IN THE QUALITATIVE INTEGRATED DATASET

Atlas.ti, a qualitative data analysis software, was used to compose an integrated data-set, consisting of data collected during two semi-structured, open-ended focus-group interviews, data collected by administering a structured open-ended questionnaire, and field notes. The integrated dataset was coded, organised and grouped into related data categories and sub-categories, and patterns, regularities and interrelatedness were explored and established between them. We also qualitatively analysed the NWU's teaching and learning policy (North-West University Institutional Academic Development and Support 2011), as teaching and learning practises play an important role in student satisfaction.

## 4. INDUCTIVE PATTERNS OF FINDINGS

Through our qualitative categorical data-analysis, we inductively derived three main research components related to a Research Framework for Student Satisfaction in ODL, namely (i) ODL student satisfaction with the HE environment, (ii) client satisfaction with the HEI, and (iii) student satisfaction with the ODL environment (Figure 1).

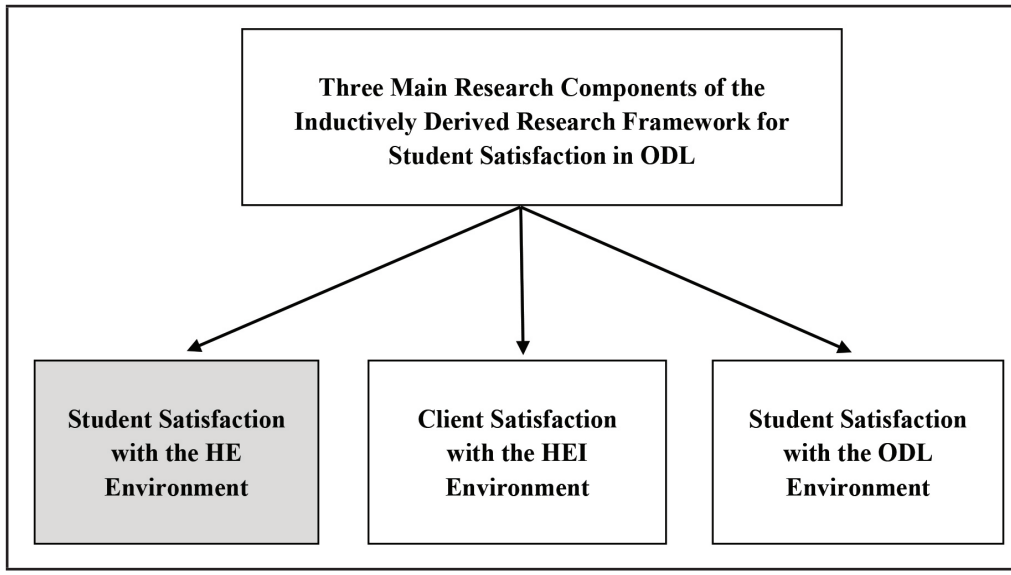


**Figure 1:** Three main research components of the Inductively Derived Research Framework for Student Satisfaction in ODL

In total, we identified 95 categorical data codes from our integrated dataset and tagged 510 quotations to provide evidence for our findings. We established patterns, regularities and interrelatedness between the categories and sub-categories that relate to each of the three main research components of the proposed framework. We present our findings accordingly, illuminated by existing research findings and theories found in relevant literature, which could possibly explain the patterns of findings that we observed in our integrated dataset. Because of restricted publication space and the in-depth, comprehensive nature of our findings, the current paper reports the findings related to the first main research component of the proposed research framework only, namely student satisfaction with the HE environment (shaded component in Figure 1). The findings pertaining to the other two research components of the framework will be reported in future papers.

