COMPUTER EFFICACY TRAINING AND COGNITIVE BEHAVIOUR THERAPY IN THE MANAGEMENT OF COMPUTER ANXIETY AMONG NATIONAL OPEN UNIVERSITY OF NIGERIA FRESHMEN IN SOUTHWESTERN NIGERIA

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JOSEPH BABAJIDE OYADEYI

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CERTIFICATION

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DEDICATION

This research work is dedicated to the Almighty God who granted me His great mercy, love and grace to complete this study in record time.

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TABLE OF CONTENTS

CHAPTER FIVE – DISCUSSION, CONCLUSION AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Computer anxiety has been identified as a prominent drawback to many freshmen in the Open and Distance Learning (ODL) institutions in Nigeria. It is a known fact that inadequate computer skills coupled with computer anxiety are linked to attrition rate and poor academic performance among distance learners who by exigency should utilise computer to bridge the transactional and interactional distance that exist between them, their tutors and other relevant personnel. This is capable of jeopardising learners' adjustment, performance and general coping capacity. There is a plethora of studies on computer anxiety with little attention to intervention that could reduce the menace among ODL students. This study, therefore, determined the effectiveness of Computer Efficacy Training (CET) and Cognitive Behaviour Therapy (CBT) in the management of computer anxiety among National Open University of Nigeria (NOUN) freshmen in Southwestern Nigeria. The moderating effects of age and gender were examined.

Technology Acceptance Model provided the framework for the study while the pretest-posttest control group quasi-experimental design with a 3x2x2 factorial matrix was adopted. Three study centres of NOUN (Akure, Ibadan and Lagos) were randomly selected from the nine study centres of the university in Southwestern Nigeria. Eighty-five computer anxious freshmen who met the screening criteria were randomised into CET (30), CBT (25) and Control (30) groups. The interventions lasted eight weeks. The Computer Anxiety Scale Revised (α=0.89) with the norm of 60.0 was utilised for screening. Computer Anxiety Rating Scale (α =0.86) was used to measure the criterion variable. These were complemented by CET and CBT training guides. Analysis of covariance and Scheffe post-hoc test were utilised for data analysis at 0.05 level of significance.

Participants' mean age was $\bar{x}$=29.69, with 56.5% females. There was a significant main effect of treatments on the management of computer anxiety of NOUN freshmen ($F_{(2, 72)}$= 19.772, η^2 = 0.355). Participants in the CBT ($\bar{x}$=31.00) had the least computer anxiety compared to those in CET ($\bar{x}$=33.10) and the control ($\bar{x}$=38.07) groups. There was a significant main effect of age($F_{(1, 72)}$= 8.927, η^2 = 0.110)on computer anxiety. The older NOUN freshmen ($\bar{x}$= 34.15) significantly benefited more than younger NOUN freshmen ($\bar{x}$= 44.27). There was no significant main effect of gender on computer anxiety.There were no two-way interaction effects of treatment and age and treatment and gender on computer anxiety. The three-way interaction effects of treatment, age, and gender was also not significant.

Computer efficacy training and cognitive behaviour therapy were effective in managing computer anxiety of National Open University freshmen in Southwestern Nigeria. Educational and counselling psychologists should largely adopt cognitve behaviour therapy in the reduction of computer anxiety and service providers should take cognisance of age in computer appreciation training for open distance learning students.

Keywords: Computer efficacy training, Cognitive behaviour therapy, Computer anxiety, National Open University of Nigeria

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CHAPTER ONE

INTRODUCTION

Background to the study

Anxiety is one of the psychological disorders which affect normal life of individuals. Anxiety can manifest in diverse ways in an individual's life. Every humankind experiences anxiety with its attendant consequences at one point or the other depending on situation around such individual. It is one of the most widespread and persistent human emotions that affect individuals emotionally, physiologically and cognitively.

Anxiety is a major predictor of academic performance and various studies have demonstrated its dangerous effects (McCraty, 2007; McCraty, Dana, Mike, Pam and Stephen, 2000). Anxiety is a common emotional response involving fear, trepidation and phobia to circumstances, objects and experiences (Akintumi, 2001). This can be devastating when it inhibits performance of tasks that are inevitably important and unavoidable. Many students of the National Open University of Nigeria (NOUN), particularly those in their first year of study exhibit computer anxiety which constitutes a clog in the wheel of progress in their studies and a serious inhibiting factor to their performance and general achievement. A computer-anxious learner may not cope adequately in the Open and Distance Learning (ODL) environment.

Distance education in the 21st century encompasses the use of computer mediated resources in most of its activities globally. Such tasks include course and examination registration, facilitation (online), Tutor/Computer Marked Assignments (Continuous Assessment), counselling, advice and guidance and other learner support services. In such setting, learners are physically separated from their lecturers (facilitators) and other learner support personnel, but the separation is mediated or bridged through Information and Communication Technology (ICT). Adequate computer skills devoid of anxiety are therefore quintessential and germane to the success of distance learners. Studies have shown positive correlation between computer skills and programmeme completion by distance learners. Conversely, inadequate computer skills and computer anxiety relate positively to attrition rate among distance learners (Ofole, Fawusi and Oduneye, 2012).

Open and distance learning (ODL) is one of the most growing fields of education and its potential impact on education delivery system has been accentuated through the development of Information and Communication Technology-based technologies, and in particular the World Wide Web (Olusola and Alaba, 2011). However, it has been observed that distance learners with computer anxiety find it difficult to cope and benefit maximally from the online opportunities available in the ODL environment. Such online opportunities include student support services, access to electronic information, virtual libraries hosting a large collection of electronic databases, ebooks, free research publications, learner management system and collaboration with facilitators/lecturers and students (NOUN, 2011). Distance learners' computer anxiety is capable of impeding academic success and general comfort in the pursuit of their studies. Apart from these, it could lead to other things like dropout, lack of interest in studies, failure, and unnecessary physical and emotional stress.

Engaging and retaining students in distance learning can be challenging because the students are transactionally and interactionally distanced from teaching, support staff and other learners despite large number of study centres created by open and distance learning (ODL) institution such as NOUN. Globally, Information and Communication Technology is rapidly becoming an accelerator of political, economic, social and educational globalisation. Computer technology is the engine of the modern civilisation and the driving force of the information age (Ituen, 2009). In today's global and competitive environment, interactive computer technology is becoming a widely accepted tool for multi-facet development in view of the flexible, quality services it offers and the potential to revolutionize the traditional education system. ODL programmeme is computer driven worldwide. Despite this fact, it is not good news that many prospective students of distance learning do experience computer anxiety. And this may frustrate the speed at which they would achieve their educational objectives.

Computer anxiety is a common emotional response to computers characterized by the fear that many adults exhibit. Fear and anxiety toward subject matter are conditions that tend to support negative learner attitudes and repel adult interest (Wlodkowski, 1993). Interaction between humans and computers is complex. Hakkinen (1994) suggests that this interaction may incite a variety of emotional responses, including anxiety. The

fear of computers interferes with the communicative nature of human-computer interaction.

Anxiety usually occurs when something new is being learned. This causes resistance to change and has negative effects on cognitive performance. Adults learning to use computers often fear the unpredictability of computers, public exposure of ignorance, and threat of failure. These fears contribute to negative learner attitudes and are detrimental to learning (Wlodkowski, 1993). Decreasing computer anxiety is a preliminary step in, or our initial goal of computer instruction.

Computer anxiety is a construct that has lived with many users since its invention. In this twenty-first century, computer (and ICT) has permeated virtually every aspect of human life including education. Studies have shown the relatedness of computer anxiety and performance effectiveness among students generally and distance learners specifically (Oluwole, 2009; Wang and Newlin, 2002). Computer anxiety stands to have far-reaching negative effects on distance learners because of high level integration of computer-mediated resources involved in such setting. Computer anxiety is a form of disposition that negatively affects the use of computer or effective performance of computer-related tasks by an individual. It is one of the basic factors affecting computer usage. Marcoulides (1989) describes computer anxiety as a prejudice or fear that occurs when a person uses computer technology or when they think about the results of computer usage. Hakkinen (1994), on the other hand, states that the concept of computer anxiety is used to define fears and suspicions of people unfamiliar with computer. Chau, Chen, and Wong, (1999) describe computer anxiety as a fear of computers when there is a probability of using computer or while using it.

Computer anxiety is doubtlessly one of the major factors affecting coping capabilities of open and distance learners in Nigeria. Prominent factors that hinder the effective application of ICTs to open and distance education in Nigeria include low ICT skills, poverty; epileptic supply of electricity, political bottle necks, poor economy and culture. This has subjected many to test anxiety, reluctance to write the online Tutor Marked Assignments, use of third party to help submit assignment online due to computer apprehension, incessant suspension/deferment of examination and outright withdrawal from programmeme, among others. This apprehension is not limited to those

already admitted but also the prospective students. A good number of candidates who reported for enquiry often inquire of whether it is true that assignments and some examinations are written online in the only single mode open and distance learning institution in the country, the National Open University of Nigeria. Most of such prospective learners never proceeded to apply for admission. This apprehension is further compounded by their low level of computer literacy and competence. The issue of computer anxiety is an inhibiting factor for optimal achievement among distance learners. Therefore, the independent variables in this study are computer efficacy training and cognitive behaviour therapy.

When the definitions of computer anxiety are examined, the situation related to individual's feeling of fear and anxiety that he/she experiences while using computer or when there is a probability of using it, are some of the main points taken into account. Along with the technological development, course of and access to information which once required considerable amount of time is shortened, making use of multiple sources for fulfilling information needs possible. Miura (1987) has suggested that self-efficacy may be an important factor related to the acquisition of computing skills. Computer efficacy is a specific type of self-efficacy. Specific self-efficacy is defined as belief in one's ability to mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands (Wood and Bandura, 1989). Thus, Computer efficacy is a belief of one's capability to use the computer (Compeau and Higgins, 1995) and participants with little confidence in their ability to use computers might perform more poorly on computer-based tasks (Oluwole, 2008). On the other hand, previous computer experience may lead students to believe computer applications courses are easy. Heightened self-efficacy may cause students to expend little effort toward learning new computer concepts. On the other hand, Brosnan (1998) argued that better computer efficacy could increase persistence in studying computing.

Some studies have demonstrated the effect of computer efficacy on computer anxiety and computer related behaviours (Kiliç, 2015; Zhang and Espinoza, 1998). Computer efficacy has been shown to be positively related to performance during computer training (Webster and Martocchio, 1992). A student's confidence about computer skills may affect the willingness to learn about computer skills. The less

confident a student feels about computer skills, the less he or she desires to learn about computer technology (Zhang and Espinoza, 1998). Computer efficacy was also found to be associated with attitudes toward computer technologies and computer anxiety (Zhang and Espinoza, 1998; Cazan, Cocorada and Miacan 2016). Furthermore, Zhang and Espinoza (1998) also reported that past enrollment in computer programmeming courses was found to be positively related to self-efficacy and computer efficacy positively related to plans to take more computer related courses. A high level of computer anxiety, on the other hand, has been negatively related to learning computer skills (Harrington, McElroy, and Morrow, 1990), resistance to the use of computers (Weil and Rosen, 1995), and poorer task performance (Heinssen, Glass, and Knight, 1987). Taken together, these studies show that these three characteristics can have an important impact on computer use and ability to learn to use computers.

It is an established fact that self-efficacy positively correlates with computer value, but negatively correlate with computer anxiety (Medvin, Reed, and Behr, 2002). Self-efficacy training was effective in the management of computer anxiety and increasing computer efficacy and values. Computer efficacy therapy has been identified as a potent intervention that could manage computer anxiety effectively (Rosen, Sear and Weil, 1987, Brosnan and Thorpe, 2006).

Cognitive behaviour therapy (CBT) is a therapy that has the potential to manage or reduce different forms of anxiety (Busari, 2007; Snowden, Steinman and Fredick, 2008); hence it was adopted as an intervention strategy in this study. It is a form of psychotherapy that emphasizes the important roles of accurate and faulty thinking in individuals' actions. CBT is designed to produce changes in thinking and therefore changes in behaviour or mood (Busari and Uwakwe 2001). CBT also emphasises the learning process and the ways in which external environments can change both cognition and behaviour. CBT for most populations usually includes a range of behaviour performance-based procedures, and often involve the family or school in therapy. It may include individual work, group sessions, or both. The length of treatment varies considerably and depends on the severity of difficulties experienced (Busari, 2007).

Cognitive behaviour therapy in the context of this study aims at changing students' cognitive behaviours and emotive processes about computer anxiety. Subjects

are helped to retrain themselves and change misconceptions, strengthen their coping skills and increase their self-control. They are assisted to critically evaluate their attitudes and behaviours by recognizing, observing and monitoring their own thoughts and assumptions with a view to changing their irrational thinking, self-defeating statements and replacing them with constructive and rational thoughts and beliefs. This would lead to more constructive behaviour patterns.

Cognitive behaviour therapy has been widely used to treat anxiety, aggression, unhappiness, low self-concept; low self-esteem and conduct disorders (Busari, 2007; Snowden, Steinman and Fredick, 2008; Knoop, Stulemeijer, De Jong, Fiselier and Bleijenberg, 2008; Akin-Odanye, 2015). Against this backdrop, if the principles and techniques of cognitive behaviour therapy are applied on changing orientation of distance learners about computers, this could reduce their anxiety with optimal improvement on their interaction and effectiveness. Cognitive behaviour therapy is used by psychologists and therapists to help promote positive change in individuals, to help alleviate emotional distress, and to address a myriad of psycho/social behavioural issues. Cognitive behaviour therapists identify and treat difficulties arising from individuals' irrational thinking, misperceptions, dysfunctional thoughts, and faulty learning.

Age and gender are the moderators in this study. Several studies have shown that age is a factor to reckon with in relation to students' computer anxiety. Older and middle aged adults have shown low self-efficacy with respect to use of computers and higher computer anxiety than the younger adults (Czaja, Charness, Fisk, Nair and Rogers, 2006; Oluwole, 2009). Kelley and Charness (1995) also hypothesized the effect of age on computer performance due to age-related deficiencies, thus causing the need for more time to accomplish tasks. Such older behaviour computer users (particularly over the age of 65) have less confidence in their ability to use computers than did younger people and had fewer computer skills. This was seen to be partly due to their inability to adapt and use technology, thus placing them at a disadvantage in terms of their ability to successfully perform computer tasks with ease and devoid of anxiety. Researchers have also discovered that the older adult group of men and women (ages between 60 to 91 years old) have more computer anxiety and lower computer efficacy as compared to the younger group.

Some studies (Cambre and Cook, 1985; Yoon, Jang, and Xie (2015) found that adults were more fearful about using computers than children and teenagers. On the other hand, certain researchers reported no relationship between the two variables (Reed, Doty, and May, 2005). Hence the moderating role of age on computer anxiety is inconclusive.

Gender has been regarded as a factor to reckon with when considering computer anxiety. In this present age of globalisation, it is expected that the issue of gender and computer anxiety should be redundant. Nonetheless, in United Kingdom, the Higher Education Statistics Agency (HESA, 2000) reported that only 17% of enrollment to study computing at universities was female. Balka and Smith (2000) likewise reported that in the United States of America, the proportion of females studying computing was also getting less in recent years. Thus gender differences in computer use are still relevant, especially with the advent of the internet to continue to study the genderisation of computing as proposed by Gackenbach (1998). The research on gender and computing has often, although not conclusive, reported that males have more experience and use of computers (Brosnan and Lee, 1998; Balka and Smith, 2000).

Some studies have revealed that males have better computer efficacy and use the computer and internet than females (Balka and Smith, 2000, Sussman and Tyson, 2000); that females have more negative attitudes toward computers (Durndell and Haag, 2002); and greater computer anxiety than males (McIlroy, Bunting, Tierney, and Gordon, 2001). However, controlling for computer experience, men and women had similar interest toward computers (Badagliacco, 1990). Loyd, Loyd, and Gressard (1987) reported that female students had less computer anxiety than male students, and female students liked working with computers more than male students. Rosen, Sears, and Weil (1987) on the other hand, found that gender was not related to computer anxiety, but was significantly related to computer attitudes, with women having more negative attitudes.

In view of this above background, the present study intends to examine the effects of computer efficacy training and cognitive behaviour therapy in managing computer anxiety among NOUN freshmen in Southwestern, Nigeria.

Statement of the problem

The growth rate for enrollment in open distance learning courses is not expected to drop off in the foreseeable future. When discussing online education, several benefits come to mind. The key aspects are flexibility and convenience. However, there are also several drawbacks to the online learning environment. One of the most significant of these challenges is computer anxiety.

Computer anxiety has been shown to have physiological as well as psychological effects. Sweaty palms, dizziness, shortness of breath and the inability to take action have been found when computer anxiety is present. Other specific feelings associated with anxiety are irritation; frustration and bewilderment. Computer anxiety is a serious challenge to distance learners in Nigeria. The resultant effects of computer anxiety among NOUN students include avoidance of computer by learners, the use of third party to submit Tutor Marked Assignment (TMA), absence from computer-based examinations, loss of time during e-examination, procrastination in attempting computer-related tasks including assessing e-books, use of e-counselling portal, i-learn portal (despite their numerous advantages and inevitability), not taking advantage of the Open Education Resources (OERs), Massive Open Online Courses (MOOCs) and incessant deferment of examination. Many ODL freshmen in Nigeria usually receive what could be described as computer shock at the beginning of their studies due to their level of unpreparedness for the utilization of computer in most of their activities. Many of these freshmen saw the phenomenon as forceful initiation into a different world. A good number of such computer-phobic students perform woefully in their examinations while some got frustrated and dropped out in their first year of study.

Research on computer anxiety appears to be scanty in Nigeria. Majority of the available studies did not address computer anxiety among NOUN students nor freshmen despite the enormity of the problem in the institution. Also, researchers in computer anxiety majorly concentrated on descriptive survey research. The various studies have not really dealt with strategies to reduce the anxiety apart from recommending the need for skill training among other things. Whereas, skill training solely may fail to address the menace if other strategies that could build confidence, enhance acceptance of computer as useful and easy to use and reorder thinking pattern of computer anxious individuals are

not explored. It has been theorised that computer anxiety emanating from lack of operational experience with computers and inadequate knowledge about computers are easier to treat than computer anxiety that has its root in the psychological makeup of an individual (Howard and Smith 1986). Computer efficacy training and cognitive behaviour therapy have not been widely used as group interventions to combat computer anxiety. Only few instances are available globally to the best of the researcher's knowledge. There is doubtlessly a dare need for experimental studies to reveal strategies to reduce computer anxiety among distance learners which is the focus of this study aimed at determining the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen. Since computer anxiety of distance learners, particularly freshmen could jeopardize their adjustment, performance and general coping capacity, this study will not only be important but a timely intervention.

It has also been observed that many NOUN students applied into the institution without adequate preparation particularly in the area of ICT which is the pivot on which open and distance education rotates. Many of such learners resume for their studies before discovering their inadequacies. Computer anxiety is evident among many distance learners due to lack of computer skills, computer experience and distorted thoughts about computer and its usage.

Therefore, the study aimed at managing computer anxiety among National Open University of Nigeria freshmen in Southwestern Nigeria via the use of computer efficacy training and cognitive behaviour therapy.

Purpose of the Study

The main purpose of this study was to investigate the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen in Southwestern, Nigeria.

Specifically, the study determined if interventions had any significant effect on computer anxiety between the experimental group and control group.

The study also examined which of the intervention packages (computer efficacy training and cognitive behaviour therapy) is more effective in managing computer anxiety among NOUN freshmen.

The study investigated the moderating effects of age and gender on the computer anxiety of the participants (NOUN freshmen).

