

WHAT CAN WE STILL OFFER? UNDERSTANDING STUDENT SUPPORT IN DISTANCE EDUCATION TEACHER PREPARATION PROGRAMMES

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ABSTRACT

Most of the available literature underscores general high student attrition in distance education (DE), emphasising a lack of relational and academic support as being largely to blame for these attrition rates. The literature on student support in DE seems to indicate an institutional responsibility to curb attrition. In the realisation that this assertion is an incomplete understanding of the factors that influence attrition, the current study focused on describing the self-efficacy dispositions of in-service teachers enrolled in a DE programme. The research was theoretically underpinned by Bandura's self-efficacy theory and applied a quantitative descriptive approach. The study population comprised of 1800 DE students at Solusi University in Zimbabwe. Stratified sampling was used to select 360 students as respondents. Data were collected using Schwarzer and Jerusalem's (1995) Generalised Self-Efficacy questionnaire which employs a 10-item Likert scale. Data analysis was based on exploratory factor analysis. The results indicate that to continue with their DE studies, students require coping skills, proactivity, ingenuity, problem-solving ability and tenacity as self-efficacy dispositions. In line with the study's findings, it is recommended that further research in student support could focus on the extent to which identified self-efficacy dispositions predict success in both the continuous and final assessment in DE.

Keywords: Bandura self-efficacy theory; Generalised Self-Efficacy Questionnaire; distance education; student attrition; student support; teacher preparation programmes



INTRODUCTION

The purpose of this study was to describe the self-efficacy dispositions of in-service teachers enrolled in a distance education (DE) programme. International bodies, politicians, policy makers and researchers have always been interested in the way teachers are prepared for the classroom. This interest is a result of the knowledge that the quality of teachers is an indicator of a country's developmental level (UNESCO Institute for Statistics 2006). In most countries, DE is seen as a way of accelerating the process of achieving quality teacher education (Edwards 2005). According to Gultekin (2009, 2), a DE mode of study is used in teacher education for initial teacher qualifications, continuing professional development, re-orientation of teachers for curriculum change and teachers' career development. DE is seen as providing support to match the ever-changing teaching competencies, knowledges and skills (Burns 2011; Gultekin 2009; Edwards 2005). Therefore DE provides teachers with an opportunity to continue working while they access the teaching competencies needed in a dynamic and diverse classroom. However, the dual roles that students in DE have as both workers and students require that they are supported to complete their studies (Edwards 2005).

Notwithstanding the flexibility inherent in the DE mode of delivery, Simpson (2013a, 105) states that there is a growing challenge to its viability as "there is a fundamental problem at the heart of international distance education – the problem of student retention and dropout". Authors such as Heydenrych (2010), Gatsha and Evans (2010) and Stewart, Goodson, Miertschin, Norwood and Ezell (2013) suggest that student support is an important aspect in retaining DE students. Gil-Jaurena (2014) maintains that the function of student support in DE can be described as involving systemic, affective and cognitive aspects meant to scaffold the student in order to achieve academic success. In the past years, research in DE has emphasised the systemic and affective qualities of student support, with little or no exploration of the students' self-efficacy dispositions that motivate them to attain academic success (Gil-Jaurena 2014). By design, according to Brindley and Paul (2004, 40) DE programmes are made up of "isolated students who are left to fend for themselves". Accordingly, this begs the question of which self-efficacy dispositions are required for in-service teachers enrolled in a DE programme. The current study answered this question by describing the self-efficacy dispositions of in-service teachers enrolled in a DE programme.

Most students in DE programmes are from rural or semi-rural settings (Gatsha and Evans 2010). What this means is that most of them are isolated from the resources that DE institutions offer as student support. Brindley and Paul (2004) comment that such isolation from academic support might have a detrimental effect on the students' performance. In understanding this isolation, Coetzee and Botha (2013) investigated the way in which DE undergraduate students' self-direction relates to their examination preparation. They found that academic success in DE create a

degree of balance in undergraduate students' practical and theoretical learning styles. Their findings indicate an integration of support from the institution in terms of developing theoretical foundations for the modules being studied, while on the other hand, practical learning styles indicate the need for DE students to support their own learning in terms of studying and time management.