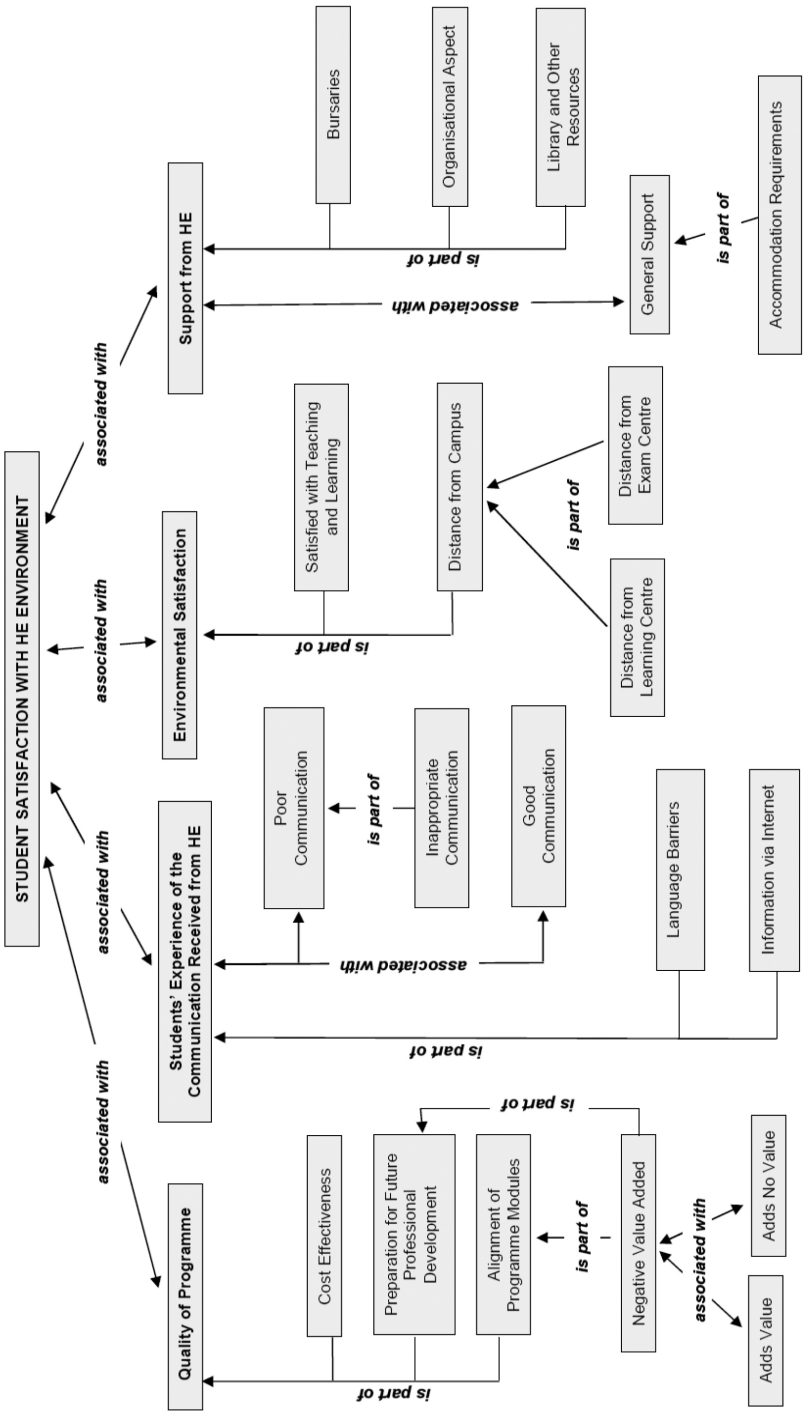


**Figure 2:** Data Categories and Sub-Categories Related to *Student Satisfaction with the HE Environment*

As illustrated in Figure 2, students in our qualitative sample associated their satisfaction with the HE environment with the following four data categories: (i) quality of the programme; (ii) students' experience of communication received from the HE environment; (iii) environmental satisfaction; and (iv) support from HE. Furthermore, meticulous qualitative data analysis revealed 21 sub-categories that relate to these four data categories.