Significance of the study

The findings of this study will be of immense significance to distance learners, counsellors, educational and cyber psychologists, NOUN, other distance learning institutions, nations proposing open and distance education, ICT personnel in distance learning institutions, government agencies such as National University Commission (NUC), international distance education agencies (like International Council on Distance education, African Council on Distance Education (ACDE), Commonwealth of Learning (COL), Regional Training and Research Institute for Open and Distance Learning (RETRIDAL), prospective distance learners and policy makers and stake holders in open and distance learning. Distance learners will benefit greatly as they would be better equipped to deal with computer anxiety through their participation in the interventions. In this way, their computer skills would be enhanced while they will also acquire relevant psychological techniques to respond to factors that predispose them to computer anxiety. The study also promises to enhance retention and completion of programmeme of distance learners who would have dropped out as a result of their computer phobia. It will also enhance assessing the various computer mediated learner support resources and services often neglected by distance learners due to their technophobic nature. It is certain that the study will reduce computer-induced stress and tension usually faced by distance learners.

Counselling, educational and cyber-psychologists will also benefit from the study as it would reveal strategies that could be adopted in handling computer anxiety among students. Distance education providers/institutions (e.g. NOUN) will doubtlessly gain from the findings of this study as it will expose areas of specific ICT needs of distance learners, thereby serving as a pointer to different baseline for developing a framework for the computer needs of their students. ICT personnel in ODL institutions will specifically

be furnished with the much needed understanding on the nature of learners' computer anxiety and how to handle them technically.

The study would be of help to researchers who would like to research into interventions to manage computer anxiety. It is believed that the study would also steer interest in research in the area of computer anxiety generally in this axis of the world. Family members of distance learners will also heave a sigh relief as these learners become less computer anxious. This is because the effects of the learners' anxiety will in a way or the other affect family members.

Nigerian government, the Ministry of Education and the National University Commission (NUC), will also be sensitised on the ICT needs of this category of learners and work out modalities towards alleviating it. Policy makers will not only be intimated with the ICT needs of distance learners but will draw their attention to making policy that will incorporate strategies to manage computer anxiety among NOUN students.

The various international regulatory agencies on distance education (such as International Council on Distance Education (ICDE) and African Council on Distance Education (ACDE) will also be sensitised on the computer/ICT needs of these learners and stimulate efforts to roll out strong policy that will enhance smooth integration of ICT in open and distance education in regions where open and distance learners are engrossed with computer-related anxiety among learners. The Regional Training and Research Institute for Open and Distance Learning (RETRIDAL) will be acquainted with training need of distance learners and organise training programmemes that would enhance their computer skills. The outcome of this study will add to knowledge in the area of counselling, educational psychology and distance education in Nigeria and globally. It will also add to the existing but few research and literature in the area of distance learning and computer anxiety among distance learners in Nigeria.

Scope of the Study

This study was aimed at investigating the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen. The moderating variables were age and gender. The participants in the

study were drawn from National Open University of Nigeria freshmen in Southwestern, Nigeria.

Operational Definition of Terms

Terms used in this study are operationally defined as follows:

Computer Anxiety: Computer anxiety is the fear and uneasy behaviour expressed by the National Open University of Nigeria (NOUN) freshmen towards computer while using it or when about to use it. It is a kind of reluctant disposition towards the use of computer as a result of imaginary fear.

Computer Efficacy Training: This is a training strategy that enables NOUN freshmen have positive belief in their ability and capability to use computer and internet. It is a combination of confidence building and skill training intervention programmeme.

Cognitive Behaviour Therapy: This is a psychological therapy that seeks to change NOUN freshmen's irrational thoughts about computer and develop an approach that replaces these irrational thoughts with rational thoughts in order to enhance their computer and internet perception and ability. This was achieved through positive self-statement and thought stopping techniques.

Distance Learning: This refers to a non-conventional teaching-learning system in which learners are separated in space and probably time from their teachers (facilitators) and other learner support personnel.

Open and Distance Learning: This refers to an accessible and flexible form of education that embraces learner-centred approach in the teaching-learning process through the utilisation of computer-mediated resources.

NOUN: National Open University of Nigeria. A uni-modal Open University in Nigeria.

NOUN Freshmen: These are learners of the National Open University of Nigeria who had attempted one semester examination in the University.

Young Freshmen: These are freshmen of NOUN who are below thirty years of age.

Old Freshmen: These are freshmen of NOUN who are thirty years and above.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Several researches have been conducted in relation to some variables used in this study. This chapter therefore sampled some of the literature. Relevant literature to the study were reviewed theoretically and empirically under the following sub-headings.

Concept of Anxiety

Anxiety is one of the wide varieties of emotional behaviour which manifests in individual life (Rachel and Chidsey, 2005). Anxiety is defined as a conscious fearful emotional state. According to Slavin (1994), anxiety is a constant companion of education. Every student feels some anxiety at some time, but for certain student anxiety seriously inhibits learning or performance (Shamsa and Hamid, 2012). Dembo (1994) was of the view that higher anxiety would more likely results in lower achievement. Anxiety can arise as general nervousness or worry, specific fears, recurrent panic attacks, or intrusive thoughts and associated compulsions. Anxiety can often occur in combination with depression (Busari, 2016).

There are many definitions and interpretations of anxiety; however, they all refer to a complex combination of negative emotional responses that include worry, fear, apprehension and agitation. Anxiety is an occurrence that human beings normally encounter within their daily experiences. It is considered to be one of the most widespread and persistent human emotions, with a physiological arousal and cognitive functions affected by anxiety. It is one of the most widely experienced emotion and one of the most essential constructs of all human behaviour. In addition to being subjectively unpleasant, anxiety has outlays in contend for bodily (physiology) and cognitive resources (Kalisch, Wiech, Critchley, Ben, O'Doherty, Oakley, Allen, and Dola 2005).

Stedman's Medical Dictionary (2006) defined anxiety as "experience of fear or apprehension in response to anticipated internal or external danger accompanied by some or all of the following signs- muscle tension, restlessness, sympathetic(autonomic) hyperactivity such as diarrhea, palpitation, rapid breathing, jitteriness, hyper vigilance, confusion, decreased concentration or fear of losing control". Kaplan and Sadock (1996) corroborate that anxiety is characterized by a diffused, unpleasant, vague sense of

apprehension, often accompanied by autonomic symptoms such as headache, perspiration, palpitation, tightness in the chest and mild stomach disorder. Anxiety can be seen as a state of apprehension, tension or uneasiness- to any perceived or anticipated danger. It is an emotional reaction to perceived danger. If we believe something important to us is being threatened, and we overestimate the threat, under estimate our ability to cope with it, or under estimate the resources we have available to cope with it, then we will feel anxious (Bhalla, 2007). Anxiety is a major predictor of academic performance and various studies have demonstrated its dangerous effects (McCraty, 2007; McCraty, Dana, Mike, Pam and Stephen, 2000). Anxiety is a common emotional response to involving fear, trepidation and phobia to circumstances, objects and experiences (Akintumi, 2001).

Symptoms of anxiety can be psychological, physical or environmental challenges. The various forms of anxiety include excessive worrying, a sense of fear, restlessness, overly emotional responses, and negative thinking. Some people who are anxious may appear calm but the brain seems to never be quiet or stop thinking. This situation can turn so bad and may interrupt the quality of life. Ruffin, (2007) identified the following psychological symptoms of anxiety among students include feeling nervous before attending classes, panicking, going blank during a test, feeling helpless while doing assignments, or lack of interest shown in subjects which are considered difficult whereas the physiological symptoms include sweaty palms, racing heartbeat, or an upset stomach.

The anxiety level makes normal life difficult for students thereby making relaxation almost impossible. It could also affect normal daily functioning or tasks such as studies, their daily activities, and social life among students. All anxiety disorders are defined by the dual characteristic of physiologic hyper arousal and excessive emotional fear (Brauer, 1999). Anxiety has been described as causing psycho-physiological difficulties (Roger, 2001). It is a displeasing feeling of uneasiness, nervousness, apprehension, fear, concern or worry (Barlow, 2002). Anxiety is a normal reaction to a stressor and it may help an individual to deal with a demanding situation by motivating him/her to cope with it, but when anxiety becomes excessive it can have a serious impact

on daily life and interferes with the normal functioning of a person (Hartley and Phelps, 2012).

According to Yerkes-Dodson law, an optimal level of arousal is necessary to best complete a task, however, when the level of arousal exceeds that optimum, the result is a decline in performance. Thus, anxiety has a wide range of perspectives (Norton, Asmundson, Cox and Norton, 2000). Anxiety can be identified by a variety of physical, emotional, cognitive and behavioural symptoms. Palpitations, sweating, trembling, shortness of breath, sense of choking, chest pain, headache, nausea, stomach upset, dizziness, numbness or tingling, chills or hot flashes, restlessness, fatigue, muscle tension and sleep problems are the physical changes (Bourne, 2005). The emotional effects of anxiety may include feelings of apprehension or dread, a general sense of depression, doom and gloom, anticipating the worst and having nightmares/bad dreams. The cognitive effect is being unable to think, feeling as if the mind has gone blank, difficulty in concentrating, irritability and watching for signs of danger (Ohman, 2000). The behavioural effects of anxiety may include withdrawal from situations which provoke anxiety, nervous habits, and increased motor tension like foot tapping (Barker, 2003).

Anxiety is characterized as a strong negative emotion with a component of fear, and such fear has cognitive, neurobiological, and behavioural manifestations. It is often present concurrently with depression (Jiang, Kuchibhatla, Cuffe, Christopher, Alexander, Clary, et al., 2004). Anxiety, an unpleasant mood characterized by thoughts of worry, is an adaptive response to perceived threats that can develop into a maladaptive anxiety disorder if it becomes severe and chronic (Herring, O'Connor and Dishman, 2010).

Anxiety can also be beneficial when it leads to excitement and enthusiasm, and has negative effects when it causes worry, confusion, fear, and lowering of self-esteem. It can have negative effects on the information processing system of anxious people thereby predisposing them to experiencing difficulties storing and retrieving information (Nelson and Harwood, 2011). Students experiencing academic anxiety feel apprehensive over academic tasks. Students can feel anxiety related to every academic task. Some may only feel anxiety related to test taking or other specific tasks.

These responses are generally learned from direct experiences when a person comes in contact with a threatening object or situation. The most common types of anxiety

are generalized anxiety disorder, panic disorder, social anxiety disorder, phobias, obsessive-compulsive disorder, and post-traumatic stress disorder. However, when it comes to technology, Oetting (1983) identified three types of anxieties (a) trait, (b) state, and (c) concept-specific. The author described trait anxiety as the general pervasive anxiety experienced by a person over the entire range of life experiences. Trait anxiety is frequently used as a construct for personality, learning theory, and psychopathology since people who exhibit trait anxiety are chronically anxious and constantly under tension regardless of their situation (Martin, 2006). Howard and Smith (1986) stated that a high trait anxious person will exhibit computer anxiety more than a low trait anxious person. AltMD (2008), defined state anxiety as apprehension experienced at a particular period of time, whereas trait anxiety refers to relatively stable individual differences that characterize people's anxiety. In the conceptualization, individuals with high levels of anxiety generally hold heightened levels of trait anxiety. This combinatory relationship can lead to feelings of anxiety that interferes with performance through blocks of utilization, attention resources, or more cognitive interference from the worries and fears induced by anxiety. A certain level of anxiety has been found to be a facilitative tool for an individual to perform effectively (AltMD, 2008). Oetting (1983) explained that state anxiety was a feeling a person experienced at a specific time. When a person experiences anxiety, the feelings fluctuate over time and react to a responsive situation. It is related to a person's learning background.

The individual may have experienced some anxiety in a specific situation and that feeling is transferred to another similar situation. Concept-specific anxiety is a transitory-neurotic type of anxiety. This is the range between the trait and state anxieties that is associated with a specific situation. The concept-specific anxieties fill the gigantic range between general trait anxiety and state anxiety and are an anxiety that people associate with specific situations (Oetting, 1983). Eysenck and Calvo (1992) categorized anxiety into two distinct areas (a) worry, and (b) cognitive arousal. The authors stated that when anxiety produces worry, it has a tendency to decrease an individual's ability to concentrate on a task. The cognitive arousal effect, on the other hand, influences a person's alertness and ability to do a task. The combination of the worry and arousal components yields processing efficiency, which are the mental performance and the state of mind of an

individual. Seligman, Walker and Rosenhan (2001) described anxiety as having cognitive, somatic, emotional, and behavioural components that entail expectations of a diffuse and uncertain danger.

Anxiety can be manifested almost in every area of human endeavour for as long as activities or tasks are involved. Hence, there exists test or examination anxiety, computer anxiety, reading anxiety, swimming anxiety, etc.

Computer Anxiety

There are many definitions of computer anxiety, and researchers have not agreed upon a standardized one. Oetting (1983) stated that computer anxiety is a concept-specific anxiety because it is a feeling that is associated with a specific situation, in this case when a person interacts with computers. He elaborated by saying that computer anxiety is "the anxiety that people feel they will experience when they are interacting with computers--the anxiety associated with the concept of computers".

Cambre and Cook (1985) stated that computer anxiety is a form of state anxiety, and it was brought on in part by the rapidly changing nature of new technology and the subsequent pressure for social change in modern time. Howard and Smith (1986) defined computer anxiety as the tendency of a particular person to experience a level of uneasiness over his or her impending use of a computer. Heinssen, Glass, and Knight (1987) stated that computer anxiety refers to negative emotions and cognitions evoked in actual or imaginary interactions with computer-based technology, and it affects the utilization of computer-based technology and performance on tasks that involve the use of computers. Computer-related anxiety has been defined as someone being uneasy, apprehensive, or fearful about using computers (Igbaria and Parasuraman, 1989). Beckers and Schmidt (2001) suggested computer anxiety is a multidimensional construct and identified several constructs. These include positive and negative beliefs about computers, insecurity, nervousness, apprehension, fear, intimidation, and hesitation (Beckers and Schmidt, 2001; Heinssen, Glass, and Knight, 1987; Saadé and Kira, 2007).

Negative emotions associated with computer use can affect the overall learning experience. "Frustration, confusion, anger, anxiety, and similar emotional states can affect not only the interaction itself, but also productivity, learning, social relationships, and

overall well-being" (Saadé and Kira, 2007). Computer anxiety as defined by Howard and Smith (1986) as the fear of impending interaction with a computer that is disproportionate to the actual threat presented by the computer. Those who are computer anxious may experience fear of the unknown, feeling of frustration and possible embarrassment, failure and disappointment (Fajou, 1997). Computer anxious users may not necessarily benefit from the increase computer use by the populace. There seems not to be agreement in literature on how experience influence computer anxiety. While Necessary and Parrish (1996) reported that increasing computer experience will decrease computer anxiety. Glass and Knight (1998) asserted that the relationship between computer anxiety and experience is only with the users' first encounter with computer after which the users become less anxious. Kian and Chee (2002) found that people with high computer experience are found to have more positive attitude toward computer and lower computer anxiety.

In Nigeria, many authors have cited shortages of required skill as one of the hindrances to ICT utilization (Adedoyin 2008; Ofole, Fawusi and Oduneye, 2012). One of the ways to address these challenges is to encourage training and development especially in ICT usage. When such training and development programmemes are organized, it is important to measure their impact on achievement of desired goal in an organization. Any training programmeme should eventually show a positive notion and improve the bottom line. In order to make training meaningful, Hearthfield (2004) suggested that employees should attend internal and external seminars. The employees should perform the tasks they were performing before they attended the seminars to be able to find out if the skills acquired during training have been transferred to their jobs. When the employees attended an external seminars, they should be asked to train other employees so that the information, knowledge and skilled acquired at such seminars can be passed to other employees who did not attend. Conrad and Munro (2008) noted negative user attitudes can be caused by computer anxiety. Igbaria and Parasuraman (1989) developed a conceptual model of computer anxiety and attitudes toward computers that included demographics, personality traits, and cognitive styles. They pointed out that computer anxiety influences individuals' attitudes toward computers.

Computer-related anxiety has been defined as someone being uneasy, apprehensive, or fearful about using computers (Igbaria and Parasuraman, 1989). Beckers and Schmidt (2001) suggested computer anxiety is a multidimensional construct and identified several constructs. These include positive and negative beliefs about computers, insecurity, nervousness, apprehension, fear, intimidation, and hesitation (Beckers and Schmidt, 2001; Heinssen, Glass, and Knight, 1987; Saadé and Kira, 2007). Negative emotions associated with computer use can affect the overall learning experience. "Frustration, confusion, anger, anxiety, and similar emotional states can affect not only the interaction itself, but also productivity, learning, social relationships, and overall well-being" (Saadé and Kira, 2007). Research has shown learners with high levels of computer anxiety are at a disadvantage compared to individuals with lower anxiety levels (Saadé and Kira, 2007).

Computer anxiety has been reported to be quite high in college students (Rosen and Weil, 1995; Saadé and Kira, 2007). Researchers pointed out that even though the number of individuals who have self-reported computer phobia has decreased, many adult learners are still fearful of computers. Rosen and Weil (1995) reported three anxiety factors for undergraduate college students in the USA: interactive computer learning anxiety, consumer technology anxiety, and passive computer learning anxiety. They noted that almost 32% of students reported anxiety about a variety of computer applications, including taking online courses and computer-scored tests. Conrad and Munro (2008) noted negative user attitudes can be caused by computer anxiety. Igbaria and Parasuraman (1989) developed a conceptual model of computer anxiety and attitudes toward computers that included demographics, personality traits, and cognitive styles. They pointed out that computer anxiety influences individuals' attitudes toward computers. Kay (2008), who investigated the relationship between several types of emotions and acquisition of computer knowledge, found there is an inverse relationship between anger and anxiety and computer knowledge gain.

Computer anxiety is one of the basic factors affecting computer usage. Because computer anxiety has a complicated structure, different definitions of the concept have been made (Chau, Chen, and Wong, 1999). Marcoulides (1989) defines computer anxiety as a prejudice or fear that occurs when a person uses computer technology or when they

think about the results of computer usage. Hakkinen (1994), on the other hand, states that the concept of computer anxiety is used to define fears and suspicions of people unfamiliar with computer. When the definitions of computer anxiety are examined, the situation related to individual's feeling of fear and anxiety that he experiences while using computer or when there is a probability of using it, are some of the main points taken into account. It's observed that research on computer anxiety has been increased gradually, especially in recent years.

Computers have made a dramatic impact on the contemporary society. Almost all aspects of lives are affected by computers to a significant degree. It is even difficult to imagine a job or a task that one can complete without using computers. Of course, the field of education is no exception. Computers are used increasingly in teaching and learning processes within all subject areas at all levels of schooling. Although some students are enthusiastic about computers, others may be apprehensive or reluctant (Khorrami-Arani, 2001; Doyle, Stamouli, and Huggard, 2005). However, whether they feel comfortable or anxious regarding the role and use of computers in their lives, all students must be familiar with and even competent in using computers because this technology dominates all avenues of our societal as well as personal life.

However, getting such a competence may not be easy for many reasons. It is predicted that the more people use computers in their daily lives, the higher number of people will face difficulties with computers (Beckers and Schmidt, 2001). Among other factors, computer anxiety may be a serious barrier against learning how to use computers effectively. On the other hand, although it has been studied for a long period of time, there is no clear-cut concensus regarding the definition and full scope of computer anxiety. Chua, Chen, and Wong (1999) defined computer anxiety as a fear of computers when using one or fearing the possibility of using it when needed. According to these definitions, computer anxiety is characterized as an affective (to some extent emotional) response. It is different from negative attitudes toward computers that entail personal beliefs and feelings about computers rather than one's emotional reaction towards using computers (Sam, Othman and Nordin, 2005).

Stone, Arunachalam and Chandler (1996) concluded that computer anxiety is a psychological construct that is related to, but distinct from, computer efficacy. Rosen and

Weil (1995) described computer anxiety as technophobia and used the term cyberphobia to describe individuals who are frightened by the use of computers and technology. Students' fear of computers or the tendency of a student to be uneasy, apprehensive and phobic towards current or future use of computers in general is described as computer anxiety of students (Shamsa and Hamid, 2012). The proliferation of different model or types of computer and it availability has not translated to ease of use by many computer users, including distance learners such as NOUN freshmen.