Another study on understanding the demands and the experiences faced by DE students was carried out by Geduld (2013). Using a qualitative study, Geduld (2013) found that DE students experienced challenges in terms of access to resources, the language of learning, teaching and examination (English) and personal dispositions such as coping and stress. From the findings, Geduld (2013) proposed that DE students require emotional and social support, and cognitive and system support for the academic side. Notwithstanding the findings of Coetzee and Botha (2013) and Geduld (2013), even with limited resources challenges with incompatible learning styles for DE, personal characteristics and language limitations, some students in DE from deprived areas have completed their studies. This suggests that although resources, language, and personal and learning aspects play a decisive role in academic performance they do not fully explain the concept of student challenges and support in DE holistically.

Furthermore, studies that are used to inform practices in student support in DE rarely sample populations from settings such as sub-Saharan Africa (Baloyi 2010). This implies that the decisions made in student support that follow international practices support a Western (European and North America) perspective that addresses the needs of students from other geographical locations (Gatsha and Evans 2010). Realising this gap, the present study sought to describe the self-efficacy dispositions of in-service teachers enrolled in a DE programme at Solusi University. Specifically, the study answered the question: What are the self-efficacy dispositions of in-service teachers enrolled in a distance education programme?

STUDENT SUPPORT IN DISTANCE EDUCATION: WHAT DOES IT MEAN?

The definition of student support in DE differs greatly from one researcher to another. What this suggests is that there is no all-embracing definition of student support in DE. In the literature, what constitutes student support is fiercely debated (Gatsha and Evans 2010). Stewart et al. (2013) maintain that student support in DE comprises of three categories, namely a course and design element (course design and content delivery), instructional support services (student organisations, academic services centre and technical services) and university support services (orientations, success and retention programmes, general university support services, scholarships and awards, library resources, computing and technology).

Student support in DE also refers to the general assistance that students require to complete their studies (Kelly and Mills 2007). On the other hand, Simpson (2013b) states that student support in DE consists of administrative, personal and academic support. Berge and Huang (2004) delineated three thematic factors in understanding the reasons for student support in distance education, highlighting these as circumstantial, personal and institutional variables. Gatsha and Evans (2010, 164–165), on the other hand, found that in the context of a nomadic tribe of Botswana, student support consists of transition (student access to the changing and modern world through the DE programme), transitional presence (the possibilities of the DE programme to assist the student to access economic benefits) and transitional tension (connectedness between the student and the institution). What is clear from the studies above is that there is a lack of understanding of the student's own contribution in supporting their learning in DE. Thus, in the context of the study, student support refers to individuals' self-efficacy qualities that enhance learning opportunities in DE to "ensure an optimal fit between the aspirations, resources and abilities of students" (Heydenrych 2010, 7).

From the definitions enunciated above it becomes clear that there are two views among researchers on student support in DE. First, there are researchers who consider student support as referring to the availability of resources that one has while enrolled in DE programmes. Second, some researchers view student support as the ability of the institution to meet individual and customised services in DE. However, neither view explicitly emphasises the students' own dispositions as part of their support system. Against this background, this study aims to describe the self-efficacy dispositions of in-service teachers enrolled in a DE programme.

BANDURA'S (1986) SELF-EFFICACY THEORY

This study is underpinned by Bandura's (1986) self-efficacy theory. According to Bandura (1986, 21), self-efficacy is people's "judgments of their capabilities to organize and execute courses of action required to attain designated types of performances". From the definition, it would seem that self-efficacy has to do with the beliefs individuals hold that motivate them to organise and complete given tasks (Artino 2012). In DE, this means that the student's academic qualifications and the institutional activities to scaffold them in completing their programmes are inadequate without understanding their efficacy dispositions (Artino 2012). The theory of self-efficacy is important to DE as it allows students to predict behaviours that can enhance or hinder their academic performance (Barnett 2007).