**Table 2:** Code Density of the Qualitative Findings (N=34)

| | | **Code Density** |
|---|---|---|
| **Categories** | Quality of programme | 8 |
| | Experience of received communication | 5 |
| | Environmental satisfaction | 4 |
| | Support from HE | 5 |
| **Sub-Categories** | Cost effectiveness | 1 |
| | Preparation for future professional development | 12 |
| | Alignment of programme modules | 10 |
| | Quality of programme | 11 |
| | Negative value added | 3 |
| | Adds value | 24 |
| | Adds no value | 1 |
| | Language barrier | 5 |
| | Information via internet | 1 |
| | Good communication | 6 |
| | Poor communication | 12 |
| | Inappropriate communication | 7 |
| | Satisfied with teaching and learning | 9 |
| | Distance from campus | 9 |
| | Distance from learning centre | 8 |
| | Distance from examination centre | 3 |
| | Bursaries | 1 |
| | Organisational aspects | 12 |
| | Library and other resources | 3 |
| | General support | 4 |
| | Accommodation requirements | 1 |
| | **Total** | **165** |

Table 2 shows the code density of our qualitative findings. In total, we tagged 165 quotations in our integrated dataset to provide evidence for our findings related to student satisfaction with the HE environment. Qualitative findings related to the four data categories with a bearing on student satisfaction with the HE environment, with their related sub-categories, are reported below.

## 4.1. Data Category: Quality of Programme

In South Africa, the Higher Education Act of 1997 assigns the responsibility of quality assurance of HE to the Council on Higher Education (2004a; 2004b). This responsibility is discharged by its permanent sub-committee, the HEQC. HEIs should manage students' expectations, including perceived benefits that students associate with specific HEIs, such as location, facilities, image, curriculum and quality of programmes, as these will have an influence on student enrolments (Gwin and Gwin 2003). According to the Council on Higher Education (2004b), a core function of HEIs is to promote quality in HE, which is also reflected in our institution's teaching and learning policy that aims to ensure the delivery of continuous high quality education for its students through cost effective academic programmes. Our research participants identified the following as important aspects that form part of their evaluation of the quality of a programme: (i) the cost effectiveness of the programme; (ii) whether or not the programme is preparing them for further study; (iii) the alignment of modules with curriculum design; and (iv) their perceptions related to the value of the programme. Our findings resonate well with those of of Danielson (1998) and Belcheir (1999), who both reported that students' perception of the quality of an academic programme influences their attitude with regard to their academic satisfaction.

### 4.1.1. Data Sub-Category: Cost Effectiveness

One participant specifically mentioned that the cost effectiveness of ODL programmes forms part of their quality:

> Programmes are delivered in the most cost-effective and accessible manner possible, without compromising quality and academic standards.

HEIs are constantly developing strategies to keep students, who are their clients, satisfied with the academic service they receive, in order to prevent unnecessary student dropouts. Student retention is especially important to HEIs, when one considers that students also drop out for many other reasons that are beyond the control of HEIs (Noel-Levitz 2009). This data sub-category resonates well with the teaching and learning policy of the NWU (North-West University Institutional Academic Development and Support, 2011), which aims to ensure continuous quality education that is also cost effective for the university and encourages increased student enrolment.

### 4.1.2. Data Sub-Category: Preparation for Future Professional Development

About half of our participants indicated that the selected ODL programme (BEd Hons) is preparing them for future professional development owing to its academic quality. One of the participants remarked:

> The academic level of this institution is very high compared with others. I never thought I will make it, but now I am motivated and developed self-confidence. I wish to continue to study in this institution Masters and PhD as well.

Participants confirmed that they regard the ability of an ODL programme to lay a firm foundation for their future professional development as part of their evaluation of the quality of a programme. Douglas et al. (2006) and Sahin (2007) found that the success of HEIs to recruit students to enrol for successive qualifications via ODL depends on students' past or current satisfaction, as well as their expectations. As the above quotation also reflects, the quality of an ODL programme seems to be related to students' self-confidence and motivation to pursue future professional development. Participants also mentioned how the ODL programme contributed towards their ability to manage various aspects and issues related to their profession:

> … since learning this degree, I've gained a lot… to manage my learners, colleagues, SGB [school governing body], trade unions… finances, as well as… how the laws… include… equity, affirmative action, and many more.
>
> BEd Hons has equipped me with… management skills, for example…school management… [and] how to deal with human resource at school.