Computer anxiety has also been classified as a complex psychological construct that cannot be fully described from a single perspective (Chua, Chen, and Wong, 1999). Chua et al. simply generalized the definition of computer anxiety as a kind of state anxiety, which can be changed and measured along multiple dimensions. Other researchers have broken up computer anxiety into sub-components. For example, Maurer and Simonson (1993) categorized behavioural manifestations of computer anxiety to include (a) avoidance of computers and the general areas where computers are located, (b) excessive caution with computers, (c) negative remarks about computers, and (d) attempts to cut short the necessary use of computers.

Marcoulides and Wang (1990) further expanded computer anxiety as general computer anxiety and equipment anxiety. McInerney, and Sinclair (1994), on the other hand, characterized four sub-components of computer anxiety which are (a) learning anxiety, (b) computer equipment anxiety, (c) computer message anxiety, and (d) computer observing anxiety. While there are many definitions and components of computer anxiety, few studies have attempted to identify the source of it. Howard and Smith (1986) proposed sources of computer anxiety and identified those as (a) lack of operational experience with computers, (b) inadequate knowledge about computers, and (c) psychological makeup. They theorized that computer anxiety based on the lack of operational experience with computers is the easiest to treat, computer anxiety arising from knowledge-based origins is of intermediate difficulty to treat, and computer anxiety based on an individual's psychological makeup is the most difficult to treat.

Computer anxiety has also been claimed to be the cause of serious economic costs in the United States (Mahar, Henderson and Deane, 1997), and it is estimated that the figure reaches billions of dollars annually (Gardner, Young and Ruth, 1989). Torkzadeh

and Angulo (1992) stated that computer anxiety can be changed with appropriate training. Bozionelos (2001) further stressed the importance of research in this area to uncover the correlations and patterns of relationships for deeper insight into treatment purposes and to increase productivity. Beckers, Wicherts, and Schmidt (2006) concluded that computer anxiety appears to harbor components of trait anxiety that will negatively influence the success of treatments that are solely focused on teaching computer users the complexities of various applications.

Online learners need to have the skills to be successful in the online environment. They need to have not only computer skills but also proper skills to navigate the Internet and utilize appropriate resources. Students have different levels of computer literacy including Internet navigation skills (Montelpare and Williams, 2000), and some may "find the Internet confusing and intimidating" (Simonson et al., 2009). Researchers reported that online learners encountered confusing instructor feedback and instructions on course Web sites (Hara and Kling, 2001), which caused anxiety.

Because the number of students who take online courses in higher education has increased dramatically over the past few years, computer-related anxiety remains an important issue to educators (Saadé and Kira, 2007). Most online learners have to utilize computers, the Internet, and other software programmemes such as course management systems. Hara and Kling (2001) reported students experienced several types of distress in an online course: anxiety, frustration, and confusion. Many instructors expect students to interact frequently with online content and with one another using information and communication technologies. For these students, the fear of computer technologies may be compounded.

Howard and Smith (1986) described computer anxiety as the tendency of a person to experience a level of uneasiness over his or her impending use of a computer". Anxiety towards computers was addressed in various studies. Among these; Gordon (1995), Bohlin (1999), Agbatogun (2010), Mahar, Henderson and Deane (1997), Sam, Othman and Nordin (2005), Beckers, Wicherts and Schmidt (2007), Mazloumiyan, Akbari and Rastegar (2011), Orr (2009) and Olatoye (2009) were prominent. In these studies, the state of anxiety was defined as concern-worry reaction. Fajou (1997) described computer anxiety as uneasiness resulting from doing something wrong while Phelps and Ellis (2009)

described it as personal uneasiness and emotional concern. Anxiety towards computer is classified as keeping away, avoidance and cyber phobia. Orr (2009) classified computer anxiety as a particular type of anxiety and mentioned about certain types of it with various experiences such as feeling of frustration, potential of embarrassment, disappointment and fear of the unknown. Phelps and Ellis (2009) determined that computer anxiety results in reduced achievement and reduced attempts towards achievements.

Doyle, Stamouli and Huggard (2005) determined that with the increase of the level of education, there was a negative correlation between computer anxiety and self-efficacy and between computer anxiety and experience while there was a positive correlation between self-efficacy and experience. Keen (1998) drew attention to that computer anxiety had a social aspect. Expressions such as "you won't be able to do it", "you can't succeed" are indicated to be influential on computer anxiety. Saade and Kira (2009) indicate that disappointment, rage, worry and other similar emotions affect not only interactions with computers but also productivity, learning of social relations and personal welfare in general. Desai and Thomas (1998) determined that mathematical anxiety and performance, mathematical anxiety and computer anxiety, computer anxiety and performance were related. Accordingly, it may be suggested that there is a negative correlation between computer anxiety and performance. Chen (1986) found that men compared to women had a more positive attitude towards computers and less computer anxiety. Loyd and Gressard (1987) on the other hand, claim quite the contrary. Rosen, Sears and Weil (1987) and Badagliacco (1990) are of the view that gender has no effect on computer anxiety.

Learning is negatively affected where concerns such as not being able to achieve learning, being faced with negative situations, not being able to fulfill the task reach to the level of extreme (BaÇaran, 2005). Computer anxiety manifests itself in many forms and results in a number of common fears. Users are afraid that they will break the computer or destroy vital information. They feel awkward and fear looking stupid. Research has established firmly that stress and anxiety reduce performance effectiveness. Howard and Smith (1986) and Igbaria and Chakrabarti (1990) suggested that computer anxiety and stress may cause some individuals to avoid using computers completely.

Also, researchers have proposed that lower computer anxiety and higher computer efficacy may be important factors in learning computer skills and employing them

efficiently. On the other hand, some students may feel confused or even lost when they encounter computers as a result of negative perceptions of their own personal capabilities. This phenomenon, which is two-faceted with both negative and positive ends, is directly related to the concept of self-efficacy. However having required sources of technologies provides internet users to decrease their anxiety levels (Thatcher, Loughry, Lim and McKnight (2007). Cuceloglu (2008) states that anxiety includes one or all of the excitements like sorrow, fear, a feeling of failure and weakness, and also not knowing the result and judgment.

Thatcher, Loughry, Lim and McKnight (2007) defined the term internet anxiety as a feeling that stimulated by the use of web technologies; the fear or anxiety that one experience while using internet. Computer anxiety is stated as physiologic symptom related with computer experiences like increasing blood pressure, speeding heart beats and perspiring of hands, and also person's negative feelings about using computers are stated as temporary emotional feelings like disorder of attention (Matsumura andGeorge, 2004). Individuals are supposed to learn new applications and technologies in the internet, and this creates anxiety on users. Beside these, internet use has also risks like virus and spyware.

Self-Efficacy

According to Bandura (1977), self-efficacy is the belief in one's capabilities to organize and execute the courses of action required to exhibit a certain performance". Snyder and Lopez, (2002) on the other hand, suggest that self-efficacy is not a perceived and observed skill but individuals' internal belief responding to the question of "what can I do" with the available skills under certain conditions. It has also been described as individuals' self-confidence in being able to fulfill a task which requires effort and persistence (Kinzie, Delcourt and Powers, 1994). Key words used in describing self-efficacy are sentences starting with the question of "can I achieve this (Acar, 2007). When individuals with strong self-efficacy are faced with a difficult task, they perceive it as a challenge that needs to be getting over with rather than avoiding it (Bıkmaz, 2004).

As Agkar and Umay (2001) also mentioned, an individual with high self-efficacy will try to deal with difficulties instead of running away from them. Self-efficacy is in fact

the capability of controlling the emotional performance acquired by the individual to be used in times of challenge. Studies in the relevant literature point out to certain aspects of self-efficacy such as; containing cognitive processes, emotions and behaviours which can be controlled by individuals themselves (Çetin, 2008); affecting right or wrong doing behaviours and being associated with persistence in dealing with difficulties (Akkoyunlu and Kurbanoglu, 2003); students with low self-efficacy absenting themselves from learning situations and tasks (Schunk, 2000:109). Yi and Hwang (2003) indicated that self-efficacy has an important role in describing human behaviours.

Self-efficacy has been defined "as personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances" (Zimmerman, 1995). Academic self-efficacy has been reported to promote academic achievement directly and also indirectly by increasing academic aspirations and prosocial behaviour (Bandura et al., 1996). Bandura (1977) argued that perceived self-efficacy is often a better predictor under variable conditions than past performance, because "efficacy judgment encompasses more information than just the executed action". Self-efficacy beliefs not only involve the exercise of control over action but also the self-regulation of various personal determinants of learning, such as thought processes and motivation (Bandura, 1997, Caprara, Barbaranelli, Pastorelli, and Cervone, 2004),

Self-efficacy, as defined in Bandura's (1997) social cognitive theory, is "the belief in one's capabilities to organize and execute courses of action required to produce given attainments" The theoretical framework of self-efficacy is grounded in Bandura's social cognitive theory of personality which views people as self-organizing, proactive, self-reflecting, and self-regulating rather than as passively reacting organisms influenced by environmental factors or driven by hidden inner desires. In addition, it explains that an individual's functioning and activities are the outcome of a dynamic interaction of three important factors. These are: (i) A person's behaviour; (ii) Personal factors (e.g., thoughts, beliefs, etc.); and (iii) environmental conditions. These three factors together exert mutual influences on one another. Bandura calls this reciprocal interaction as reciprocal determinism and according to him, it is triadic in form. According to Bandura, self-efficacy is a multi-dimensional construct which influences people's performance directly and indirectly through its effects on other determining factors such as motivation, self-

regulation, attribution and emotion. Several researchers note that self-efficacy beliefs play a crucial role in affecting task choice, effort, persistence, resilience, and achievement of individuals (Bandura, 1977, 1994; Pajares, 2002; Schunk, 1991, 1995). Self-efficacy is task-specific; that is, self-efficacy beliefs are specific to certain tasks and activities in certain situations and contexts (Bandura, 1997; Guy and Jackson, 2010). That is to say, people do not have the same level of overall sense of self-efficacy; rather, a person's level of self-efficacy beliefs depends on the nature of the task and the context in which that task is performed. This is the reason why self-efficacy has been studied extensively, within a variety of specific areas such as academic, social, career, clinical, athletics, and health (Bandura, 1997).

Self-efficacy is an important psychological construct in understanding the reason people choose to pursue particular activities and the extent of effort they devote to these. Self-efficacy is a result or outcome of the belief that one has the confidence and the ability to execute the courses of actions required to deal with a given situation in which they are trained. Bandura's (1997) construct of self-efficacy has been widely used in research on human motivation and goal attainment Bandura (1997) stated that there are four main sources that influence self-efficacy: (a) mastery experiences, (b) vicarious experiences, (c) social persuasion, and (d) physiological and emotional states. The mastery of experiences is a combination of cognitive and behavioural tools to create a successful, appropriate course of action to control a situation. Vicarious experiences occur when an individual sees another individual succeeding in a task then feels compelled to strive for the same mastery. On the other hand, if a person sees another failing at a task, this may undermine the level of motivation, and self-efficacy is harder to obtain.

Social persuasion can be accomplished through encouragement, support, positive comment, and other sources of persuasion from superiors, colleagues at work, friends, or family for completing a task. This instills confidence and makes the person strive harder at more difficult tasks. Physiological and emotional states of a person can be viewed by others as positive or negative. A person who perceives another person negatively while performing a task may harbor the emotion of low self-efficacy for that task. If a person performing a task, and being observed, looks physiologically tense or moody, then the observer may avoid the same task for fear of the same tension and stress. Personal

experience of effectively mastering a task has been identified as the most direct and powerful source of self-efficacy (Bandura, 1986). Furthermore, Usher and Pajares (2008) noted that although prior mastery experiences are typically the most powerful source of self-efficacy, the strength and effect of the sources vary as a function of individuals' background factors, such as gender, ethnicity, and academic ability; and academic domain for which the sources of self-efficacy beliefs are assessed.

Bandura's (2001) studies have shown that self-efficacy is influenced by the social cognitive theory of behaviour. This states that environmental situations, cognitive and personal factors, and demographic characteristics can influence an individual's behaviour. He also stated that self-efficacy has a role in motivating the behaviour of an individual. He further mentioned that individuals who are easily discouraged will fail; whereas, confident individuals who fall short of their goal will increase their efforts and persevere, resulting in attaining the goal. Individuals' self-efficacy expectancies can vary with the task due to the magnitude, generality, and difficulty of the task to be accomplished.

The magnitude of the task may be beyond the limits of the individual, thus causing anxiety. Some tasks require a minor mastery, causing an individual to falsely believe successes can come easily. This false belief causes individuals to become discouraged by failure when attempting a task they think is easy when in reality it is difficult. Setbacks in difficult efforts serve a useful purpose in teaching how to succeed by requiring sustained effort. Convincing individuals that they can succeed by persevering in the face of adversity enables them to rebound from setbacks. Perceived self- efficacy has been shown to predict effective use of analytic strategies in managerial decision-making (Wood, Bandura, and Bailey, 1990).

Computer Efficacy in the Context of Distance Learning

Adapted from the self-efficacy concept, computer efficacy is the extent of an individual's perceived ability to use a computer. Delcourt and Kinzie (1993) defined computer efficacy as a measure of how confident computer users are with their ability to understand, use, and apply computer knowledge and skills. Thus, computer efficacy is a belief of one's capability to use computer (Compeau and Higgins, 1995) and participants with little confidence in their ability to use computers might perform more poorly on

computer –based tasks. It provides an important psychological construct that is specially related to computer usage. It is not concerned with what one has done in the past, but rather with one's judgments of what could be done in the future. Substantial studies of Computer efficacy have been conducted on students in e-learning settings (Roth and Karsten, 1998; Agarwal, Sambamurthy and Stair, 2000; Munro and Conrad, 2008; Hasan, 2008).

Delcourt and Kinzie (1993) found that individuals who have high computer efficacy will feel competent in using different computer hardware and software. However, a low computer efficacy leads to the belief that individuals will encounter difficulty in using computers hardware and software. Ertmer, Addison, Lane, Ross and Woods (1999) suggested that educators with higher computer efficacy are likely to be more enthusiastic to use technology in their classrooms than those with lower levels of self-efficacy. They concluded that educators' personal beliefs with regard to their computer proficiency are the main factors in determining whether or not they will use computers in teaching and learning. The researchers also noted that many newly graduated teachers are more proficient at using computers than their more experienced colleagues. These skills, however, often could not be used because routine teaching obligations often hindered their efforts.

Teo and Koh (2010) addressed teacher candidates' computer self-efficacies in three dimensions; basic computer skills, media related skills and web based skills. Guy and Jackson (2010) suggested that there are differences in students' self-efficacy beliefs in terms of their computer knowledge and skills level. It was revealed in another research that there are differences between teacher candidates' computer efficacy beliefs in terms of their academic achievements (Özder, Konedrali and Sabancıgil, 2010). Sam, Othman and Nordin (2005) asserted that high level internet usage is not instrumental in describing self-efficacy. Other studies conducted on self-efficacy include Bandura, (1995), Hoy and Woolfolk, (1993), Tschannen-Moran, Berkant and Tuncer, (2010), Enochs and Riggs, (1990).

Ellis, Ginns and Piggott (2009) discovered significant strong positive correlations between the deep approaches, the e-learning variables, perceptions of the quality of e-learning and achievement. Attitudes towards computer knowledge associated with a

concept known as computer efficacy (Delcourt and Kenzie, 1993), which, in turn, has proven to be a factor in understanding the frequency and success with which individuals use computers (Bandura, 1986a; Compeau and Higgins, 1995). Computer efficacy examines users' beliefs regarding their ability to perform specific tasks using a software package (Dishaw, Strong, and Bandy, 2002).

Moreover, it does not refer to simple component sub skills, like formatting diskettes or entering formulas in a spreadsheet. Rather, it incorporates judgments of the ability to apply those skills to broader tasks. Computer efficacy has a major impact on individuals' expectations of the outcomes of using computers, their emotional reactions to computers (affect and anxiety), as well as their actual computer use. Miura (1987) has suggested that self-efficacy may be an important factor related to the acquisition of computing skills. Computer efficacy is a specific type of self-efficacy which is defined as belief in one's ability to "mobilize the motivation, cognitive resources, and courses of action needed to meet given situational demands" (Bandura and Wood 1989).

Cognitive Behaviour Therapy

Cognitive behaviour therapy (CBT) is a psychotherapy based on cognitions, assumptions, beliefs and behaviours, with the aim of influencing disturbed emotions that relate to inaccurate appraisal of events (Lin, 2008). It has been widely used to treat various kinds of neuroses and psychopathology, including mood, disorders anxiety disorders. CBT is based on changing the patients' erroneous ways of thinking about themselves, the world and how others perceive them. It increases a sense of control and thereafter helps the patients adhere to behaviour change strategy, as well as improving mood and associated psychopathology (Karger, 2006; Clark, and Beck, 2010). It is well documented as an effective non-pharmacologic therapy for insomnia (Hoedlmoser, Dang-Vu, Desseilles, and Schabus, 2011; Erman, 2008). Bandura (1977) asserted that self-efficacy is directly related to positive self-talk. Self-efficacy is the strength of one's conviction that he or she can successfully execute a behaviour required to produce a certain outcome. This is equally the goal of cognitive behaviour therapy, which teaches clients how to think rationally and positively in stressful situations, instead of plunging into old, self-defeating internal monologues. Gibbs (2002) asserted that if a teacher has

the capacity to exercise control over his/her thinking in specific teaching situation, his/her self-efficacy would improve.

CBT can be seen as an umbrella term for many different therapies that share common elements. The earliest form of cognitive behaviour therapy was developed by Albert Ellis (1913-2007) in the early 1950s. Ellis eventually called his approach Rational Emotive Behaviour Therapy, or REBT, as a reaction against popular psychoanalytic methods at the time. Aaron T. Beck independently developed another CBT approach, called cognitive therapy, in the 1960s. Cognitive therapy was initially contrasted with behavioural treatments to see which was most effective. However, in recent years, cognitive and behavioural techniques have been combined into cognitive behaviour treatment. Cognitive Behaviour Therapy is used by psychologists and therapists to help promote positive change in individuals, to help alleviate emotional distress, and to address a myriad of psycho/social behavioural issues. Cognitive behaviour therapists identify and treat difficulties arising from individuals' irrational thinking, misperceptions, dysfunctional thoughts, and faulty learning. Problems such as anxieties, depression, anger, guilt, low self-esteem, adjustment difficulties sleep disturbances and post-traumatic stress are addressed (Moore and Garland, 2003; Kuylen, Dalgleish and Holden, 2007).

Aaron Beck's cognitive therapy, which is a form of CBT, focuses on restructuring negative thoughts. Beck (1975) holds that critical and negative automatic thoughts and unpleasant physical or emotional symptoms combine to form maladaptive cycles that maintain and exaggerate initial problematic emotional symptoms, resulting in emotional disorder. According to Beck's theory of the etiology of depression, depressed people acquire a negative schema of the world in the childhood and adolescence. Schemas are relatively stable cognitive patterns that influence, through their beliefs, how people select and synthesize incoming information (Segal, Kennedy and German, 2006).

Depressed people acquire such schemas through loss of a parent, rejection by peers, criticism from teacher or parents, the depressive attitude of a parent and other negative events. When the person with such schemas encounters a situation that resembles in some way, even remotely, the conditions in which the original schema was learned, the negative schemas of the person are activated (Wenzlaff and Bates 1998;

Dozois and Dobson, 2001; Segal, Kennedy and German, 2006). Beck's (1975) cognitive therapy is based on the idea that negative thoughts patterns are maintained by logic errors. An example would be telling oneself 'I can't do anything right' which is obviously incorrect but can lead to low self-esteem, depression, frustration and other bad things.