Bandura (1986) states that human beings' functions and actions are influenced by their beliefs; human beings' beliefs guide their choices, efforts, resilience, thought patterns, efforts and emotional reactions (Bandura 1986). In terms of choice, human beings tend to choose activities that they believe will exhibit their competences

(Pajares 2002). According to Bandura (1986), the efforts that one exerts in order to perform and complete activities successfully determine one's perseverance and resilience. This implies that individuals with high self-efficacy are keen learners and committed to completing tasks (Pajares 2002). The ability to perform and complete a task influences one's thought patterns and emotional reactions, which lead to self-enhancement and confidence in carrying out future tasks (Bandura 1986). This suggests that student achievement is influenced by anticipated outcomes and moderated by the efficacy dispositions (Bandura 1986; 2007). Within the context of this study, self-efficacy beliefs are important for understanding DE students' choices, initiation and persistence (Shea and Birdjerano 2010) with regard to their studies.

There are four sources of self-efficacy according to Bandura (1986). The first source is mastery experiences that take place when a student successfully completes tasks. The second source is social modelling, which is a result of the student observing others in similar situations as themselves completing the tasks. The third source is social persuasion, which is the positive and verbal encouragement that one requires when completing a task. Bandura (1986) emphasises that mastery experiences, social modelling and social persuasion are influenced by the fourth and most important source – psychological responses. Psychological responses refer to an individual's mood, emotion and stress which influence their perseverance and resilience levels in performing a task. Therefore, self-efficacy theory is critical in understanding the DE students' personal dispositions in controlling and regulating their academic performance (Shea and Birdjerano 2010; Bandura 2007; Lynch and Dembo 2004). To understand the student's own effort in DE programmes, this study sought to describe the self-efficacy dispositions of in-service teachers enrolled at Solusi University.

SOLUSI UNIVERSITY TEACHER PREPARATION PROGRAMME

Solusi University is a Seventh Day Adventist church-run institution of higher learning in Zimbabwe. The University has a DE programme which is incorporated into the Faculty of Education. The students admitted to this programme are qualified in-service teachers who are improving their qualifications from a Diploma in Education (DiE) to a Bachelor of Education (BEd). The DE programme at Solusi University is a four-year academic plan that runs during the school holidays (April, August and December blocks). During each block session, the student enrolls for three to four modules (courses). The students have a three-week contact session per each block during which they have lectures, class presentations and in-class tests. After the block contact session, the students are required to conduct a research-based assignment for each course which is submitted during the next block session. The final examinations

are also written in the next block session. For example, April final examinations are written during the next block session in August.

METHODOLOGY

A quantitative descriptive design was used to describe the self-efficacy dispositions of in-service teachers enrolled in a DE programme. The respondents were drawn from a population (N) of 1800 students in the Faculty of Education registered for DE at Solusi University. The student population in the Faculty of Education at Solusi University forms different groups according to the academic programmes they are pursuing. The three departments are Arts, Sciences, and Religious Education. Therefore stratified disproportionate sampling was used to select the respondents. This type of sampling is used when the sample (n) size is not proportional to the population (N) (Ross 2005). This means that although all departments were included in the sample, their numbers were not an indication of the actual percentage in the population. Data were collected during a contact session that was attended by all DE students. A list of all the students who were on campus was obtained from the Student Service Department. From the list, 360 students (20% of the total population) were selected from the four departments in the Faculty of Education. From each department 120 students were randomly selected.

Data were collected using the Generalised Self-Efficacy Scale developed by Schwarzer and Jerusalem (1995). The scale was used with permission from the authors. The Scale questionnaire is a 10-item scale that measures Bandura's self-efficacy. The questionnaire is scored using a response choice of not at all true (1); barely true (2); moderately true (3) and exactly true (4). The Generalised Self-Efficacy Scale has high internal consistency with $\alpha=0.82-0.93$ for the items. Schwarzer and Jerusalem (1995) used predictive and concurrent validity to measure the validity of the Generalised Self-Efficacy Scale questionnaire, which was subsequently found to be valid. Data were analysed using the Statistical Package for Social Science version 16 (SPSS®).

Exploratory factor analysis was used to analyse the data. Exploratory factor analysis is used to

reduce the number of variables; examine the structure and relationship between variables; detection and assessment of unidimensionality of a theoretical construct; evaluate the construct validity of a scale, test, or instrument; development of parsimonious (simple) analysis and interpretation, addresses multicollinearity, (two or more variables that are correlated) and to develop theoretical constructs (Williams, Onsmann and Brown 2010).