Although most student participants praised the quality of the selected ODL programme, one participant criticised the ODL programme for not being relevant to her educational context and, consequently, she reported that the programme does not contribute towards her professional development as a teacher:

> It doesn't contribute much towards my professional development…
>
> [I] personally have a problem with what I receive, most of the things that are happening here are not useful to my experiences.

We recommend a follow-up interview with this specific student, as well as a site visit to her unique educational context, in order to further investigate why she experienced the quality of this ODL programme negatively, and to find reasons why this student experiences the content of this ODL programme as being irrelevant to her specific educational context. Knowledge gained from this case study could potentially be used to improve the design, as well as the module content, outcomes and assessment of the selected ODL programme, with the intention of addressing existing student dissatisfaction, as in this reported case.

### 4.1.3. Data Sub-Category: Alignment of Modules

Some participants shared their experiences about the programme and supplied feedback that seemed to contradict the positive responses of most of the other participants. Some felt that existing discrepancies between the number of modules in the different

specialisations of the selected programme should be addressed and equally aligned. One participant explained that:

> Many modules…I see…being unfair especially in my case of educational management with thirteen [modules]… [compared] to that one of special needs [education] and that one for Mathematics. We are working together with those students…they complete the course…

Both Astin (1993) and Entwistle (1986; 1993) found that insufficient instructional design of a programme, e.g. poor module alignment, negatively influences student satisfaction.

## 4.2. Data Category: Students' Experience of Communication Received from the HE Environment

As part of ODL curriculum delivery, our HEI offers various support services to students, including regular mobile phone text messages (SMS communication), a call centre, personal telephonic assistance, e-mail messages, readily available course material via the internet, mobile learning through administrative SMSs, supportive screencasts, a mobi-site, and an online learning management system (Blignaut and Els 2010); this is in line with the open learning perspective of the National Commision on Higher Education Framework (SAIDE 1997). Our analysis revealed two sub-categories that are part of students' experience of communication received from HE, namely (i) language barriers and (ii) information via the internet. We also found two sub-categories associated with students' experience of communication received from HE, namely (iii) good communication and (iv) poor communication.

### 4.2.1. Data Sub-Category: Language Barriers

A number of participants stressed language barriers as a problem that affects their learning, as they were taught in their home language during their primary schooling. When they enrol for professional teacher development through HE, the language of teaching and learning is English, which, for most participants, is their third or even fourth language. Two participants described the frustration caused by language barriers as follows:

> We are using Tswana for teaching in our school and I sometimes struggle.
>
> …sometimes, it becomes difficult, you read, you don't understand what is needed for this assignment, then you have to go to the… Internet, or to other people.

Political, social, and economic environments influence the manner in which an adult learns. Barriers related to the social environment, such as different home languages and languages of instruction, negatively affects adult students' participation in HE, including their readiness to participate, and the value they attribute to their participation (Darkenwald and Merriam 1982).

### 4.2.2. Data Sub-Category: Information via the Internet

One participant described the advantages of Internet access for ODL students as follows:

> For those of us who has got Internet access, the layout on the internet and getting your results, and getting all those, it's so easy, you don't need to go and phone and write to the university and come see someone...

This finding resonates with the work of Ko and Rossen (2001), who regard ODL as advantageous because it makes learning accessible to students via the internet, providing control for students to manage all aspects of their learning. In a previous quantitative study (Van Zyl et al. 2013), we established, by means of inferential statistics (Spearman's rank-order correlations), that the e-readiness of student-teachers is implicit in their choice of ODL as educational delivery mode for their professional development.

### 4.2.3. Data Sub-Category: Good Communication

According to Bollinger and Martindale (2004) the major satisfaction indicators in DE include: communication, technological aspects, instructor issues, course management, course web site, navigational components, interactivity, and general information. Some participants praised the effectiveness of communication received from HE as follows:

> If maybe you are experiencing a problem in connection with your studies, you are able to phone and make an appointment and see the lecturer, in order to just explain to you what is expected of you…
>
> When you call them and ask for clarity, they… understand and responding to any questions asked
>
> Their communication with us via SMS, and even when you phone them… you also get help.