Another cognitive theory of depression is the Hopelessness theory of depression. This is the latest theory of the helpless/hopeless theories of depression, stating that depression is caused by a state of hopelessness. A state of hopelessness developed when the person believes that no good outcomes are possible, only negative ones. The person also feels that he or she has no ability to change the situation to allow for a positive outcome. Stressors (negative life events) are thought to interact with a diathesis (in this case, a predisposing factor to depression) to create a sense of hopelessness. Some proposed diatheses are attributing negative events to stable and global factors, low self-esteem, and a tendency to believe that negative consequences such diatheses increase the possibility that a person will experience hopelessness depression (Ingram, Miranda and Segal, 1998; Kuyken, Dalgleish and Holden, 2007).

Cognitive therapy suggests that psychological distress is caused by distorted thoughts about stimuli giving rise to distressed emotions. The theory is particularly well developed in the case of depression, where clients frequently experience unduly negative thoughts, which arise automatically even in response to stimuli, which might otherwise be experienced as positive.

Usually, cognitive therapeutic work is informed by an awareness of the role of the client's behaviour as well (thus, the term cognitive behaviour therapy (CBT). The task of cognitive therapy or CBT is partly to understand how the three components of emotions, behaviours and thoughts interrelate, and how they may be influenced by external stimuli-including events that may have occurred early in the client's life.

Beck's Cognitive Distortions

Beck (1975) identified eleven common cognitive distortions (CD) that people tend to have in their information processing and these cognitive distortions lead people to faulty assumptions and misconceptions that fuel emotional and behavioural problems.

These distortions usually operate in our automatic thoughts. The distortions are as follows:

1. **All–Or–Nothing Thinking:** Seeing things in black–and–white categories. For instance, if a teacher's performance falls short of perfect, he/she sees him/herself as a total failure.
2. **Overgeneralization:** Seeing a single event as a never-ending pattern of defeat. It is an extreme belief based on single episode. For example, the woman who concludes, after a disappointing date, 'All men are alike – I will always be rejected.
3. **Mental Filter:** It is an act of picking out a single negative detail and dwell on it exclusively so that the individual vision of all reality becomes darkened, like the drop of ink that discolours the entire beaker of water.
4. **Disqualifying the Positive:** Rejecting positive experiences by insisting they don't count for some reason or other. By this way, an individual can maintain a negative belief that is contracted by everyday experiences.
5. **Jumping to Conclusions:** Making a negative interpretation though there are no definite facts that convincingly support conclusion.

   a. **Minding Reading:** A person arbitrarily concludes that someone is reacting negatively to him and he doesn't bother to check this out.

   b. **The Fortune Teller Error:** Anticipating and feeling that thing will turn out badly and feel convinced that prediction is an already-established fact.

6. **Magnification (Catastrophizing) or Minimization:** Exaggerating the importance of things (such as a person's goof-up or someone else's achievement) or you inappropriately shrink things until they appear tiny (a person's desirable qualities or the other fellow's imperfections). This also called the binocular trick. Beck and Gellatly (2016) assert that catastrophic thinking is a central feature in psychopathology and that such thinking magnifies the immediate and eventual consequences of any perceived threat.
7. **Emotional Reasoning;** Assumption that one negative emotion necessarily reflects the way things really are. For instance, 'I feel it, therefore it must be true'.
8. **Should Statements:** Trying to motivate oneself with "shoulds" and "shouldn'ts", as if one had to be whipped and punished before one could be expected to do thing. "Musts" and "Oughts" are also offenders. The emotional consequence is guilt. When one directs "shoulds" statements toward others, the individual feel angry, frustrated and resentful.

9. **Labeling and Mislabeling:** This is an extreme form of over-generalization. Instead of describing one error, the individual attaches a negative label to him/herself: "I am a loser". When someone else's behaviour rubs an individual the wrong way, the individual attaches a negative label to the person: 'He is a god damn louse'. Mislabeling involves describing an event with language that is highly coloured and emotionally loaded.
10. **Personalisation:** Seeing oneself as the cause of some negative external event which in fact one was not primarily responsible for.
11. **Self-Worth:** One makes an arbitrary decision in order to accept oneself as worthy, okay, or to simply feel good about oneself, one has to perform in a certain way: usually most or at all the time.

The solution most psychologists employ is to help clients notice their erroneous thoughts, and how they are leading to whatever problems the clients may be experiencing. For example, in response to the above example, 'I can't do anything right' the psychologist may assign task for the client to do, such as painting a fence. The evidence provided by the successful completion of this task will help the client overcome their beliefs that are causing their anxieties.

The counseling goals of Beck's cognitive theory are as follow:

1. Initial Goals

a. Identify negative automatic thoughts and cognitive distortions.

b. Have client reality test their cognitive distortions by identifying evidence that is contrary to their currently operating beliefs and conclusions.

c. Get client to observe and to admit into their information processing in subsequent situations all relevant data in a situation, not the data that is consistent with their dysfunctional beliefs.

2. Middle Goals:

a. Help clients to learn about the influence of their faulty thinking on their feelings and their behaviour.

b. Develop a more realistic appraisal of situations – clients learn to do their own reality testing.

c. Do various therapy tasks: homework, gathering data on their assumptions – be their own scientist, keep records of their thoughts and activities, learn to form alternate interpretations about situations.

3. Final Goals:

a. Clients learn to substitute realistic and accurate interpretations for their biased cognitions.

b. Clients learn to modify the dysfunctional beliefs and assumptions that predispose them to distort their experience.

Characteristics of Cognitive Behaviour Therapy

Most cognitive behaviour therapies have the following characteristics

1. **CBT is based on the cognitive model of emotional response:** Cognitive behaviour therapy is based on the idea that inner thoughts cause individual feelings and behaviours, not external things, like people, situations and events. The benefit of this fact is that a person can change the way he/she thinks to feel/act better even if the situation does not change.
2. **CBT is briefer and time limited.** Cognitive Behaviour therapy is considered among the most rapid in terms of results obtained. This is because the average number of sessions clients receive (across all types of problems and approaches to CBT) is only sixteen. Other forms of therapy, like psychoanalysis, can take years. What enable CBT to be briefer is its highly instructive nature and the fact that it makes use of homework assignments. CBT is time limited in that clients are helped to understand at the very beginning of the therapy process that there will be a point when the formal therapy will end. The ending of the formal therapy is a decision made by the therapist and client. Therefore, CBT is not an open ended, never ending process.
3. **A sound therapeutic relationship is necessary for effective therapy, but not the focus.** Some forms of therapy assume that the main reason people get better in therapy is because of the positive relationship between the therapist and the client. Cognitive behaviour therapists believe it is important to have a good, trusting relationship, but that is not enough. CBT therapists believe that the clients change because they learn how to think differently and they act on that learning. Therefore, CBT therapists focus on teaching rational self-counselling skills.

4. **CBT is a collaborative effort between the therapist and the client.** Cognitive behaviour therapists seek to learn what their clients want out of life (their goals) and then, help them achieve those goals. The therapist's role is to listen, teach, and encourage, while the client's role is to express concerns, learn and implement that learning.
5. **CBT is based on aspects of stoic philosophy.** Cognitive behaviour therapy does not tell people how they should feel. However, most people seeking therapy do not want to feel the way they have been feeling. The approaches that emphasise stoicism teach the benefit of feeling, at worst, calm when confronted with undesirable situations. They also emphasise the fact that we have our own undesirable situations whether we are upset about them or not. If we are upset about our problems, we have two problems – the problem and our upset about it. Most people want to have the fewest number of problems possible. So when we learn how to more calmly accept a personal problem, not only do we feel better but we usually put ourselves in a better position to make use of our intelligence, knowledge, energy and recourses to resolve the problem.
6. **CBT uses the Socratic Method.** Cognitive Behaviour therapists want to gain a very good understanding of their clients' concerns. That is why they often ask questions. They also encourage their clients to ask questions like, "How do I really know that those people are laughing at me?" "Could they be laughing about something else?"
7. **CBT is structured and directive.** Cognitive behaviour therapists have a specific agenda for each session. Specific techniques/concepts are thought during each session. CBT focuses on the client's goals. Therapists are directive in the sense that they show their clients how to think and behave in ways to obtain what they want. Therefore, CBT therapists do not tell their clients what to do – rather, they teach their clients how to do.
8. **CBT is based on an educational model.** CBT is based on the scientifically supported assumption that most emotional and behavioural reactions are learned. Therefore, the goal of therapy is to help client unlearn their unwanted reactions and to learn a new way of reacting. Therefore, CBT has nothing to do with "Just talking". People can "Just talk" with any one. The educational emphasis of CBT has an additional benefit – it leads to long – term results. When people are shown how and why they are doing well, they know what to do to continue doing well.

9. **CBT theory and techniques rely on inductive method.** A central aspect of rational thinking is that it is based on facts, often, a person upset him/herself about things when, in fact, the situation isn't like he/she thinks it is. If he/she knew that, he/she would not waste his/her time upsetting him/herself. Therefore, the inductive method encourages individual to look at him/herself as hypotheses or guesses that can be questioned and tested. If he/she finds that his/her hypotheses are incorrect (because he/she has new information), then he/she can change his or her thinking to be in line with how the situation really is.

Some Techniques Used By Cognitive Behaviour Therapy

A number of different technologies may be employed in cognitive behaviour therapy to help patients uncover and examine their thoughts and change their behaviours. They include:

- Behavioural homework assignments. Cognitive behaviour therapists frequently request that their patients complete homework assignments between therapy sessions. These may consist of real-life "behavioural experiments" where patients are encouraged to try out new responses to situations discussed in therapy sessions.
- Cognitive rehearsal. The patient imagines a difficult situation and the therapist guides him through the step-by-step process of facing and successfully dealing with it. The patient then works on practicing, or rehearsing, these steps mentally. Ideally, when the situation arises in real life, the patient will draw on the rehearsed behaviour to address it.
- Journal. Patients are asked to keep a detailed diary recounting their thoughts, feelings, and actions when specific situations arise. The journal helps to make the patient aware of his or her maladaptive thoughts and to show their consequences on behaviour. In later stages of therapy, it may serve to demonstrate and reinforce positive behaviours.
- Modeling. The therapist and patient engage in role-playing exercises in which the therapist acts out appropriate behaviours or responses to situations.
- Conditioning. The therapist uses reinforcement to encourage a particular behaviour. For example, a child with ADHD gets a gold star every time he stays focused on tasks and accomplishes certain daily chores. The gold star reinforces and increases the desired

behaviour by identifying it with something positive. Reinforcement can also be used to extinguish unwanted behaviours by imposing negative consequences.

- Systematic desensitization. Patients imagine a situation they fear, while the therapist employs techniques to help the patient relax, helping the person cope with their fear reaction and eventually eliminate the anxiety altogether. For example, a patient in treatment for agoraphobia, or fear of open or public places, will relax and then picture herself on the sidewalk outside of her house. In her next session, she may relax herself and then imagine a visit to a crowded shopping mall. The imagery of the anxiety-producing situations gets progressively more intense until, eventually, the therapist and patient approach the anxiety-causing situation in real-life (a "graded exposure"), perhaps by visiting a mall. Exposure may be increased to the point of "flooding," providing maximum exposure to the real situation. By repeatedly pairing a desired response (relaxation) with a fear-producing situation (open, public spaces), the patient gradually becomes desensitised to the old response of fear and learns to react with feelings of relaxation.
- Validity testing. Patients are asked to test the validity of the automatic thoughts and schemas they encounter. The therapist may ask the patient to defend or produce evidence that a schema is true. If the patient is unable to meet the challenge, the faulty nature of the schema is exposed.

Initial treatment sessions are typically spent explaining the basic tenets of cognitive behaviour therapy to the patient and establishing a positive working relationship between therapist and patient. Cognitive behaviour therapy is a collaborative, action-oriented therapy effort. As such, it empowers the patient by giving him an active role in the therapy process and discourages any overdependence on the therapist that may occur in other therapeutic relationships.

Other techniques that therapist may use include:

a) Challenging irrational beliefs
b) Relaxation education and training
c) Self-monitoring
d) Cognitive rehearsal

e) Thought stopping
f) Communication skills training
g) Assertiveness training
h) Social skills training
i) Bibliotherapy
j) Homework assignment

In conducting the therapy, clients are first evaluated to obtain a thorough history and background information to better understand the nature of the difficulties for which treatment is being sought. Clients may also be asked to complete assessment tools or questionnaires. Treatment usually takes place on a weekly basis, focusing on current issues. A treatment plan is completed to set goals and monitor progress. The number of the sessions varied with the type of difficulties being treated. Clients are expected to be active participants in their own therapy.

In all, the therapist's major goal is directed at altering the client's irrational beliefs or negative self-statement; along with other idiosyncratic interpretation of reality. The counsellor may attack the automatic thoughts and demonstrate to the students that they need not to be maintained. Some specific goals toward which Cognitive Behaviour therapists work with their clients are social interest, self-direction, tolerance, self-acceptance, risk taking, high tolerance of frustration, and self-responsibility for disturbance.

Theoretical Framework for the Study

Bandura's Social Cognitive Learning Theory

This study is majorly anchored on the social cognitive theory of Albert Bandura. Bandura (1977) identified in his publication, Self-efficacy: Toward a Unifying Theory of Behavioural Change, what he believed was an instrumental aspect missing from all theories of the day, including his own social learning theory "self-efficacy." Describing individuals as having a perception of their capabilities that impact and help to determine choices of activities and persistence in reaching a goal, Bandura referred to these self-perceptions as self-efficacy. In his 1986 publication, Social Foundations of Thought and

Action, Bandura discussed a social cognitive theory in which he described people as having beliefs about their own capabilities. It is these beliefs or self-perceptions that actually drive people to their accomplishment rather than their actual ability (Bandura, 1997; Pajares, 2002). Those who believe that they have the capabilities to be successful make greater and lengthier attempts to achieve the desired outcome. From this point, many more theorists began to study the construct of self-efficacy.

Miller and Dollard initiated a developmental change from the behaviourist ideas of associationism to a theory of social learning implicating drive principles in the 1940s. Approximately twenty years later, Bandura and Walters expanded the boundaries of the social learning theory with the principles of observational learning and vicarious reinforcement (Pajares, 2002). In the next decade, Bandura realized the absence of the element of self-belief within his own version of the social learning theory (Bandura, 1997). With the publication of Social Foundations of Thought and Action: A Social Cognitive Theory, Bandura (1986) modified his label of the social learning theory to the social cognitive learning theory to distance it from prevalent social learning theories and to emphasize the critical role of cognition.

Bandura's social cognitive learning theory contrasts theories of human functioning that overemphasize the role that environmental factors play in the development of human behaviour and learning as well as those same theories that overemphasize biological influence in human development and adaptation (Pajares, 2002). His evolutionary theory emphasizes the influence of individual's self-beliefs that enables them to exercise measurable control over thoughts, feelings, and actions. Bandura (1986) indicates that the beliefs that people have about themselves are critical elements in the exercise of control, stating "what people think, believe, and feel affects how they behave". From this standpoint, an individual's belief about his/her ability to use computer will play a significant role in determining his/her actual ability to perform tasks on computer. He theorised that self-efficacy beliefs, personal standards, emotional states, and other self-regulatory influence people's aspirations.

Fundamental human capabilities perceived by the social cognitive theory that are influential in determining the human destiny primarily are the ability to symbolize, plan alternative strategies (forethought), learn through vicarious experience, self-regulate and

self-reflect. Symbolization is proposed as the vehicle of thought and through symbolization humans can provide their lives with structure, meaning and continuity. Through forethought people plan courses of action and anticipate the likely consequences of the actions. Vicarious learning, or learning by observing the behaviour of others, enables people to acquire a learned behaviour without actually experiencing the redundancy of the trial and error process. As well, people have self-regulatory mechanisms that enable self-directed behavioural changes inclusive of self-motivators that act as personal incentives for self-directed behaviour (Pajares, 2002). The capability that is most "distinctly human" (Bandura, 1986) is that of self-reflection which enables humans to make sense of their experiences and adjust their thinking and behaviour accordingly.

Of all the factors discussed within Bandura's social cognitive theory, self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment. Unless a person believes that their actions can produce or influence outcomes, they have no motivation to initiate, proceed with, or complete a constructive task (Pajares, 2002). Although human functioning is influenced by many factors, Bandura (1997) contends that the primary role of self-efficacy beliefs in human functioning is that "people's level of motivation, affective states, and actions are based more on what they believe than on what is objectively true". Therefore, human behaviour can better be predicted by what they believe than what they are actually capable of. Since beliefs and ability are seldom perfectly matched, people's accomplishments are better predicted by their self-efficacy beliefs than by their skills or ability. Although the acquisition of skills and knowledge can be significantly affected by an individuals' self-efficacy, no amount of self-confidence can produce success in the absence of requisite skills and knowledge (Pajares, 2002). This justifies the use of computer efficacy training which is a mixture of skill training and confidence building intervention.

Self-efficacy beliefs can influence human functioning in a vast number of ways. Beliefs affect choices people make, the relative plan of action initiated, and the magnitude of the incentive to pursue such actions. The level of effort a person expends on a particular action or activity is affected by self-efficacy beliefs along with the level of perseverance maintained when confronted with adversity. An individual's thought

patterns and emotional reactions are influenced by the strength or weakness of his/her efficacy beliefs often creating a self-fulfilling prophecy as ones accomplishments mirror their beliefs (Pajares, 2002). Numerous factors influence the strength of the relationship between self-efficacy beliefs and human action. Self-efficacy beliefs must be measured in relevance to the specific behaviour in question otherwise ambiguity can occur (Pajares, 2002). Knowledge of requisite skills to accomplish a task is also critical as misjudging these skills can result in relational discrepancies. As well, awareness of the nature and difficulty of a task is important to a person's efficacy judgments and if not accurate, judgments will be misleading (Pajares, 2002).

Bandura (1986) states that these factors are especially relevant in situations where an individual's "accomplishment is socially judged by ill-defined criteria so that one has to rely on others to find out how one is doing". Thus, faulty self-knowledge creates unpredictable results (Pajares, 2002). Pajares (2002) reports that self-efficacy beliefs are formed or created primarily by interpreting information from four sources. First and foremost is the result of previous performance called mastery experience? People judge their ability to perform on tasks based on their interpretation of the results of previous personal performances. Second, efficacy beliefs are established by the vicarious experiences of observing others in task performances. Although these experiences result in a more moderate effect, they are important when there is a lack of previous personal experience. The third source of influence in developing self-efficacy beliefs is social persuasions which involves verbal judgment imparted by others.

Effective persuasion can culminate significant belief in one's capabilities. Finally, somatic or emotional states provide influential information about efficacy beliefs. A person's emotional state can influence the degree of confidence inflected as a person engages a task. And, as well, with positive or negative emotions, outcome success or failure can be relatively affected by either (Pajares, 2002). Based on an individual's ability to control their own thinking and feeling, Bandura (1977) indicates that people live in psychic environments that are primarily of their own making. As Bandura purposes the impact of beliefs on performance, various types of leadership potentially influence the magnitude of those beliefs.

Relating the theory to learners' computer anxiety, learners gauge the effects of their actions, and their interpretations of these effects help create their efficacy beliefs. For instance, outcomes interpreted as successful raises computer efficacy and reduce computer anxiety; those interpreted as failures lower it and increase anxiety. Bandura's (1986) emphasised that one's mastery experiences are the most influential source of self-efficacy information, has important implications for the self-enhancement model of academic achievement, which contends that, to increase student achievement in school, educational efforts should focus on altering students' beliefs of their self-worth or competence.

Moreover, Bandura (1997) has observed that when people experience aversive thoughts and fears about their capabilities, those negative affective reactions can themselves further lower perceptions of capability and trigger the stress and agitation that help ensure the inadequate performance they fear.