In the context of this study, exploratory factor analysis was used to uncover the self-efficacy variables that enhance student performance in DE. In addition, principal axial factoring was used for extraction while rotation was done using varimax. Varimax is a type of orthogonal rotation that maximises on the variance of the loaded

squared factors by column (Brown 2009). This means for example, high loadings reach their optimal levels as do the intermediate and lower loadings (Tabachnick and Fidell 2007).

RESULTS

From the exploratory factor analysis conducted, the sample was found to be adequate, as indicated by the Kaiser-Meyer-Olkin measure ($KMO=0.814$), while the Bartlett's test of sphericity ($p<.000$) was found to be appropriate for exploratory factor analysis to be conducted. In total, five items were retained as they had eigenvalues greater than one (factor 1=2.072; factor 2=1.510; factor 2; factor 3=1.287; factor 4=1.181 and factor 5 =1.018). The total variance explained for the five items was 44%. The scree plot had four places of inflection suggesting the retention of four factors. However, five factors were retained in line with the theoretical model explained by Bandura (2007).

The factor loadings are shown in table 1. From the analyses the DE students were found to have five dispositional characteristics that make up their self-efficacy, namely coping, proactivity, ingenuity, problem solving ability and tenacity. Factor 1, coping, refers to the students' ability to solve problems and cope with situations that are seen as stressful. The three items loaded under coping explained 10.564% of the total variance.

Table 1: Matrix of the five factors

	Factors				
	1 Coping	2 Proactivity	3 Ingenuity	4 Problem-solving ability	5 Tenacity
It is easy for me to stick to my aims and accomplish my goals.	.462				
I can solve most problems if I invest the necessary effort.	.637				
I can remain calm when facing difficulties because I can rely on my coping abilities.	.628				
No matter what comes my way, I am usually able to handle it.		.702			

	Factors				
	1 Coping	2 Proactivity	3 Ingenuity	4 Problem-solving ability	5 Tenacity
If someone opposes me, I can find means and ways to get what I want.			.543		
I am confident that I can deal efficiently with unexpected events.			.651		
I can always manage to solve difficult problems if I try hard enough.				.436	
Thanks to my resourcefulness, I know how to handle unforeseen situations.				.744	
When I am confronted with a problem, I can usually find several solutions.					.457
If I am in a bind, I can usually think of something to do.					.408

Proactivity is another aspect of the DE students' self-efficacy. The two items loaded under Factor 2 capture the students' ability to anticipate stressful events and cope with adversity. Factor 2, proactivity, explained 10.399% of the total variance. Factor 3 was called ingenuity. The two items loaded under Factor 3 show the students' ingenuity in the face of adversity. Factor 3 contributed 8.179% to the total variance. Students' problem solving ability efficacy is captured in Factor 4. The two items loaded under Factor 4 show that students are able to manage and confront difficult situations. The percentage variance for Factor 4 is 8.058%. The last aspect of the students' self-efficacy is tenacity. The two items loaded under Factor 5 capture the students' ability to be persistent in the face of opposition. Factor 5 explained 6.665% of the variance.

DISCUSSION

The purpose of the study was to describe the self-efficacy dispositions of in-service teachers enrolled in a DE programme at Solusi University. The study was underpinned by Bandura's self-efficacy theory, the importance of which for DE has been well-

demonstrated in previous studies (Artino 2012; Shea and Bidjerano 2010; Lynch and Dembo, 2004; Pajares 2002). Specifically, this study answered the question: What are the self-efficacy dispositions of in-service teachers enrolled in a DE programme? In this study, self-efficacy is used in the sense that it helps explain students' ability to control, initiate and conduct own learning in DE. From the results, self-efficacy dispositions that DE students hold are coping, proactivity, ingenuity, problem solving and tenacity. Under the discussion section, I structured my thoughts on the insights provided by the results to the body of knowledge in DE student support research.

In line with the findings of Geduld (2013), Simpson (2013a) and Lynch and Dembo (2004), this study found that the DE students were able to cope with situations that were appraised as stressful. Their coping abilities were honed by their proactive dispositions. DE students who are proactive are able to anticipate and resolve challenges before they happen. This article lends further support to Bandura (2007), as it is through ingenuity that the DE students were able to find innovative and "just-in-time" solutions to academic challenges. This means that DE students are on a perpetual journey of problem solving. As problem solvers, DE students are persistent and determined to complete their studies (Shea and Bidjerano 2010; Pajares 2002). This implies that DE students who are successful in completing their studies have a tenacious disposition (Bandura 2007).