Communication via mobile text messages (SMSs) is an effective medium for HEIs to communicate with students within the South African ODL context, as they receive the information concerned instantaneously across geographical distance and socio-economic barriers (Maushak and Ellis 2003). In a previous research study involving N=87 ODL students (Van Zyl et al. 2013), 93.1% of the total sample indicated that our HEI should make more use of mobile communication to send information to students.

### 4.2.4. Data Sub-Category: Poor Communication

In contrast with the above, one participant shared less than satisfactory experiences regarding poor and inappropriate communication received from the HEI:

> I'm not very satisfied, there is poor communication, and they can send message that say 'Come and attend contact sessions' but when we come… we find nothing…Another thing…when you phone in, the lecturers, some of them don't answer their phones…especially when we are about to write exams.

Students are notified by mobile text messages of changes made to contact class time-tables. Students are furthermore encouraged to download up-to-date time-tables from our online learning management system regularly. In cases where lecturers are not readily available when students phone in, students are encouraged to send emails to lecturers, or to phone in to the call centre and leave messages for lecturers, who then phone students back in order to address their enquiries. In order to improve communication with students, this study recommends that our HEI make students more aware of alternative ways to communicate with lecturers and to check for up-to-date information related to time-tables regularly.

## 4.3. Data Category: Environmental Satisfaction

Browne, Kaldenberg and Brown (1998), as well as Astin (1993), report that environmental satisfaction influences student satisfaction and students' experiences during their educational programme. Lawton (1985, 45) defines environment as the 'set of stimulus or context which is seen as having potential demand character for any individual'. Our analysis revealed two sub-categories that are part of students' environmental satisfaction, namely (i) satisfaction with teaching and learning, and (ii) distance from the campus.

### 4.3.1. Data Sub-Category: Satisfaction with Teaching and Learning

Overall, participants responded positively with regard to teaching and learning presented at the contact classes:

> Guidance was given on assignments and I managed to complete them with easy. Everything has been going on well in my first semester...
>
> I'm more than happy; the lectures are excellent…lecturers guide us on how to go about with the learning material…They also give clarification for understanding the assignments. They also guide us for preparing… for exams.

Wiers-Jenssen, Stensaker and Grogaard (2002) found that student satisfaction relates to students' assessments of various services provided by HEIs, which includes maintaining and improving the quality of teaching and learning, as well as constructive supervision and feedback from academic staff.

### 4.3.2. Data Sub-Category: Distance from Campus

Some participants expressed their environmental dissatisfaction related to large geographical distances from campus, especially large geographical distances they have to travel in order to attend supportive contact classes and to write examinations, and the high travelling expenses involved:

> I will just say… so far I am very much satisfied. Although, I am struggling [with] travelling, because we are far… from the contact session centres...
>
> Contact sessions are… hectic… I'm travelling about 140km single, [and] 140km back home.
>
> [I] spend a lot on travel… financially its' petrol...

Other researchers, including Astin (1993), Brown and Dowling (1998), and Castles (2004), also found that environmental barriers, such as large geographical distance, negatively influence student satisfaction.

## 4.4. Data Category: Support from HE

Participants reported the following as essential parts of the support they receive from our HEI: (i) bursaries; (ii) organisational aspects; and (iii) library and other resources. They furthermore associate general support with the support received from HE.

### 4.4.1. Data Sub-Category: Bursaries

One participant responded positively with regard to the support received from the HEI when there was a problem with the granting of a bursary:

> And I must say…the support system we've got here…I had trouble…doing my second year, and there was trouble with my bursary...

In the literature, numerous authors (Allen et al. 2002; Bean and Bradley 1986; Bollinger and Martindale 2004; Elliott and Healy 2001; Liegler 1997; Sahin 2007) also report that student satisfaction relates to the granting of bursaries.