Meanwhile, it is the opinion of Hamzah and Abdullah (2009), Bandura's social cognitive theory recognized and emphasized that cognition plays a critical role in people's capability to construct reality, self-regulate, encode information, and perform behaviours. As Bandura (1986) further stressed, people are self-organizing, pro-active, self-reflecting and self-regulating. For example, how people interpret the result of their own behaviour informs and alters their environments and the personal factors they possess which, in turn, inform and alter subsequent behaviour. In this context, According to Nassbaum and Kardash (2005), this foundation of Bandura's (1986) concept views (a) personal factors in the form of cognition, affect, and biological events; (b) behaviour; and (c) environmental influences which create interactions. Social Cognitive theory as a framework provides the instructor avenue to improve their learners' emotional states and correct their faulty self-beliefs or distorted thoughts and habits of thinking (personal factors), improve their computer skills.

The above theory does not explain fully the basic factors that could predispose an individual to accept or be willing to use computer. Hence, it is being complemented by the Technology Acceptance Model.

Technology Acceptance Model (TAM)

Computer anxiety may include worries about embarrassment, looking foolish or even damaging computer equipment (McInerney, McInerney and Sinclair, 1994). Computer anxiety is state-based; a transitory response to a specific situation. A number of studies (Mahmood and Medewitz, cited by McInerney, McInerney and Sinclair, 1994; Rosen, Sears and Weil, 1993) have found that for computer anxious individuals, increased experience tends to exacerbate rather than 'cure' the problem, with additional computer experiences strengthening negative affective reactions and promoting further computer avoidance. Continuing anxiety after training may be a function of individuals' prior computing experiences, attitude towards computing, perceptions of self-efficacy and expectations of success (McInerney, McInerney and Sinclair, 1994). In fact, Rosen, Sears and Weil's research challenges traditional skills-based courses, proposing instead a number of approaches to computer anxiety including individualised desensitisation, thought-stopping/covert assertion, information provision (about myths and realities) and support groups.

Many theoretical frameworks have been used to measure technology usage satisfaction, acceptance, and adoption; however relatively few have been used in the e-learning context. The Technology Acceptance Model (TAM), for example, has been extensively used to understand technology adoption. The goal of TAM is "to provide an explanation of the determinants of computer acceptance that is in general, capable of explaining user behaviour across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified" (Davis, 1986; Davis, Bagozzi, and Warshaw, 1989).

In the context of e-learning, a student's 'likelihood of use' of a specific system (in this case the learning management system (LMS)) is jointly determined by their attitude toward using the system and perceived ease of use (PEU). This implies that the easier the system is to use, the greater will be the user's perceived self-efficacy regarding their capacity to use the system comfortably.

TAM emphasizes the importance of how external variables can affect the students' internal decision process when it comes to using a learning management system within their educational institution. External variables affect perceived usefulness (PU)

directly or indirectly through PEU since it influences the student's near-term perception of usefulness and, to the lesser extent, long-term (Compeau, Higgins, and Huff, 1999). Direct experience with an LMS, its characteristics (Chau, 1996), and student prior experience and feeling about it determine the student's perception of ease of use of it (Lucas and Spitler, 1999).

According to previous studies, efficacy and computer anxiety were all determinants of PEU (Gefen, Karahanna, and Straub, 2003a, 2003b; Gefen and Straub, 1997; Pedersen and Nysveen, 2003). Learning management systems are designed to facilitate the learning process, and therefore their PEU is a necessity especially with first time users. Much effort has been devoted to creating user friendly interfaces, in recognition of the importance of PEU (Venkatesh and Morris, 2000). With web-based LMSs several studies have pointed out that factors relating to 'ease' with which information can be found on a web site and the 'ease' with which information can be understood affect web site's perceived ease of use (Lederer, Maupin, Sena, and Zhuang, 2000).

Motivated by previous anxiety-beliefs research work, this study would provide additional understanding of what main role computer self-efficacy (CSE) and cognitive behaviour therapy (CBT) play in the computer anxiety (COMP-ANX) of the distance learners. Prior research in information systems has investigated the constructs mentioned herein to understand individual reactions to computer systems (Agarwal and Karahanna, 2000; Howard and Smith, 1986; Venkatesh and Davis, 2000); however, few have used an LMS as the target technology and have directly compared and contrasted the mediating effect of CSE to understand its impact on the ANX-PEU relationship. In this study, the LMS are computer self-efficacy and cognitive behaviour therapy. It is assumed that the effective adaptation of the two strategies would reduce the computer anxiety of the distance learners. The researcher is also aware that internal variables such as gender and age could significantly interact with computer anxiety. This is the reason why this study incorporated these factors as moderating variables.

Distance Learning Education

Many believe that the application of advancing Information Communication Technology in education might help in overcoming challenges such as increasing need for more diversified and flexible types of higher education, including lifelong learning, corporate training, etc. (Shirley, 2001). Information and communication Technology (ICT) encompasses the effective use of equipment and programmemes to access, retrieve, store, organize, manipulate and present data and information (Gay and Blades, 2005). Distance learning has the potential to overcome some of the limitations of traditional learning, including, most importantly, the fixed times and locations for learning. It allows for a synergy between advances in information and communication technologies and twenty-first century learning needs or skills, each giving the other a push to explore what is possible and what may ultimately be achieved (Holmes and Gardner, 2006). Along with the term information communication technology, distance learning covers a wide set of ICT technology based applications and processes, including computer–based learning, web-based learning, virtual classrooms, and digital collaboration and networking (Islam and Selim, 2006).

In the Corporate Distance learning report, distance learning has been defined as a wide set of applications and processes including computer-based learning, Web-based learning, virtual classroom, and digital collaboration (Hambrecht and Co, 2000). Dunstan and Dick (2004) also shared that, definitions of distance learning are abound: computer – based instruction (Coppola and Myre, 2002; Zahm, 2000), online or web-based training (Volery and Lord, 2000), virtual learning environments (Piccoli, Ahd, and Ives 2001) distance learning (Hall and Snider, 2000). Naidu (2003) concluded that the term distance learning comprises a lot more than online learning, virtual learning, distributed learning, networked or web-based learning. However, higher education institutions in developing countries often have problems keeping up-to-date with advances in international science and technology factors (Gulati, 2008; Nawaz, 2012; Khalil, et al., 2012). Considering student's attitude toward distance learning is important in successful development of distance learning in higher education, since attitude of user towards application of information technology is one of the most effective factors. Studies demonstrated that the

extent to which students' attitude towards distance learning system can be predicted by computer efficacy and computer anxiety.

Along with the technological development, course of and access to information which once required considerable amount of time is shortened, making use of multiple sources for fulfilling information needs possible. Therefore, it may be suggested that today's learning activities became easier in learners' respect. While Dewey (2007) characterized the new education concept as simpler, he emphasized that being simpler and easier were not the same. Because, it is not easy for the new education concept being accepted to due to old learning approaches becoming traditional and ordinary and hard to replace thereof. Thus, some researchers draw attention to the education loss which may be caused by the casual use of technology in education. A variety of views were brought forward which underlined aspects such as; not degrading the subject to be taught to the level of students during the use of technology in education (Çoklar, Kılıcer and Odaba, 2007), teachers' inability of integrating technology to class teaching (Lumb et al., 2000), that teachers' enhanced computer using skills doesn't necessarily mean that these can be efficiently used in the process of learning-teaching knowledge and communication technologies (Demiraslan and Usluel, 2005), that teachers' pedagogic approach limits their use of technology in class (Öksüz and Ak, 2009).

It has been suggested that visually reinforced teaching supports high state of attention and interest in students, materialization of the learning process and conveying of information in an organized manner (Yanpar, 2006; Akpınar, 2005). It has been thought that with the start of using computers in education, learning time is saved compared to traditional teaching and students' achievements and motivation are positively affected (Ugun, 2004). E-learning is considered to have the potential to significantly improve workforce development.

It includes diverse learning strategies and technologies, from CD-ROMs and computer-based instruction to video conferencing, satellite-delivered learning, and virtual educational networks (Pantazis, 2002). Since it can reduce costs and time of training, businesses are attracted to adopt e-learning into their workforce training. Therefore, how to maximize the effectiveness of e-learning has become an important issue. One of the focuses has been on how to meet individual needs and learning styles (Pantazis, 2002).

According to Demirci et al. (2007) who quotes from Keeler at al. (1996), in classes where technology is used, teachers learn and explore alongside their students and thus, an efficient learning environment is created. Karsten and Roth (1998) suggest that students' perception of using computer efficiently have significant effects on their learning experiences. Taking all these views into consideration, we may assert on the view that during the use of computers in education or teaching with computer based programmes, probable situations likely to be faced by students should be known and kept under control.

Developments in information technologies play on important role in expanding the changing information structure in various fields and this has a significant influence on the field of education. (Birisci, Metin and Karakus, 2009). Gsman and Dabaj (2004) pointed out that technology was an important tool, not only in seeking information but also in obtaining it in a suitable and convenient manner. Referring to the impossibility of controlling and processing enormous amounts of data created by the frequent use of computers in producing information and documentation, Ataman (2012), in a way described the challenges of the current situation. Blignaut (2006) on the other hand suggested that many people avoid using computers despite the known and proved advantages of it. For this reason, new opportunities created in parallel with technological developments on one hand and monitor learners' attitudes while using these opportunities on the other must be used. None of any learning approach not examined from the point of the learner can be everlasting. From the aspect of educational activities carried out with the support of technology, collective evaluation of learners' anxiety levels towards computers and self-efficacy perceptions alongside attitudes towards internet are critical in terms of the acknowledgment of these educational activities and organizing them in that manner.

Open and Distance Learning (ODL)

According to the Commonwealth of Learning, Open and Distance Learning cannot be adequately captured by a single phrase. It however suggested different approaches and different terms that can be used to describe the concept such as "learner-centred education, open learning, open access, flexible learning and distributed learning" (Commonwealth of Learning, 2000). The California Distance Learning Project (CDLP)

(2005) defines it as, *"an instructional delivery system that connects learners with educational resources."* Heydenrych and Prinsloo (2010) also added that there is no homogeneity in terms when it comes to describing ODL. They posit that even though open distance learning is used interchangeably with distance learning, not all distance education institutions embrace ODL, but all ODL institutions offer distance education. The terms used to describe ODL have differed across different geographical areas and institutions. Open distance learning is viewed as a system of learning that blends student support, curriculum and instruction design, flexibility of learning provision, removal of barriers to access, credit of prior learning, and other academic activities such as programmeme delivery and assessment for the purpose of meeting the diverse needs of students. It is viewed as a system of meeting multiple and diverse learning needs of students through course design, administrative processes, and learner support (O'Rourke, 2009).

De Beer and Bezuidenhout, (2006) considering the learner centredness of distance learner added that "ODL is based on the need of individual learners, not the interest of the lecturer or institution. It gives much control as possible over what, when, where and how they learn. It especially uses educational technology, and it changes the role of a lecturer from the only source of knowledge to that of a manager and facilitator of learning".Yet another description of ODL emphasises acquiring, creating, and sharing knowledge by interacting asynchronously or synchronously without the constraints of space and time (De Beer and Bezuidenhout, 2006; Heydenrych and Prinsloo, 2010).

Recognising the key role of ICT in ODL, the Association for Educational Communications and Technology (AECT) in Schlosser, Ashland, and Simonson 2002) define distance education as "institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors." Such technological devices used to disseminate information to learners include print media (course materials or modules, textbooks, study guides, study aids, and newspapers, etc), audio media (audio-books, audio-cards, records, audio-cassettes and reel-to-reel audiotapes, audio compact-discs (CDs), telephones, GSM, audio-texts, radios), and video media (televisions, satellites, direct broadcast satellites, cable televisions, closed-circuit televisions, asynchronous and

synchronous Podcasts and vodcasts, teleconferencing, microwaves, interactive Videos, telex, videotext, computer internets, weblogs (blogs), electronic mails, chatrooms, and multimedia, online social media, etc).

The Council on Higher Education (CHE, 2009) defines ODL as an education system that combines the principle of learner centredness, lifelong learning, flexibility of learning provision, the removal of barriers to access, the recognition for credit of prior learning, and the provision of learner support. The above description of ODL by (CHE, 2009) give a more comprehensive definition, embracing the key elements of distance learning as practiced in foremost ODL institutions. This includes learner centredness, lifelong learning, flexibility, provision of learner support, and removal of barriers to access. The Open and Distance Learning Quality Council of the European Association for Distance Learning (2010) also described ODL as a form of learning that includes any provision in which a significant element of the management of the provision is at the discretion of the learner, supported and facilitated by the provider. This ranges from traditional correspondence courses, on-line learning centres and face-to-face provision where a significant element of flexibility, self-study, and learning support, is integral to the provision.

Open and distance learning (ODL) is often used interchangeably as e-learning in education parlance. The various definitions above are pointers to the fact that ODL is a learning system that encompasses student support, curriculum and instructional design, and other academic activities such as programmeme delivery and assessment for the purpose of meeting the diverse needs of students. The Commonwealth of Learning (2000) clarifies the variants of distance education and maps out four scenarios for ODL and points out that most ODL institutions use a combination of the four scenarios.

Scenario 1 – Same time, same place: Classroom teaching, face-to-face tutorials, seminars, workshops, and residential schools

Scenario 2 – Same time, different place: Audio conferences and video conferences, television, one-way or two-way videos etc.

Scenario 3 – Different time, same place: Learning resource centres which learners visit at their leisure

Scenario 4 – Different time, different place: Home study, computer conferencing, tutorial support by e-mail and fax communication.

Characteristics of Openness in ODL

*According to DARCO/EADTU (2012), d*istance education has been around for a long time, its form has evolved in a number of ways. However, open learning is a more recent phenomena and its definition varies from country to country and is evolving in recent years. The combination between distance education (i.e. the ability to study from the distance) and open learning (i.e. the ability for anyone to access the educational offer) is often referred as Open and Distance Learning (ODL). Six characteristics of openness in ODL were put forward thus:

1. **Open Accessibility)**: check if there are specific requirements for entry into a programmeme of study. The most open institutions require no requirements to enter, i.e. they are open to all students. Next the accessibility may differ between the possibilities to recognize prior learning and work experience as relevant antecedents to end.
2. **Freedom of Time:** separation of teacher and learner in time or place, or in both time and place. You should check if indeed you can study whenever you want. Some ODL courses do however require (online) presence during assignments, group and project work and/or exams (check out our filter option presence requirement when narrowing down your options on our portal).
3. **Freedom of Pace**: Learners are not required to complete a programmeme of study within a specific time. Instead, learners learn at their own pace and make their own decisions about the learning path that is to be followed for their programmeme.
4. **Freedom of Place**: Learners are not required to fulfil a residency requirement at the host institution. Most learners do not (have to) leave their home or work place as they pursue a programmeme of study.
5. **Open Programmeming**: Learners study in their own pace and place selecting the modules they want to study, and stacking those to a bachelor and graduate programmes.
6. **Open to People**: Programmeme offered is open to all kind of people-those within the locality, country and abroad, the disable. This depicts the open access without discrimination.

Schlosser, Ashland, and Simonson (2002) also identified six major characteristics that distinguish ODL/DL from traditional, regular classroom situations are separation of teacher and learner, teacher's relationship with the learner, utilization of media, anticipation of the two-way communication, occasional money and time for the institution and learner, saving money and time for the institution and learner.

Mulder and Jansen (2014) further suggested eight features of open education to include openness to learners, digital openness, learner centred approach, independent learning, media-supported interaction, recognition options, quality focus, and spectrum of diversity.

Describing the evolution of distance education, Taylor (1999) proposed five different generations of distance education as follow:

- correspondence education;
- integrated use of multiple, one-way media such as print, broadcasting or recorded media such as video-cassettes;
- two-way, synchronous tele-learning using audio or video-conferencing;
- flexible learning based on asynchronous online learning combined with online interactive multimedia;
- intelligent flexible learning, which adds a high degree of automation and student control to asynchronous online learning and interactive multimedia.

First generation: This is the progression through these stages of development has been driven mainly by changes in technology and educational theory. The first generation is characterized by the predominant use of a single technology, and lack of direct student interaction with the teacher originating the instruction. Correspondence education is a typical form of first generation distance education, although educational broadcasting is another version. Correspondence education makes heavy use of standard text books, and the use of a contracted correspondence tutor, who is not the originator of the learning material, and often works for a commercial company. Students however take examinations from accredited institutions.

Second generation distance education is characterized by a deliberately integrated multiple-media approach, with learning materials specifically designed for study at a distance, but with two-way communication still mediated by a third person (a tutor, rather

than the originator of the teaching material). Autonomous distance teaching universities, such as the British Open University, are examples of second generation distance education. Second generation distance education is based on specially designed correspondence texts, combined with standard text books and collections of readings from academic journals, and supported by television and/or radio programmeming. Open universities and distance education units in dual-mode institutions (institutions that are campus-based but also offer some of their programmes at a distance) have been associated more with systems-based and behaviourist or cognitive-science approaches to learning. These may be considered more teacher-focused and 'industrialized', in that all students get the same material, resulting in considerable economies of scale.

Third generation (two-way, synchronous tele-learning using audio or video-conferencing): This is based on replicating as far as possible the classroom model through the use of synchronous interactive technologies, such as video-conferencing, and relies heavily on lecturing and questions. This model of distance education is often used by multi-campus institutions, because it saves travel time between campuses for instructors. However, it provides relatively small economies of scale, little flexibility for learners, because they still have to attend a campus at a set time, and the average cost per student tends to be high. Nevertheless synchronous teleconferencing is popular because instructors do not have to change or adapt their classroom teaching methods to any extent.

Fourth generation: This is flexible learning based on asynchronous communication through the Internet and the World Wide Web (online learning). This model enables increased student-teacher and student-student interaction at a distance, collaborative group work, flexibility for learners to study anywhere at any time, and economies of scope, in that courses for relatively small numbers can be developed without high start-up costs. However, to exploit the educational advantages and to control costs, the design and delivery of asynchronous teaching must be different from both traditional approaches to classroom teaching and the large-scale design of Open University programmemes. Kaufman (1989) characterizes this as a progressive increase in learner control, opportunities for dialogue, and emphasis on thinking skills rather than mere comprehension.

Fifthgeneration is still experimental, based on a heavy automation of learning, and applies mainly to his own institution (University of Southern Queensland). A more plausible fifth generation is distance education based on the use of Web 2.0 tools that allow learners to control access to learning, through social software, virtual worlds and multimedia tools such as YouTube.

The first distance education course in the modern sense was provided by Sir Isaac Pitman in the 1840s, who taught a system of shorthand by mailing texts transcribed into shorthand on postcards and receiving transcriptions from his students in return for correction - the element of student feedback was a crucial innovation of Pitman's system (Tait, 2003). This scheme was made possible by the introduction of uniform postage rate across England from 1840 (Snelbecker, Miller and Zheng, 2005). This early beginning proved extremely successful, and the Phonographic Correspondence Society was founded three years later to establish these courses on a more formal basis. The Society paved the way for the later formation of Sir Isaac Pitman Colleges across the country (Moore and Greg, 2005). The University of London was the first university to offer distance learning degrees, with its External Programmeme in 1858.

In the US, William Rainey Harper, encouraged the development of external university courses at the new University of Chicago in the 1890s. As the first president of the University, he developed the concept of extended education, whereby the research university had satellite colleges of education in the wider community. In 1892 he also encouraged the concept of correspondence school courses to further promote education, an idea that was put into practice by Columbia University (Levinson, 2005). Universities around the world used correspondence courses in the first half of the 20th century, especially to reach rural students. Australia with its vast distances was especially active; the University of Queensland established its Department of Correspondence Studies in 1911 (White, 1982). In South Africa, the University of South Africa, formerly an examining and certification body, started to present distance education tuition in 1946. Distance education also started in Nigeria as a form of correspondence studies in the 40s.