As a novel finding, the DE students in this study showed that self-efficacy is not a single unitary factor as indicated by Schwarzer and Jerusalem (1995). The results highlighted five factors as making up DE students' self-efficacy dispositions. Akin to Yeazel (2008), the findings point to the importance of thinking dispositions in completing DE studies. The five factors described in this study provide an understanding of student support as a more cognitive, affective, personal and value-laden dimension (Barnett 2007).

CONCLUSION

Student support in Higher Education remains a critical approach to curbing the attrition of in-service teachers enrolled in DE programmes. This study demonstrates that while in-service teachers require orientation, success and retention programmes, general university support services, scholarships and awards, library resources, computing and technology; self-efficacy dispositions such as coping skills, proactivity, ingenuity, problem solving abilities and tenacity are also important in managing the DE environments. Therefore this study acknowledges DE students as responsible and autonomous individuals. By choosing to address student support from a place of trust and empowerment, the study raised important questions focused on over-emphasising institutional support without focusing on DE students' self-efficacy dispositions. Hence an integrated approach to DE student support which

includes both university-based support systems and self-efficacy dispositions will go a long way in ensuring that students eventually succeed in their programmes.

RECOMMENDATIONS

As most studies in literature still focus on the institutional definition of student support, the current study was the initial step in describing the self-efficacy dispositions of in-service teachers enrolled in a DE programme. Additional investigation is still required to understand students' self-efficacy dispositions as a determinant of their academic success in DE. Although there are extensive studies on student support from an institutional standpoint, few studies have attempted to describe self-efficacy dispositions that enhance DE students' performance in the African landscape. Specifically, such future research could focus on how self-efficacy dispositions described in the current study predict DE students' academic success in terms of completing continuous and final assessments and their graduating within the expected years of completion.

Furthermore, both this study and previous studies have used self-efficacy measures developed in western contexts that are not always representative of non-western spaces. For example, this present study adopted a measure for self-efficacy that was designed in a different geographical location and thus could have limited similarities to the sub-Saharan realities. This suggests a need for further research that develops measures for describing DE self-efficacy dispositions based on data collected from African institutions and students.

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Addendum A: Based on your Distance Education studies, respond to the questionnaire below.
A Generalised self-efficacy scale (Schwarzer and Jerusalem, 1995)

To what extent do the following statements describe your approach to your DE studies?	Not at all true	Barely true	Moderately true	Exactly true
I can always manage to solve difficult problems if I try hard enough.	1	2	3	4
If someone opposes me, I can find means and ways to get what I want.	1	2	3	4
It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4
I am confident that I could deal efficiently with unexpected events.	1	2	3	4
Thanks to my resourcefulness, I know how to handle unforeseen situations	1	2	3	4
I can solve most problems if I invest the necessary effort.	1	2	3	4
I can remain calm when facing difficulties because I can rely on my coping abilities.	1	2	3	4
When I am confronted with a problem, I can usually find several solutions.	1	2	3	4
If I am in a bind, I can usually think of something to do.	1	2	3	4
No matter what comes my way, I am usually able to handle it.	1	2	3	4

Addendum B: Permission to use Generalised Self-Efficacy Scale

Documentation of the General Self-Efficacy Scale 8



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Permission granted

to use the General Self-Efficacy Scale for non-commercial research and development purposes. The scale may be shortened and/or modified to meet the particular requirements of the research context.

<http://userpage.fu-berlin.de/~health/selfscal.htm>

You may print an unlimited number of copies on paper for distribution to research participants. Or the scale may be used in online survey research if the user group is limited to certified users who enter the website with a password.

There is no permission to publish the scale in the Internet, or to print it in publications (except 1 sample item)

The source needs to be cited, the URL mentioned above as well as the book publication:

Schwarzer, R., & Jonsaleen, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, Measures in health psychology: A user's portfolio. Causal and control beliefs (pp.35-37). Windsor, UK: NFER-NELSON.

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