### 4.4.2. Data Sub-Category: Organisational Aspect

Some participants argued that our HEI should reorganise the BEd Hons programme, as many of them struggle to cope with the demands set by the programme. One participant cautioned that if our HEI 'does not organise itself, they will be a building without people'. The study content, learning outcomes and assessment criteria of our ODL BEd Hons programme are accredited according to the prescribed learning outcome credits and requirements set by the South African Qualifications Authority (SAQA) for various qualifications, and are in line with the requirements set by the Higher Education Qualifications Sub-Framework within the National Qualifications Framework, stipulated by the Council of Higher Education (2004a; 2004b). Amongst others, Fraser and Killen (2005), Trinidad and Pearson (2004), as well as Wilson (2001), also report that study content, assessment, as well as study requirements to achieve specific learning outcomes, could have a negative influence of student satisfaction in ODL.

### 4.4.3. Data Sub-Category: Library and Other Resources

According to participants who attended contact classes near our HEI, they did not experience problems accessing resources, compared to those students who attended contact classes at distance learning centres. Some respondents explained that a lack of available resources led to their inability to submit the expected assignments for modules within the ODL programme. In the words of one of our participants:

> My fear is… I don't know if I'm going to make it in time, because… time has gone by, and I'm far behind… the reason for that being… where I'm staying, my library is very empty. I can't find resources…

Liegler (1997) describes student satisfaction as the degree to which students' needs and expectations are met with regard to aspects of curriculum design, including the availability of study resources, student support and relationships with academic staff. Self-directed learning is promoted in the ODL programmes of our HEI. Knowles (1975, 18) defines self-directed learning as 'a process in which individuals take the initiative with or without the help of others, to diagnose their learning needs, formulate learning goals, identify human and material resources for learning, determine and implement appropriate strategies, and evaluate learning outcomes'.

### 4.4.4. Data Sub-Category: General Support

Some participants responded positively with regard to the support they received from the HEI in general, especially from lecturers and administrative personnel. One participant requested additional support to students in the form of accommodation during contact classes and examinations.

> Yes, I could say… I strongly feel that… generally, the support system from… [the] University it's quite good….
>
> I think, if they maybe can… organise accommodation for us.

The available literature links student satisfaction with various forms of support that students receive from HEIs, including the fulfilment of students' needs and expectations, as well as the provision of study resources, infrastructure, general student support (Allen et al. 2002; Bean and Bradley 1986; Bollinger and Martindale 2004; Elliott and Healy 2001; Liegler 1997; Sahin 2007). In order to attract and retain students, HEIs must identify and meet student expectations (Elliott and Healy 2001). However, the abovementioned student request that our HEI should provide accommodation during contact sessions for the more than 30 000 students who are enrolled for various ODL programmes, is logistically and financially inviable.

## 5. STUDENTS' SATISFACTION WITH THE HE ENVIRONMENT: SYNOPSIS AND RECOMMENDATIONS

Participating students' perception of the quality of the academic programme plays an integral role in their overall satisfaction. This finding concurs with reports in existing literature that students' academic satisfaction relates to their perception of the quality of an academic programme, including its curriculum design, instructional design, delivery mode, and study material (Aitken 1982; Allen et al. 2002; Astin 1993; Bean and Bradley 1986; Belcheir 1999; Bollinger and Martindale 2004; Castles 2004; Danielson 1998; Elliott and Healy 2001; Sahin 2007). While gauging the quality of the programme, students considered various quality-related aspects. The most obvious of these is the academic quality of the programme and the extent to which the programme contributes towards their future professional development as teachers. The perceived value of the programme for the development of their careers was a powerful consideration. Most students were of the opinion that the specific programme added value to their professional development and their careers. One can only speculate to what extent South Africa's socio-economic development, from a developing country to a newly industrialised country, may have influenced the strong anticipation of our participants that their successful completion of a high quality programme will pave the way to better career prospects and benefits.