Open and Distance Learning (ODL) in Nigeria

The National Policy on Education (1981 and 2004) adequately provided for the Open and distance Learning in Nigeria. It described it as a mode of teaching in which learners are removed in time and space from teacher. The policy added that it (ODL) uses a variety of media and technologies to provide and/or improve access to good quality education for large number of learners wherever they may be (NPE, 2004). The NPE (1981) more explicitly captured the Open and Distance Education (ODE) as a system which encompasses education for all, education for life, lifelong learning, life-wide education, adult education, mass education, media-based education, self-learning, personalised learning, part-time studies and much more. Further, the National Policy on Education states that:

"E*ducation is the most important instrument of change in any society". And that "any fundamental change in the intellectual and social out look of any society has to be preceded by an educational revolution"* It emphasised that ,"*Federal Government shall undertake to make life-long education the basis for the nation's education policy and that at any stage of the educational process after primary education, an individual will be able to choose between continuing his full-time studies, combining work with studies, or embarking on full-time employment without excluding the prospect of resuming studies later on… The education system will be restructured to develop the practice of self-learning*" (NPE, 1981).

A major educational innovation in Nigeria was the introduction of distance education to cater for the vast number of qualified candidates seeking admission into the conventional higher institutions without success. Open and Distance Learning is not without a history in Nigeria just as it is not totally new. It began in the 1940s as correspondence studies. Many Nigerians got enrolled in the correspondence colleges in Great Britain and studied for various examinations including the General Certificate Examinations, Ordinary Level and Advanced Levels, (GCE, 'O'L, and GCE, 'A'L). In addition, there were those who studied for various technical, commercial and business examinations. Some of the Correspondence Colleges were Rapid Results College, Exam Success, and Woolsey Hall. The main mode of instructional delivery was the print which was usually delivered through postal system (Ojokheta, 2013).

The successive study materials were sent by post and adequately planned to get to the students at a time the student was completing the volumes at hand. This phenomenon persisted until some Universities in the country launched Institutes of Education and Distance Learning Units saddled with the responsibility of providing distance education for interested individuals. Today, some conventional Universities in Nigeria operate dual mode system which involves the traditional face-to-face mode and distance education. Notable among them are the University of Lagos, University of Ibadan, University of Abuja, Obafemi Awolowo University, Ile-Ife, University of Maiduguri, and the Federal University of Technology, Yola. The National Teachers' Institute, Kaduna was another milestone in the history of distance education in Nigeria. It was originally established to massively train teachers with grade II Certificate for the implementation of the Universal Basic Education. It awards Nigerian Certificate of Education, Post Graduate Diploma in Education. The institute was recently granted approval to run Bachelor of Education degree programmemes which took off in 2015.

The National Open University of Nigeria

The National Open University of Nigeria (NOUN) was first established on the 22nd July, 1983 as National Open University (NOU). It was suspended by the then Military Government on 25th April 1984 because of various defects and reasons which the Federal Government felt should be corrected. The Act of 1983 which established the Open University was thus suspended. In 2001, the National Open University of Nigeria Act of 1983 suspended in 1984, was reactivated. This paved way for the resuscitation of the much needed institution whose major purpose is to make education available to as many people as have the ability and are willing and ready to benefit from the quality education provided through flexible and affordable distance learning. The University which took off with eighteen study centres and 26,923 students in 2003 boasts of 70 Study Centres and over 189,000 students as at 2014/2015 (NOUN Annual Report, 2014/2015).

Vision Statement

The National Open University of Nigeria is to be regarded as the fore- most University providing highly accessible and enhanced

quality education anchored by social justice, equity, equality, and national cohesion through a comprehensive reach that transcends all barriers.

Mission Statement

To provide functional cost-effective, flexible learning, which adds life- long value to quality education for all who seek knowledge.

Objectives of National Open University of Nigeria

In addition to the broad vision and mission statements of the University, the following are the some of the main objectives of the University.

i. To ensure equity and equality of opportunities in education generally but specifically in university education.
ii. To provide a wider access to education generally but specifically university education in Nigeria.
iii. To enhance Education for all and lifelong learning.
iv. To provide the entrenchment of global culture.
v. To provides educational resources via an intensive us of information and communication technology.
vi. To provide flexible but qualitative education.
vii. To reduce the cost, inconveniences and hassles of education delivery (Getting to know your university, 2007).

Expected Outcomes

It is expected that the National Open University will among other things do the following:

1. Raise the literacy level in Nigeria.
2. Substantially increase access to university education

viii. Widen the catchment's scope of beneficiaries of university education thus reaching the hitherto unreachable and ensuring that nobody interested in, and capable of having university education, is left out (Getting to know your university, 2007).

The approach to distance learning at the National Open University of Nigeria is composite and comprehensive. It includes personal contacts and a combination of resources such as:

- regular contacts with tutors;

- availability of course materials in print, (study materials, text books, work-books etc);
- course materials on CD-ROMs;
- computer conferencing facilities;
- audio and video cassettes;
- networking opportunities with facilitators, class mates and peers;
- websites for courses;
- television instruction using the NTA Educational Unit, State and Private broadcasting stations
- radio broadcasts using the FRCN, State and private broadcasting units
- feedback regularly on Tutor Marked Assignments and
- periodic face-to-face contact sessions; using tutorial facilities
- e-counselling facility, i-learn portal, etc.

Computer Anxiety and E-Learning

E-learning is considered to have the potential to significantly improve workforce development. "It includes diverse learning strategies and technologies, from CD-ROMs and computer-based instruction to video conferencing, satellite-delivered learning, and virtual educational networks" (Pantazis, 2002). Since it can reduce costs and time of training, businesses are attracted to adopt e-learning into their workforce training. Therefore, how to maximize the effectiveness of e-learning has become an important issue. One of the focuses has been on how to meet individual needs and learning styles (Pantazis, 2002). As researchers examining e-learning and individual characteristics, it is found that computer anxiety played a significant role in the learning process (Fuller et al., 2006). Individuals with high computer anxiety are likely to remain in that state of high computer anxiety in the future, and experience greater anxiety with repeated exposure to computers. They are at risk for "resisting the use of computer technology" and "an inability to gain learning benefit over the anxiety cost of an e-Learning environment" (Fuller et al., 2006).

Studies have found that demographic and situational variables, personality variables, and cognitive style influence learner computer anxiety and further influence

their attitudes toward computers (Igbaria and Chakrabarti, Igbaria and Nachman, 1990). Computer anxiety can affect learner acceptance of computer-based training support tool (Wagner and Flannery, 2004). The perceived ease of use and usefulness of e-learning among learners are important factors that affect the effectiveness of e-learning (Jashapara and Tai, 2006; Lim et al., 2007). It is found that computer anxiety can mediate the effect of perceived ease of use of e-learning (Jashapara and Tai, 2006).

In a study by Frydenberg (2007) on the persistence in University continuing education online classes, it was found that fresh students' persistence rate in online 79% while persistence rate for similar onground courses was 84%. Some personal and psychological characteristics are linked with academic success of online learners. Such attributes include self-regulatory skills (Brooks, 1987; McMahon and Luca 2001), locus of control (Fazey and Fazey, 2001); self-efficacy skills (McMahon and Luca 2001); and motivation (Wang and Newlin, 2002). Prior distance learning experience can also predict academic success of distance learner (Wang and Newlin, 2002).

Empirical Review

Computer Efficacy Strategy and Computer Anxiety

The development of computer efficacy can be related to anxiety, whereby the lack of knowledge about computers can create a psychological fear, hence dampening the development of confidence. Gardner, Render, Ruth, and Ross (1985) explained that this psychological fear related to working with computers includes (a) losing control, (b) losing one's job to a younger person if not successful in learning the computer skills, (c) breaking the computer or losing important information, and (d) embarrassment of not being able to learn the computer jargon. Davis (1989) studied 152 computer users and found that perceived technology usefulness was positively associated with use and intention to use technology. In his study, perceived usefulness was significantly correlated with both self-predicted future usage and self-reported current usage. Igbaria and Parasuraman (1989) found that with respect to the anticipated relationships between attitude toward computer use and anxiety toward usage, attitude is negatively correlated with anxiety. Anxiety toward computer use is negatively correlated with computer skills,

thus leading one to conclude that low anxiety toward computer use should be related to higher computer skills, and high anxiety with lower computer skills

Recent research confirms the previous study. Compeau and Higgins (1995) discovered a relationship between self-efficacy and learning to use computers and software. Beliefs about capabilities to use technology successfully were strongly related to decisions about whether and how much to use technology. A survey on 406 micro-computer users in Finland revealed to Igbaria and Iivari (1995) that self-efficacy was positively correlated with perceived ease of use, perceived usefulness and usage, but negatively correlated with computer anxiety. They concluded that individuals with a high self-efficacy will interact with computers and be less anxious than a person with a low self-efficacy. If individuals believe they will have problems using a computer then they will avoid them due to this fear. Zhang and Espinoza (1998) stated that computer-related self-efficacy influences a person's attitudes, perceptions, and beliefs about technology, and this relationship was clearly demonstrated in their study.

According to Bandura (1986) self-efficacy theory posits that it is mainly perceived inefficacy in coping with potentially aversive events that gives rise to both fearful expectations and avoidance behaviour. People who judge themselves as efficacious in managing potential threats neither fear nor shun them. In contrast, if people judge themselves as inefficacious in exercising control over potential threats, they view threats anxiously, conjure up possible calamities were they to have any commerce with them, and avoid them. When extrapolated to computers and computer use, Compeau and Higgins (1995) found that individuals with high self-efficacy experienced less computer anxiety, used and enjoyed using computers more. On the other hand, individuals who have anxiety when using computers, are fearful of interacting computers, and or have low efficacy when using them, may shun and refrain from using them completely.

Karsten and Roth (1998) indicate that "prior research consistently indicates that computer efficacy (CSE) is positively correlated with an individual's willingness to choose and participate in computer activities, expectations of success in such activities, and persistence or effective coping behaviours when faced with computer-related difficulties.

Computer experiences have been associated with computer efficacy and computer anxiety (Kiliç, 2015; and Igbaria and Iivari, 1995). Chua and Chen (1997), who conducted a meta-analysis of studies of computer anxiety, concluded that the correlation between computer anxiety and prior computer experience was the "most consistent findings". Of 40 studies they reviewed, 36 of them indicated that an increase in computer experience generally reduced computer anxiety. Here, a positive correlation is expected because additional experience and exposure with computers means have spent more time working with computers, thus increasing the computer efficacy and reducing computer anxiety. However, the time spent working on a computer should be pleasant; otherwise, it can produce the opposite effect (Hauser, Paul, and Bradley, 2012).

Many research findings showed that computer anxiety can be significantly reduced by exposing people to computers, but much of it depends on the type of exposure (Hauser, Paul, and Bradley, 2012; Saade and Kira, 2009; Chua et al., 1999). These researchers further hypothesized that studies should not focus only on the exposure to computers, but also on the type and quality of training. Bozionelos (2001) theorized that the magnitude of the relationship between scores on computer anxiety and scores on computer experience attenuated as scores on computer experience increased and scores on computer anxiety decreased. The study revealed that when individuals gained more experienced with computers, they were less likely to be anxious when dealing with technology. In a research conducted with a sample of 133 undergraduates by Hill and Mann (1987), the researchers disclosed a significant positive correlation between previous computer experience and computer efficacy. There have been several approaches to assess computer experience, and self-reported computer experience questionnaires are usually used to quantify computer experience. Gardner, Dukes, and Discenza (1993) used frequency of computer use to indicate computer experience. To determine frequency of use, Gardner et al. asked participants to check when computers were used in the course of a day. Chua et al. (1999) believed that measures of the amount of computer experience might include the number of (a) computer courses previously attended, (b) the years using computers, and (c) computer course hours, as well as (d) the frequency of use of computers at work or at home.

Cognitive Behaviour Therapy and Anxiety

Several studies have been carried out to demonstrate effectiveness of cognitive behaviour therapy (Akin-Odanye, 2015: Oei, Llamas and Devilly, 1999; Salami, 2007). CBT has been found to be very helpful in improving symptoms in people with anxiety (Gould, Buckminster, Pollack, Otto, and Yap, 1997; Western and Morrison, 2001; Linden, Baer, Zubraegel, 2002; Douglas, Ladouceur and Leger, 2003; Linden, Zubraegel and Baer 2005; Covin, Quiment and Seeds, 2007). Some studies found that it works well for more than half of people with anxiety disorder (Gould, Buckminster, Pollack, Otto, and Yap, 1997; Western and Morrison, 2001). It works better than some other psychological treatments such as anxiety training or non-directive counseling (Gould, Buckminster, Pollack, Otto, and Yap).

Fathi-Ashtiani, Salimi and Emamghohivand (2006) compared the effects of cognitive therapy (CT) with systematic desensitization (SD) on test anxiety in high school students. The participants received 12 weeks therapeutic training and the results revealed that for both case groups test anxiety mean scores were significantly lower than those for the control group. However, no significant differences were found between the cognitive and desensitization techniques. These results showed that both psychotherapy techniques had positive and significant effects on the test anxiety levels of students.

Knoop, Stulemeijer, Jong, Fiselier and Bleijenberg (2008) reported that adolescents with Chronic Fatigue Syndrome (CFS) who received 10 sessions (over 5 months) of cognitive behaviour therapy (CBT) continued to experience positive effects at 2-year follow-up. Researchers measured fatigue, functional impairment, school attendance, and work attendance (where applicable). At follow-up, participants continued to experience the same improvement in fatigue as they had at the end of treatment. Their physical functioning, school attendance, and work attendance actually improved during the follow-up period.

Kingdon Rathod, Weiden and Turkington, (2008) found cognitive behaviour therapy (CBT) to be beneficial for medication-resistant symptoms of schizophrenia. This is an important study since persistent symptoms are often disabling, lead to significant distress, and are associated with increased depression, anxiety, and risk of suicide. CBT as part of a treatment protocol with anti-psychotic medications has been shown to reduce

these and other symptoms, and to increase adherence to treatment and insight; additionally, the effects are durable and cost effective. Working collaboratively with patients to improve understanding and coping has overall reduced suffering and improved functioning.

Manning (1988) applied Meichenbaum's cognitive behaviour modification theory in a study of 30 first graders and 25 third graders who exhibited mild classroom problem behaviours. Results of the controlled study indicate that self-instructional training method derived from the theory is viable classroom management option for regular education.

Studies of children and teenagers with anxiety disorders found that cognitive behaviour therapy works better than no treatment (Cartwright-Halton, Roberts and Chitsabesan, 2004; Bernstein, Layne and Egan, 2005; James, Soler and Weatherall, 2005; Lyneham and Rapee, 2006). In one study, almost half of the children who had CBT were better after treatment (Flannery-Schroeder, Ellen and Kendall Philip 2000). In another study, almost eight in ten children got rid of anxiety disorder during treatment (Lyneham and Rapee 2006).

Researchers (Covin, Quimet and Seeds, 2007; James, Solder and Weatherall, 2005; Western and Morrison, 2001) found that anxiety disorder is linked to the way a person thinks about himself and the world. Anxiety if uncontrolled, leads to frustration and depression. If a person can change the way he/she thinks, then he/she would control anxiety. Changing the way a person thinks can help him/her change the way he/she behaves, so that he/she can do the things he/she needs and wants to do (Andrews, Creamer and Crino 2002).

Ooi, Lam, Sung, Tan, Goh, Fung, Pathy, Ang, and Chua (2008) examined the effects of cognitive behaviour therapy on anxiety for children with high-functioning autistic spectrum disorders. The Results showed lower level of anxiety after post treatment. Parents and teachers also reported lower level of stress following the CBT programmemes. From the study, some evidence of the effects of CBT for high-functioning autistic children in anxiety, parental and teacher stress were provided. Various studies have documented the effectiveness of CBT in treating symptoms among non-Autistic Spectrum Disorders children and their families (Kendall, 1994; Kenwall, 2000; Albano and Kendall, 2002).

Spence, Sheffield and Donovan (2005) found a CBT intervention to have an immediate effect in terms of depressive symptoms but these benefits were not maintained over 4 years of follow ups. Targeted prevention programmemes tended to have greater success (Clarke, Hawkins and Murphy, 1995). Clarke et al (1995) compared a control group and a CBT group and found that CBT halved the incident of depression over a 12-month follow-up period for a group of adolescents who had elevated levels of depressive symptoms.

More recent studies exploring companions between CBT and antidepressant therapy, alone or in combination, have found mixed results, with less convincing support for the benefit of CBT. For instance, Clark et al (1995) found that adding CBT to antidepressant medication had an advantage in providing remittance of depressive disorders over 1-year follow–up and that only a non-significant trend favoured CBT on a measure of depressive symptoms. Conversely, a much larger, multi-site study, treatment of adolescent depression study (McCullough, 2000) and that CBT and antidepressant in combination provided the most recovery from depression (71%) in adolescents aged 12 to 17yesars, whereas CBT alone (43%) was less effective than antidepressant alone (61%) and less marginally better than a pill placebo (35%). Studies carried out by Deffebacher, Zwemer, Whisma, Hill and Sloan (1986), Vestre (1984) found positive correlations between irrational beliefs and negative effects such as anxiety, and depression.

Kayode (1987) in his study on the effectiveness of psycho education and cognitive behaviour therapy on the management of surgical patients found that the latter proved superior for students with low pre-operative anxiety. Salami (2007) examined the effectives of cognitive behaviour therapy in managing stress among some trainee-teacher of a college of education, Kwara State, Nigeria. Seventy participants who were employed for the study were administered the stress, depression, state and trait anxiety scales before and after treatment. The results indicated that the participants had significant reduction in their level of stress, depression, state and trait anxiety than the control group after treatment.

In another study by Akin-Odanye (2015) examined the effectiveness of cognitive restructuring, an example of CBT in the reduction of psychological distress among cancer patients in South-west Nigeria. It was found to be a very potent intervention.

Brozovich, Goldin, Lee, Jazaieri, Heimberg,and Gross (2015), also carried out a randomized controlled trial of cognitive behaviour therapy (CBT) with 75 adults with social anxiety disorder (SAD) and examined pre-to post-CBTchanges as well as weekly fluctuations in rumination, reappraisal, and social anxiety symptoms. Results showed that socially anxious individuals' baseline rumination (brooding) scores predicted weekly levels of social anxiety, rumination,and reappraisal, whereas baseline reappraisal scores did not. Greater weekly rumination was associated with greater weekly social anxiety, but reappraisal was not related to social anxiety.

In another study, Ebert, Zarski, Christensen, Stikkelbroek, Cuijpers, Berking, and Riper (2015) conducted a randomized controlled trials in which a computer-, Internet- or mobile-based cognitive behavioural intervention targeting either depression, anxiety or both in children or adolescents up to the age of 25 were compared to a control condition. Using a random-effects pooling model in overall effect analyses and a mixed effect model for sub-group analyses. Searches resulted in identifying 13 randomized trials, including 796 children and adolescents that met inclusion criteria. Seven studies were directed at treating anxiety, four studies at depression, and two were of a trans-diagnostic nature, targeting both anxiety and depression. The results indicate that the CBT was very efficacious in the treatment of anxiety.

In the treatment of generalised anxiety disorder, studies have revealed evidence of efficacy for group CBT, including that offered in the larger psychoeducational groups (White, 1998; Main and Elliot, 2005).

Hynnienen, Pallesen, Bakke, and Nordhus (2010) examined the effect of cognitive behaviour therapy (CBT) in groups for co-morbid, clinically significant anxiety and depression in COPD outpatients of both sexes. In a randomized, controlled trial, CBT was compared with enhanced standard care (n = 26). Participants in both conditions were followed up at 2 and 8 months from baseline. Main outcome measures comprised the Beck Anxiety Inventory and the Beck Depression Inventory-II. Measures of health status and sleep were included as secondary outcomes. The effects of sex and age were also investigated. CBT resulted in improvement in symptoms of anxiety and depression, with effect sizes of 1.1 and 0.9 at post-treatment, respectively.

The improvement was maintained at the 8-month follow-up, with effect sizes of 1.4 and 0.9. In the control group, there was no significant change. Compared to men, women had higher symptom levels throughout the whole study period. Younger patients had more anxiety and depression; age had also differential effects in the two groups on change in depressive symptoms. Changes in sleep and health status were small in both groups. The findings indicate that CBT may provide rapid symptom relief for COPD patients with clinically significant anxiety and depression.

Tabibi, Mashadi, Eshragi, Faroughi, and Ahmadi. (2014) in a quasi-experimental study investigated the effectiveness of group cognitive behaviour therapy in anxiety and depression and glycemic control in children with type I diabetes. Thirty (30) children with diabetes were selected from Imam Reza Hospital in Mashhad as participants. The children were randomly assigned into two experimental group (15) and control group (15). The experimental group was exposed to two hours of eight sessions of cognitive-behavioural training. Before and after the intervention, the Multidimensional Anxiety Scale for Children, which included four components of social anxiety, physical symptoms, harm avoidance, and separation anxiety, and Children Depression Inventory was administrated in both groups. Results indicate that depression and anxiety and glycemic control in experimental group was controlled at post-test and depression score in experimental group compared to the control group at post-test was decreased. The findings from the multivariate covariance analysis test between components of, physical symptoms, harm avoidance, separation anxiety, and social anxiety revealed meaningful differences between the two groups in social anxiety post-test score. The authors concluded that cognitive behaviour therapy was effective for depression, anxiety, and blood sugar control in children.

Based on the theoretical and empirical studies reviewed so far, it is clearly demonstrated that CBT has been used extensively in the Western world to treat problems such as anxieties, depression, anger, guilt, low self-esteem, adjustment difficulties, sleep disturbances and post-traumatic stress.

Cognitive Behaviour Therapy and Computer Anxiety

Cognitive behaviour therapy (CBT) is a treatment package that has been widely used and has significant effects on anxiety management. Despite the avalanche of studies that confirmed the efficacy of CBT in the treatment of anxiety generally, not many specific studies have utilised it (CBT) in the management of computer anxiety. In relation to computer anxiety, CBT has been used by few researchers and has shown to be very efficacious.

In a longitudinal study aimed at computer anxiety among students by Rosen, Sears and Weil (1993), two individualized treatment modules and one group treatment module to fit different types of computer-phobic were adopted. One hundred and sixty-two clients or participants underwent one or more treatment modules while enrolled in a course that required computer interaction. Clients showed dramatic changes following the 5-week programmeme, including decreased computer anxiety, improved computer cognitions, and enhanced computer attitudes. All treatment modules were equally successful in eliminating psychological reactions to computers. Two comparison studies added further support, showing that (a) clients evidenced a 50% in dropout rate, an eightfold decrease in dropout rate, and a significant increase in graded performance in their computer course, and (b) clients had more marked changes in anxiety, cognitions, and knowledge in the 5-week programmeme than comparable students in a variety of 10-week courses involving computer use. Programmeme dropouts were found to have more computer anxiety, more negative computer attitudes, and more negative computer cognitions than either the programme clients or students who chose not to start a programme module. Forty-one participants who were examined in a follow up six months later also showed maintenance of programmeme gains in addition to a dramatic increase in computer knowledge and computer interaction. It also revealed that a half of the client (former computerphobics) were ready to take up a career involving use of computers.

Brosnan and Thorpe (2006) conducted two separate studies to examining the effect of clinically derived treatments upon levels of anxiety induced by technology (computer/ICT). The first study was a 10-week selective desensitisation programmeme with 16 participants (8 computer-anxious, 8 non-anxious). Result from the study indicated that computer anxiety drastically reduced while coping cognitions were also

enhanced significantly in the computer phobic group and become comparable to those of the matched non-anxious controls.

In the second research, a single treatment session was carried out on the computer anxious participants. 30 screened computer anxious individuals were assigned to either a one-session treatment (n=9) or non-treatment (n=21) group. At the beginning of the intervention, those assigned to the one-session treatment group and the non-treatment group were significantly more anxious than the non-anxious control group (n=59). Subsequent testing revealed that over the period of an academic session/year, there was marked reduction in the level of anxiety of participants in treatment group. The study specifically found that the reduction in anxiety was three times greater in the treated group than the non-treated group such that by the end of the year the treated group no longer differed from the control group, whereas the non-treated group remained significantly more anxious.

Gender and Computer Anxiety

There are numerous studies dealing with gender and computer anxiety and computer self-efficacy. Results of these studies, however, have been inconsistent and research findings are inconclusive with regards to the effect of gender on this phenomenon. The different survey conducted in 21 countries by Reinen and Plomp (1993) revealed that computer usage at school was dominated by male participants. Dyck and Smither (1996) carried out a similar study and concluded that gender does have some influence on computer apprehension and attitudes. Their research revealed that female participants showed higher anxiety, less liking, less confidence, and less positive attitude toward computers than their male counterparts.

Many studies have found that females are more anxious about computers than males (Broos, 2005; Brosnan, 1998; Chua, Chen, and Wong, 1999; Schottenbauer, Rodriguez, Glass, and Arnkoff, 2004). Schumacher and Morahan-Martin (2001) stated that the increasing overall computer use in the United States did not diminish gender differences in computer experiences. Their study found that gender differences continually exist among college students. Female college students have higher computer anxiety than

male students. They also have more negative attitudes toward computers. Gender bias could affect the results of these studies. Since parents tend to purchase more computers for sons than for daughters, male and female youth do not have equal access to computers in the home (Campell, 1989). Since boys spend more time using computers, they have more computer experience than girls. They also have more interest in computer-related activities (Beentjes, Haenens and Van der Voort, 1999).

Durndell et al. (2002) found that in general, male participants had higher computer self-efficacy than females, and that this was more so with advanced as opposed to beginning skills. Chou (2001) proposed the concept of gender as a variable that moderates the effects of training methods and computer attitudes. As a result, he hypothesized that male respondents will generally score higher on computer learning performance measures and score lower on computer anxiety measures. Cassidy and Eachus (2002) revealed similar results in their study on computer efficacy. Their study also showed that male participants had significantly higher computer efficacy as compared to their female counterparts. Czaja et al. (2006) also mentioned that women have higher computer anxiety, lower computer efficacy, and lower general computer attitudes. Tuncer, Doğan and Tanas (2013) investigated computer-related anxiety among vocational High School students of Tunceli University. Result shows that gender did not make any meaningful difference for computer anxiety. Kiliç (2015) examined the computer anxiety and self-efficacy of music teachers in terms of different variables. The research was implemented on 124 music teachers. The results indicate that gender creates a significant discrepancy in the perception of both computer anxiety (the computer anxiety of female teachers is higher) and self-efficacy (computer self-efficacy of male teachers is higher).

Birol, Bekirogullari, Etci, and Dagli, (2008) explored the relationship between gender and computer anxiety, motivation, self-confidence, and the use of computers in a job or career. A significant difference was found between females and males in computer self-confidence, females recording significantly lower scores than males. Male respondents recorded significantly higher scores of self-confidence on this scale than females did, although females and males expressed confidence in accomplishing work using computers. Mean scores for males were higher than female scores for computer

anxiety. An examination of computer self-efficacy and computer anxiety of trainee teachers in West Bengel, India by Halder, and Chaudhuri (2011), revealed a significant difference in computer anxiety levels on gender basis. Male trainees had lower computer anxiety than female trainees. Male respondents recorded significantly lower scores of self-anxiety on computer self-anxiety scale than females did.

In a more recent study by Sanalan (2016), who investigated computerphobia among preservice education majors in a Northeastern University in Turkey, findings indicated that females have significantly more computer fear than their male counterpart. Other studies, however, have shown that there is no significant difference between genders related to computer anxiety. A study conducted by Howard and Smith (1986) of 111 managers revealed that gender was not a significant factor in computer anxiety.

Research by Igbaria and Parasuraman (1989) studied a population of 166 managers that included 115 males and 51 females and found no significant correlation between gender and computer anxiety. Ray and Minch's (1990) study of 114 business professionals that included 68 males and 46 females also showed that there are no significant differences between genders pertaining to computer anxiety. Cazan, Cocorada and Miacan (2016) also examined the relationships between computer and internet anxiety, computer self-efficacy and other personal characteristics in a Romanian context. The authors found that there was no significant difference between the male and the female participants concerning computer anxiety. Rahimi and Yadollahi (2011) in a study to determine Iranian EFL teachers' level of computer anxiety and its relationship with ICT integration into English classes and teachers' personal characteristics reported a negative relationship between computer anxiety and gender.

Numerous studies have examined the relationship between gender differences in computer anxiety. These differences in turn influence may one's attitude towards using computers. In a study of 147 business administration undergraduate students (67 men, 80 women), Busch (1995) found gender differences in perceived self-efficacy, with male students having significantly higher efficacy expectations for complex computer tasks (word processing and spreadsheet software) than female students. Male students also reported greater computer experience in programmeming and computer games than did female students; they also exhibited significantly lower computer anxiety and higher

computer confidence than female students. Additionally, computer anxiety and computer attitudes were strongly correlated.

Durndell and Haag (2002) in a study of 74 female and 76 male students from Romania found males experienced more positive attitudes towards the internet, reported longer internet use, and lower computer anxiety than females. Halder and Chaudhuri (2011) in a study of 84 secondary school teacher trainees at the University of Calcutta (43 males and 41 females) found that male trainees had higher computer efficacy and lower computer anxiety than female trainees. Miura (1987) in a study of 386 students (104 males, 264 females) found males rated themselves higher on the self-efficacy scale than females and indicates that self-efficacy perceptions appear an important consideration when examining gender differences in computer interest and use.

Smith (2001) examined the relationship between computer anxiety and computer-related tasks performance with 10 undergraduate college students (6 males and 4 females) found high efficacy for word processing and telecommunication units and low efficacy for database and presentation units. However, no gender differences in computer anxiety were examined and Smith (2001) indicates that awareness of computer anxiety that relates to computer performance tasks will enhance classroom learning and instruction.

Ramalingam and Wiedenbeck (2005) administered the computer programmeming self-efficacy scale to 421 students (324 males, 96 females, 1 gender unreported) who were enrolled in an introductory computer science course. Subjects were asked to rate their level of confidence on a 7 point scale (1 = not at all confident) to 7 (absolutely confident). The scale was administered in the first week of the semester and later in the thirteenth week of the semester. The results indicated that prior experience did not differ between males and females. Females had lower self-efficacy than males with respect to a subset of skills queried.

While many studies have demonstrated gender differences in computer anxiety, Chao (2001) conducted a study with 200 preservice teachers in Taiwan who were administered a computer anxiety (CSE) scale. The results indicated no gender differences were obtained for computer anxiety; however, a significant correlation was obtained between computer experience and computer anxiety. Sam, Othman, and Nordin (2005) found no gender differences in computer anxiety for 148 undergraduate students (67

males, 81 females) in Malaysia. Adebowale, Adediwura, and Bada (2009) in a study of 123 males and 92 females found no differences in computer anxiety. Johnson and Wardlow (2004) also found no significant differences in computer anxiety by the main effect of gender.

Various empirical studies have examined the relationship between computer experience and computer anxiety. In a study of 156 college students (84 males 64 females), Karsten and Roth (1998) found no significant differences in pretest computer anxiety scores based on gender. Additionally, prior computer experience was significantly correlated with pretest computer anxiety scores, and "students with more computer experience tend to have higher initial levels of computer anxiety".

Schumacher and Morahan-Martin (2001) have come to the conclusion that males spend much more time in the internet than females. So they are more relaxed while using computer than females. Researchers have found out that computer anxiety is the identifier of internet anxiety (Thatcher et al 2007), and there is a positive relation between computer proficiency and internet proficiency (Schumacher and Morahan-Martin, 2001), and also individuals, who have higher self-proficiency and lower computer, anxiety have more positive attitude towards using computer and using longer times (Durndell and Haag, 2002). Young people use the internet to get across each other (Pierce, 2009). There is positive relation between social anxiety and not being relaxed in face to face interactions and also between online communication and sending emails. On the contrary, there is positive relation between not having social anxiety and taking up online friendships.

Females have higher social anxiety than males. Females mostly prefer online technologies tools to get interaction with others instead of getting face to face interactions (Pierce, 2009). Findings of these researches support each other. In the studies made on computer anxiety, it has been found that while computer use or experience has been increasing, the anxiety level has been decreasing. Negative relation between computer experience and computer anxiety found by Chua, Chen and Wong (1999) and Liu and Lohnson (1998) provides support to this finding. In these studies, it is stated that there is a meaningful relation between individuals' anxiety levels and genders.

The anxiety levels of females are higher than males (Chou, 2003; Joiner, Gavin, Duffield, Brosnan, Crook, Durnell, et al. 2005; Joiner, Brosnan, Duffield, Gavin, and

Maras, 2007; Sun, 2008). This difference is based on frequency and experience of using internet by the researches. It is seen that males have their own web page, use much more internet, visit many game and other sites, and download many materials form the internet than the female do. Thus males have much more experience since they spend much more time in the internet that females (Joiner et al, 2005).

In conclusion, majority of the studies revealed that women had higher computer anxiety than their male counterparts. Those studies also noted that male respondents have higher computer efficacy than women.

Age and Computer Anxiety

The age factor has been used to determine the extent of exposure that students had to computer usage while in school. Younger adults who went through college in the latter part of the 20th century tended to have been more exposed to technology while they were pursuing their education and did not dislike working with computers. An extensive study with a sample of population of 422 participants consisting of senior citizens and college undergraduates by Dyck and Smither (1994) revealed a significant relationship between age and levels of computer anxiety. The significance is probably due to the presence of a wide age gap between the senior citizens and the college undergraduates. In another study conducted by Rahimi and Yadollahi, (2011) to determine Iranian EFL teachers' level of computer anxiety and its relationship with ICT integration into English classes and teachers' personal characteristics, results indicated a positive relationship between computer anxiety and age.

Ellis and Allaire's (1999) research revealed similar findings to those of a study by Czaja et al. (2006) in which older and middle-aged adults had lower self-efficacy with respect to use of computers and higher computer anxiety than did younger adults. In their study, 90% of the middle-aged (18-39 years old) and 84% older people (60-91 years old) in their sample reported having experience with computers and that several prior studies had shown that experience with computers generally results in low anxiety and higher self-efficacy. Kelley and Charness (1995) also hypothesized the effect of age on computer performance due to age-related deficiencies, thus causing the need for more time to accomplish tasks. In his study, Maurer (2001) discovered that older participants

reported lower self-efficacy for career-related training, revealing age-related declines for specific efficacies.

Yoon, Jang, and Xie (2015) examined predictors of computer use and computer anxiety in older Korean Americans. Separate regression models were estimated for computer use and computer anxiety with the common sets of predictors including age and gender. A higher likelihood of computer use and lower levels of computer anxiety were commonly observed among individuals with younger age.

Jennings, Austin and Onwuegbuzie, (2001) examine whether the variables of age, gender, attitudes toward mathematics, and student type are significantly related to the following four dimensions of computer attitude: anxiety, confidence, liking, and usefulness among 351 male and female participants. Data were collected via a survey instrument that combined demographics with the Loyd and Gressard (1984) Computer Attitude Scale. Using the multiple analysis of variance, the results indicate that a main effect was found for age, indicating that the youngest group of students reported less computer anxiety and higher levels of confidence than did the other age groups.

A discrepancy is evident between research on age and its relationship to computer anxiety. However, researchers do agree that prior positive computer use, exposure, and experience with computers contribute to lower levels of computer anxiety (Ayersman and Reed, 1995; Dyck and Smither, 1994; Hakkinen, 1994). Increased exposure to the subject (computers) minimizes the negative conditions that exist and results in positive attitudes toward the subject matter (Wlodkowski, 1993).

Others researchers, however, argued that this relationship remains inconclusive and may not exhibit sufficient strength (Chua et al., 1999). Many subsequent studies also revealed no relationship between the two variables since the connection between the two elements are not easily observed when the age range is narrow (Reed, Doty, and May, 2005). They also maintained that while prior studies have not extensively explored the negative relationship between age and computer efficacy, other variables need to be scrutinized to identify the cause of the said outcome. Results from a survey by Czaja et al. (2006) suggested that in general computer users over the age of 65 had less confidence in their ability to use computers than did younger people and had fewer computer skills. This was partly due to their inability to adapt and use technology, thus placing them at a

disadvantage in terms of their ability to successfully perform daily tasks. The study also revealed that people who were younger had higher levels of fluid intelligence and education, had lower levels of anxiety about computers, and were more likely to have experience with computers. These researchers also discovered that the older adult group of men and women (ages between 60 to 91 years old) had more computer anxiety and lower computer efficacy as compared to the younger group.

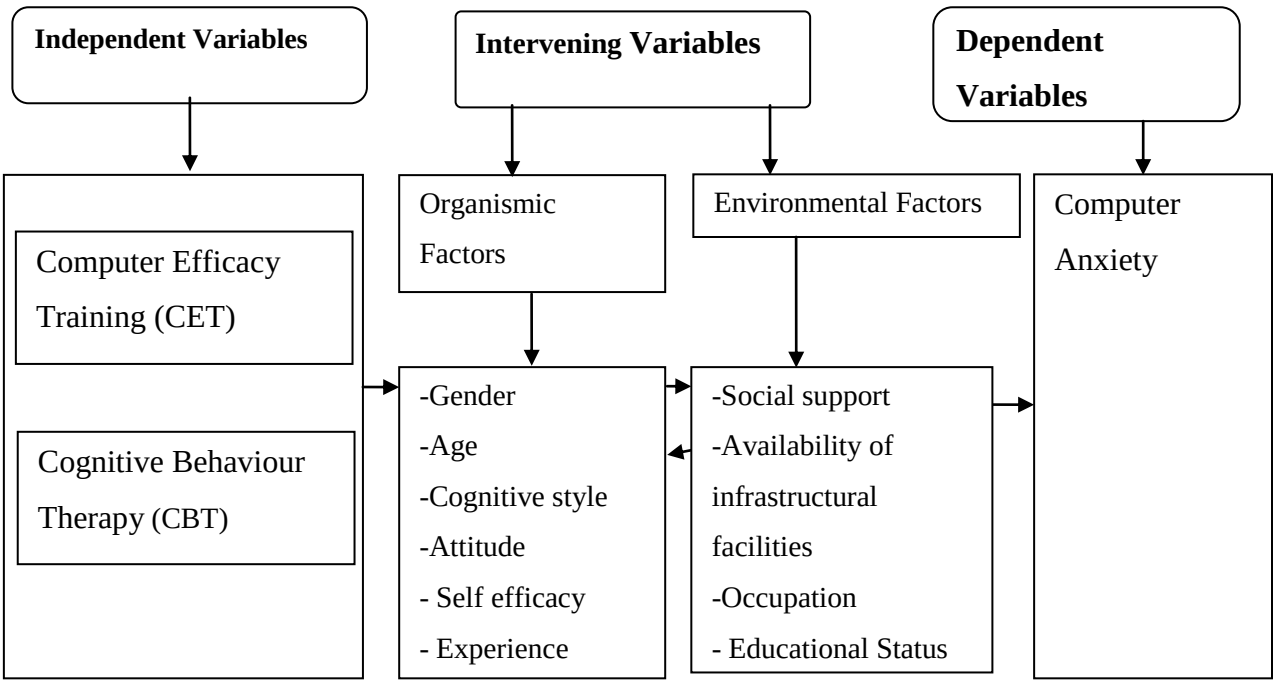
The middle-aged adult group (ages between 40 and 59 years old) was also significantly different on these constructs than was the younger adult group (ages between 18 to 39 years old). In their study, the older adults seemed to have less interest in computers than other groups. Although there is an increase in the use of computers and technology in the general population, there are studies that indicate older adult groups as having more problems than younger people in learning to use and operate current technologies (Charness, Schumann, and Boritz, 1992; Czaja, Sharit, Ownby, Roth, and Nair, 2001; Sharit, Czaja, Nair, and Lee, 2003). These conclusions are similar to the argument that people with lower self-efficacy display less enthusiasm to engage in a task than do those with higher self-efficacy.