Communication from the HEI emerged as being of vital importance for student satisfaction. This included aspects like the bridging of language barriers and the distribution of information and general communication. Some students were not satisfied with the inadequate communication and feedback they received from our HEI in response to their requests and enquiries. Our HEI should seriously consider this issue, as effective communication with ODL students, who are mostly situated in remote rural areas, is of the utmost importance. Good communication contributes towards making learning accessible to students, which provides control to students for managing their learning (Ko and Rossen 2001). Our findings confirm that environmental satisfaction influences student satisfaction and experiences, as previously reported by Astin (1993), as well as Browne, Kaldenberg and Brown (1998). Although the North-West University strategically established 63 contact centres throughout South Africa and Namibia, as part of its dedication to ensuring the availability of at least one contract centre geographically situated within a 100km radius for each of our 30 000 ODL students, many participants, nonetheless, complained about the distances they have to travel to contact centres, that are also used as examination venues. However, on the whole, most students seemed satisfied with the learning environment at the contact centres and the guidance they received.

Students acknowledged their dependence on our HEI for resources and support. Fraser and Killen (2005), Trinidad and Pearson (2004), as well as Wilson (2001) remind

HEIs to not lose sight of the fact that students view them as the ultimate provider of knowledge, communication, interaction, and resources.

In order to establish and maintain a high level of student satisfaction with the HE environment, we inductively recommend the following in line with our findings:

- Ensure that the ODL programmes add value to students' professional development and careers
- Create and constantly assess structures and modes of communication by inter alia bridging language barriers and creating internet access for students
- Continuously expand and extend the range and quality of resources
- Strive to improve support to students by assessing their academic needs.

## 6. PROPOSED INDUCTIVELY DERIVED RESEARCH FRAMEWORK FOR STUDENT SATISFACTION IN ODL

In Table 3, we recommend specific strategies to address the various issues reported by our student participants that negatively influence their student satisfaction with the HE environment.

Figure 3 presents the proposed Research Framework for Student Satisfaction in ODL, which we inductively derived from our qualitative findings. The research framework encompasses inductively derived research questions related to four research components, namely (i) ODL student satisfaction with the HE environment, (ii) ODL client satisfaction with the HEI environment, (iii) student satisfaction with the ODL environment, and (iv) student satisfaction with the HE/HEI environment, derived from the amalgamation of the first two research components. As already explained, this paper only reports on the qualitative findings and inductively derived research questions related to the first research component, namely *ODL student satisfaction with the HE environment* (component shaded in Figures 1 and 3).

With regard to ODL student satisfaction with the HE environment, the following research questions are inductively derived from the findings of our qualitative study for future consideration:

- *How satisfied are ODL students with the HE environment?*
- *How can programmes add value to students' professional development and careers?*
- *How can structures such as internet platforms and modes of communication contribute towards the bridging of language barriers in HE?*
- *What range and extent of quality resources should be available to HE students?*
- *How can HE improve student support for meeting their academic needs?*

**Table 3:** Recommended Strategies to Address the Various Issues Reported by Participants that Negatively Influence their Student Satisfaction with the HE Environment

| Issues Reported by Participants | Recommended Strategies to Address and Solve Issues | | |
|---|---|---|---|
| Parts of the existing module content are irrelevant to the educational contexts of a minority of students, resulting in inadequate improvement of students' preparation for future professional development and careers | **Improve students' preparation for future professional development and careers:**<br>▪ Conduct in-depth qualitative case studies to identify, explore and describe other possible educational contexts for which existing module content is irrelevant<br>▪ Provide information and training sessions for curriculum designers, module developers and lecturers to make module content, learning outcomes, and assessment more inclusive and of practical relevance to diverse educational contexts of students<br>▪ Improve programme design by revising module content, learning outcomes and assessment to be more inclusive and of practical relevance to diverse educational contexts of students | **Improving Quality of the Programme** | **IMPROVING STUDENT SATISFACTION WITH HE ENVIRONMENT** |
| Discrepancies exist between the number of modules across the different specialisations in the programme | **Align the number of modules across the different specialisations within the programme:**<br>▪ Perform a SWOT matrix-analysis (Dyson 2004) to determine the financial, logistical and practical feasibility of equally aligning the number of modules across the different specialisations within the programme.<br>▪ Potential improvement of programme design by aligning the number of modules across the different specialisations in the programme | **Improving Quality of the Programme** | |
| Existing language barriers (between the language of instruction and various home languages of students) have a negative influence on students' learning | **Bridge existing language barriers:**<br>Supply additional administrative and/or academic support in the home languages of students to relieve existing language barriers, via:<br>*Administrative staff/tutors/lecturers who are proficient in the home languages of students*<br>▪ Identify administration staff, tutors and lecturers at the HEI who are proficient in different home languages representative of the student population in the programme<br>▪ Inform students that, where possible, additional administrative and academic support is available in their home language or a related language (belonging to the same language group) upon request<br>▪ Help-desk that refers/connects students, who request additional support in their home language, to administration staff/tutors/lecturers that are able to provide such support in the home language of students<br>*Generic student support via pre-recorded multimedia/ printed documents translated into the various home languages representative of the student population within the programme.* | **Improving Communication** | |

| Issues Reported by Participants | Recommended Strategies to Address and Solve Issues | | |
|---|---|---|---|
| Poor communication related to re-scheduling of time-tables that is not communicated effectively to students, as well as lecturers who are not always readily available to provide telephonic support to students, hampers students' academic progress | **Improve communication between lecturers and students:**<br>▪ Make sure all students receive SMS messages with regard to re-scheduling of time-tables, e.g. of contact classes or examinations.<br>▪ Make more use of mobile communication, e.g. SMS messages and the existing mobi-site to communicate administrative and academic information to students.<br>▪ Make students more aware of where they can find and download up-to-date information related to time-tables.<br>▪ Make students more aware of alternative ways to communicate with administrative staff and/or lecturers responsible for different modules, e.g. via e-mail messages, online learning environments, mobi-site, etc.<br>▪ Install and implement telephonic answering machines in the offices of lecturers to automatically answer and take voice messages from students when lecturers are out of office so that lecturers can follow up such enquiries in order to provide more effective student support. | Improving Communication | |
| Large geographical distances from contact classes and examination centres are a burden to students | **Address problems related to large geographical distances from campus:**<br>▪ Make students more aware of where they can watch and/or download recordings of Interactive Smart-Board broadcasts related to the different modules within the programme.<br>▪ Investigate the feasibility of implementing alternative means to assess students' attainment of learning outcomes within modules, e.g. through online assessment applications and the use of portfolios to assess students instead of examinations. | Improving Learning Environment | IMPROVING STUDENT SATISFACTION WITH HE ENVIRONMENT |
| Students struggle to cope with the demands set by the programme | **Improve organisational aspects of the programme:**<br>▪ Identify and implement alternative strategies to support students to cope with the various demands set by the programme | Improving Student Support from HE | |
| Insufficient library and other study resources | **Improve library and other resources**<br>▪ Increase the supply of study resources at tuition/study centres<br>▪ Obtain copyright permission from publishers to make more study resources, in the form of e-books, readily available to students via online learning environments and the Mobi-site<br>▪ Obtain copyright permission from publishers in order to include selected parts of text books in the study material sent out to students | Improving Student Support from HE | |

We recommend that researchers take note of these research questions as possible starting points for future research, both qualitative and quantitative, with regard to ODL student satisfaction with the HE environment at our HEI. It has become essential for all HEIs to conduct research on student satisfaction in ODL, not only to advance course delivery in order to increase student retention and throughput rates, but also as a direct measure for the success of their ODL delivery modes. Although the findings of our qualitative investigation specifically relate to our HEI as a unique case study, and therefore should not be generalised to other contexts, the first research component of the proposed research framework that was inductively derived from the narratives of our students' sharing their real life experiences and satisfaction with our HE environment could, nonetheless, serve as a valuable point of reference for other researchers in order to establish conceptual research frameworks, and to formulate research questions for their scientific inquiries into ODL student satisfaction with HE environments.

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