Most of the research findings are mixed regarding the role of age on computer anxiety. However, research tends to support that more experiences with computers reduce the level of anxiety. This is particularly true when students start using computers at early ages, own a personal computer at home, use computers more frequently in daily life, and their academic major is a technical one (Chou, 2003; Gordon, Killey, Shevlin, McIlroy, and Tierney, 2003; Weil and Rosen, 1995).

2.3 Conceptual Model

The conceptual model for this study comprised the independent variable or the treatment packages namely; computer efficacy (CE) and cognitive behaviour therapy (CBT) strategy. These variables are to be manipulated by the researcher to see their effects on the dependent variable (students' computer anxiety). The intervening or mediating variables were made up of organismic and environmental factors. The organismic factors are those factors which are resident within the individual such as gender, age, cognitive style, attitude and self-efficacy among others. The environmental

factors are variables which are resident outside the individual and could affect the responses of the participants to the treatment package. Examples of environmental factors are social support, availability of infrastructural facilities, family socio-economic factors, and occupation among others. These variables intervene between the independent and dependent variables and when manipulated will be expected to produce measurable effects on the dependent variables which is enhancement of students' computer anxiety. Though some intervening variables are capable of influencing the effectiveness of the interventions in achieving enhancement of students' computer anxiety in this study, the intervening variables of interest are gender and age. This is because literatures have shown that these have significant moderating influence on the computer anxiety.



Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant main effect of treatments on NOUN freshmen's computer anxiety.
2. There is no significant main effect of gender on NOUN freshmen's computer anxiety.
3. There is no significant main effect of age on NOUN freshmen's computer anxiety.
4. There is no significant interaction effect of treatments and gender on NOUN freshmen's computer anxiety.
5. There is no significant interaction effect of treatments and age on NOUN freshmen's computer anxiety.
6. There is no significant interaction effect of gender and age on NOUN freshmen's computer anxiety.
7. There is no significant three-way interaction effect of treatments, gender and age on NOUN freshmen's computer anxiety.

CHAPTER THREE

METHODOLOGY

This chapter focused on how the study was carried out. Issues concerned here are research design, study population, the sample and sampling techniques, instrumentations, procedure for carrying out the study, summary of activities in the experimental groups and method of data analysis.

Research Design

This study was a pre-test, post-test, control group, quasi-experimental design with a three by two by two (3 x 2 x 2) factorial matrix. The factorial matrix consisted of two treatment groups (computer efficacy training and cognitive behaviour therapy) and a control group in the rows while the columns had two moderating variables of age (young, old) and gender (male and female).

This is presented in the table below:

Treatment	Gender		
	Age		
	Young	Old	Total
	YOUNG (C_1)	OLD (C_2)	TOTAL
CET (A_1)	24	6	30
CBT (A_2)	15	10	25
CG (A_3)	13	17	30
Total	**52**	**33**	**N=85**

KEY: CET = Computer Efficacy Training; CBT = Cognitive Behaviour Therapy; CG = Control Group

Population

The population of the study comprised all fresh students of the National Open University of Nigeria in the South-West geo-political zone of Nigeria. This population was made up of 21,567 fresh students who had written a semester's examination. These

learners cut across over nine Study Centres in the zone-Ado Ekiti (757), Agidingbi, Ikeja, Lagos (6794), Akure (1267), Awa Ijebu (1075), Apapa, Lagos (2460), McCarthy, Obalende, Lagos (2261), Abeokuta (3116), Oshogbo (1771) and Ibadan (2066).

Sample and Sampling Techniques

Eighty-five participants were selected for the study via simple ramdom sampling technique. The simple random sampling technique was used to select three Study Centres of the National Open University of Nigeria in the South-West Nigeria where the study was carried out. In each of the three Study Centres, the Computer Anxiety Scale Revised (CASR) by Bandalos and Benson (1990) was administered to freshmen across the seven schools (faculties) in the University to screen for participants with high computer anxiety. Thirty (30) male and female participants were randomly selected from those who score low in the CASR in each of the three selected Study Centres. Only those who completed the intervention in each of the three centres formed the final participants reckoned with in this study. However, there was attrition of 5 participants in the CBT group.

Inclusion Criteria

i. Participants were students of the National Open University of Nigeria (NOUN) who had attempted one semester examination in the university.
ii. There was no age limit to participation.

Instrumentation

Two instruments were adopted to collect data for this study. They are;

- Computer Anxiety Scale-Revised (CASR) by Bandalos and Benson (1990).
- Computer Anxiety Rating Scale (CARS) by Heinssen, Glass and Knight (1987).

These instruments were found to adequately measure the variables concerned in this study.

Computer Anxiety Scale - Revised

The Computer Anxiety Scale-Revised (CAS-R) was designed in 1990 by Bandalos and Benson. This scale was adapted from Loyd and Gressard's popular Computer Attitude Scale (McCullough, 1997). The 23-item survey was designed to measure computer

anxiety in participants and can be administered in about fifteen minutes. Studies performed by Gos (1996) and Rosen and Weil (1995) found the CAS-R to be a reliable and valid instrument. The CAS-R is constructed with Likert-type questions ranging from Strongly Agree to Strongly Disagree. The examinee is forced to make choices on the scale that can be translated to weights of 1 through 5. Thus, the highest score obtainable is 115 while the lowest is 23. The CAS-R includes items that vary between positive and negative statements. The instrument was designed to measure three constructs of computer liking (8 items), computer confidence (9 items), and computer achievement (6 items), as identified by Bandalos and Benson (1990). The authors calculated an estimate of the coefficient alpha reliabilities for the three CAS-R subscales and the total scale at .90, .93, .90 and .96, respectively. This instrument was used to screen for computer-phobic participants. For this study only the total summative score was employed with higher values (60 and above) to indicate lower generalized anxiety levels or a positive disposition towards computers. Scores with low value (below 60) represented high anxiety levels. The unique nature of the sample compelled the researcher to revalidate the instrument. The internal consistency Cronbach Alpha yielded 0.89 while a two-week test-retest reliability showed alpha coefficient of 0.91.

Computer Anxiety Rating Scale (CARS)

The Computer Anxiety Rating Scales (CARS) is a 19 items self-report inventory, designed and validated by Heinssen, Glass and Knight, (1987). The subjects responded on a five-point Likert type scale (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, and 5=strongly agree). Total scores ranged from 19, indicating a low level of computer anxiety, to 95, which would indicate a high degree of computer anxiety. The instrument has a test re-test reliability of .79. When subjected to revalidation, the instrument demonstrated high internal consistency with Cronbach alpha of 0.86 and a two-week test-retest reliability coefficient of 0.89.

Procedure for Data Collection

Letter of introduction was collected from the Head of Department of Counselling and Human Development Studies, University of Ibadan to the three study centres where

the study was conducted. Ethical approvals were obtained from these Study Centres to carry out the research. The study involved four stages namely: recruitment, pre-test, treatment and post-test. At the recruitment stage, the Computer Anxiety Scale Revised was used to screen participants. Participants with low score (i.e. below 60) were regarded as computer-anxious. The treatment programmemes adopted the use of didactics, discussion etc that focus on particular topics related to computer efficacy and the use of cognitive behaviour therapy in acquiring skills which could help in managing paricipants' anxiety. The CBT was employed to help participants identify their irrational thoughts and behaviour towards computer and subtitute them with rational thoughts. At the pre-test stage, the Computer Anxiety Rating Scale was administered to the participants. Participants in the two experimental groups were exposed to eight weeks (eight sessions) of treament (Computer Efficacy Training-CET and Cognitive Behaviour Therapy-CBT). Each session lasted for an average of one hour. Participants in the control group were not exposed to any form of treatment but a seminar on "time management strategies for Open and Distance Learners. The post-test was administered during the last (8^{th}) session of the treament.

The synopsis of the treatment packages are given below:

Treatment Package Outline

Experimental Group 1 – Computer Efficacy Training (CET)

Session 1: This was the first meeting with participants. The researcher introduced himself, welcomed participants and established rapport with them. There was self-introduction by each participant. The therapist gave orientation on the purpose and nature of the training, the main concept and the objectives of the training. The therapist explained the rules and regulations guiding the conduct of the programmeme and what is expected of the participants. The time, duration and content of the various sessions of the training were also communicated to the participants. Participants were given opportunity to ask questions and make clarifications on the training. The pre-test was administered, participants were guided on how to fill the questionnaire and the test was collected immediately.

Session 2: The concepts of self-efficacy and computer efficacy were introduced to participants at this session. The importance of self-efficacy in relation to computer was well explained to the participants. They were also enlightened on the various sources of self/computer efficacy and how they can enhance their computer skills. Participants participated actively by making contributions during the session.

Session 3: The focus of this session was on the concept of computer anxiety. The concept was discussed while participant paid rapt attention and contributed greatly to the admiration of the therapist. The researcher along with the participants identified the causes of computer anxiety such as lack of computer skills and experience, lack of or inadequate computer confidence, fear of destroying computer, fear of being embarrassed or look foolish. The different symptoms of computer anxiety were also identified by the participants with some demonstrating how they feel when about to use or when using computers. The specific manifestation and consequences of computer anxiety were also identified.

Session 4: This session introduced participants to the meaning of computer and the computer system. The researcher explained computer as IPOS which implies Input, Process, Output and Storage. They were also taught types of computer ranging from micro-computer to super-computer.

Session 5: This session centred on the identification of parts of computer. Here, a conceptual explanation of computer hardware and software was made. The different types of hardware and sofware were identified and their functions explained to the participants.

Session 6: This session exposed participants to word procession which is a very vital computer skill that every computer user must have. The researcher took time to explain the word processor and identified the steps involved in word processing such as creating document, navigating through document, selecting document, formatting document, editing documents, saving document, etc.

Session 7: Internet and its uses was the focus of this session. Participants were taken through concept of internet as a worldwide interconection of different computers from

thousands of networks around the world. Areas also covered in this session included word wide web, browsing/surfing, finding information online, online communication, downloading of files, etc.

Session 8: This session ended the training session. Participants were administered the post-test and commended for their cooperation during the training. The facilitator got feedback on how beneficial the training was and participants were presented certificate of participation.

Experimental Group 2

Cognitive Behaviour Therapy (CBT)

Session 1: The therapist welcomed the participant to the first session of the training and commended them for their interest in the programmeme. Those who replied the researcher text messages and chats on whatsapp were specially commended for their actions. Participants exchanged pleasantries and introduced themselves starting with the researcher. Rules and regulations including the goals and expectation of the training were clearly spelt out. The pretest was administered to the participants followed by content of the programmeme.

Session 2: The Concept of Cognitive Behaviour Therapy

The researcher welcomed the participants and appreciated their cooperation in the previous session. Cognitive behaviour therapy was introduced to the participants at this session. Participants were exposed to the origin of cognitive behaviour therapy, the concept of cognitive behaviour therapy, and basic assumptions of cognitive behaviour therapy. The discussion also included the Beck's cognitive triad. Participants were asked to identify causes of computer anxiety as take home assignment.

Session 3: Computer Anxiety

This session focused on the concept of computer anxiety. The meaning of the concept was comprehensively explained. The usual causes and symptoms of computer anxiety among and its manifestation/effects among NOUN students were also discussed.

Session 4: Explanation of how thinking pattern influences emotional reaction and behaviour in respect of computer use.

The researcher welcomed the participants to the class. He appreciated them for their commitment since the intervention commenced. The assignment given to the participants during the previous session was discussed. The cognitive triad/distortion of Beck was adopted to explain how thinking pattern influences emotional reaction and behaviour in respect to computer use. The therapist led participants to highlight some common cognitive distortions.

Session 4 B: Identification of Participants' Problems on computer use

The researcher welcomed the participants back to the class. He appreciated their efforts in making sure they were always available for the programmeme. The therapist reviewed the major issues discussed during last session. The researcher also led the participants to discuss some of the problems they were battling with in their studies in relation to computer anxiety. Participants were asked to identify tasks that computer can perform and what it can not perform, tasks that they are able to perform on the computer and rate their general ability to use computer. Based on participants' responses, the researcher identified participants' problems pertaining to computer usage. The participants were told to visualize the kinds of thoughts and feelings that the identified problems aroused in them for discussion at the next session.

Session 5:

Dealing with computer Anxiety (Positive Self-Statements)

The researcher welcomed the participants cheerfully and led the class to discuss the concept of positive self-statement and how it can be used to reduce computer anxiety. Participants were also exposed to guidelines for developing positive self-statements and how to use them.

Session 6: Combating disturbed, irrational defective statements on computer anxiety and use and sustaining the principles of cognitive behaviour therapy.

The researcher welcomed participants and held brief discussion on the home work given to the participants. He appreciated participants for their efforts. The researcher combat the irrational thought pattern of the participants by the principles of CBT at this session. The thought stopping technique was adopted.

Session 7: Concretization of the benefits of CBT for adequate restoration of expected behavioural outcome (i.e reduced computer anxiety).

The researcher welcomed participants to the session and led them through the homework given and summarized issues raised in the last session. The researcher clearly demonstrated to the students the causes of their computer anxiety and showed how CBT principles would reduce their computer anxiety. Volunteers among the participants were called upon to demonstrate positive self-talk and thought stopping methods in combatting computer anxiety. The therapist welcomed comments from the participants.

Session 8: Revision of all activities in the previous session and administration of instruction for post treatment measures

The researcher reflected on what had been achieved so far in the therapeutic sessions.

The posttest was administered and collected. The researcher commended the participants and appreciated their efforts and asked them to comment freely on their experiences during the sessions. Refreshment was given and certificate of participation was also presented to the participants. The facilitator formally ended the intervention programmeme.

Note: Please see appendix I for the comprehensive treatment package.

Control Group

Session 1

Topic: Administration of pre-test instrument and Seminar on Time Management.

The reseacher welconed participants warmly and familiarized himself with members of the group via introduction. Participants also introduced themselves and exchanged pleasantry. The researcher explained to the participants that the programmeme is mainly for research purposes and that their support and co-operation was highly needed. The pre-test instrument was administered on the participants. After the administration of the pre-test instrument, the researcher presented a talk titled "time management strategies for open and Distance Learners". Participants appreciated the researcher for the talk. Participants were commended for their contributions during the session. They were told that the next session would take place in eight weeks' time at the same venue and that they would be reminded via text messages and chats on whatsapp.

Session 2: Administration of post-test Instrument.

The researcher welcomed participants to the session. The post-test instrument was administered after which the researcher encouraged the participants to seek any assistance concerning their learning from the researcher whenever the need arises. They were commended for being part of the study.

Control of Extraneous Variables

Extraneous variables are those factors or attributes that may affect the outcome of the experimental study aside from the intervention strategies to be employed. The researcher guided against effects of such variables through the following; appropriate randomisation of participants into the two intervention groups and control group; adherence to inclusion criteria; effective use of the 3x2x2 factorial matrix design and the analysis of covariance (ANCOVA) statistical tool.

Method of Data Analysis

Analysis of Covariance (ANCOVA) was the major statistical tool employed in this study. ANCOVA was used to remove initial differences between the participants in

the experimental and control groups. The Scheffe Post-hoc analysis and students' t-test were also used to determine the directions of differences and significance identified.

CHAPTER FOUR

RESULTS

This chapter presents the results obtained in the study. This is done based on the analysis of the seven hypotheses formulated for the study; the summary of findings concluded the chapter.

4.1 Hypothesis One: There is no significant main effect of treatments on NOUN freshmen's computer anxiety.

To test this hypothesis, Analysis of Covariance (ANCOVA) was adopted to analyse the post-test scores of the participants on their level of computer anxiety using the pre-test scores as covariate to ascertain if the post experimental differences are statistically significant. The summary of the analysis is presented in Table 4.1 below:

Table 4.1: Summary of 3x2x2 Analysis of Covariance (ANCOVA) Post-Test Computer Anxiety Management of NOUN Freshmen

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	2792.361[a]	12	232.697	5.251	.000	.467
Intercept	627.394	1	627.394	14.156	.000	.164
Pretest score*t*	1333.837	1	1333.837	30.097	.000	.295
Treatment Group	1752.515	2	876.257	19.772	.000	.355
Gender	86.160	1	86.160	1.944	.168	.026
Age	395.652	1	395.652	8.927	.004	.110
Treatment x Gender	206.026	2	103.013	2.324	.105	.061
Treatment x Age	221.467	2	110.734	2.499	.089	.065
Gender x Age	14.638	1	14.638	.330	.567	.005
Treatment x gender x age	76.140	2	38.070	.859	.428	.023
Error	3190.933	72	44.319			
Total	105608.000	85				
Corrected Total	5983.294	84				

a. R Squared = .467 (Adjusted R Squared = .378)

The results from Table 4.1 shows there was significant main effect of treatments on computer anxiety of NOUN freshmen ($F_{2, 72} = 19.772$, $p < 0.05$, $\eta^2 = 0.355$). This means there was significant difference in the mean scores of computer anxiety of the NOUN freshmen

exposed to treatments computer efficacy training (CET) and cognitive behaviour therapy (CBT) when compared with the control group. Hence, hypothesis one was not accepted. It was therefore concluded that there was significant main effect of treatments on computer anxiety of NOUN freshmen. This implies that CET and CBT are effective in the management of computer anxiety of NOUN freshmen.

To further provide information on the management of the severity of computer anxiety of the participants among the three groups (CET, CBT and Control), the direction of the differences and the magnitude of the mean scores of the participants in each of the treatments and the control group) was determined. Thus, the Scheffe post-hoc analysis was calculated and presented in Table 4.2.

Table 4.2: Significant Differences in the Treatment Groups

TREATMENT	N	Subset for alpha = 0.05	
		1	2
CBT	25	31.0000	
CET	30	33.1000	
Control	30		38.0667
Sig.		0.617	0.072

The following observations were made on Table 4.2.

(i) There was a statistical significant difference between the post-hoc test mean scores in the management of computer anxiety of NOUN freshmen in the CET and CBT groups. However, the participants in the CBT (Mean = 31.00) benefited better than those in the CET (Mean = 33.10).

(ii)) There was significant difference in the post-hoc test mean scores in the management of computer anxiety of NOUN freshmen exposed to CBT and control group. The participants in CET (Mean = 31.00) benefitted significantly than those in the control group (Mean = 38.07).

(iii) There was significant difference in the post-hoc test mean scores in the management of computer anxiety of the NOUN freshmen exposed to CET and control group. The participants in CET (Mean = 33.10) reduced the computer anxiety significantly better than those in the control group (Mean = 38.07).

This implies that there is significant difference between the mean score of participants in CET, CBT and those in the control group, while CET and CBT are more effective than control group, and even pointed out that the CBT had the greatest potency of managing computer anxiety of the NOUN freshmen than CET.

4.2 Hypothesis Two: There is no significant main effect of gender on NOUN freshmen's computer anxiety.

Table 4.1 depicts there was no significant main effect of gender on computer anxiety of NOUN freshmen ($F_{1, 72} = 1.944$, $p > 0.05$, $\eta^2 = 0.026$). This means there was no significant difference in the mean scores of participants on the basis of gender. Hence, the null hypothesis two was accepted.

4.3 Hypothesis Three: There is no significant main effect of age on NOUN freshmen's computer anxiety.

Table 4.1 indicates that there was significant main effect of age in the management of computer anxiety of NOUN freshmen ($F_{1, 72} = 8.927$, $p < 0.05$, $\eta^2 = 0.110$). On this basis, the null hypothesis was rejected. This suggests that there was significant difference in the mean scores of participants between young and old participants. To further provide information in the

management of the severity of computer anxiety of the participants among the two age groups (young and old NOUN freshmen), it is good to ascertain the direction of the differences and determine the magnitude of the mean scores of the participants in each of the groups). Thus, t-test statistical analysis was calculated and presented in Table 4.3.

Table 4.3: T Test Showing the Difference between the Young and Old NOUN Freshmen Mean Score of Computer Anxiety

Variables	N	Df	Mean	SD	T	P	Remark
Young	52	83	44.27	8.62	2.059	0.047	Sig
Old	33		34.15	8.19			

The following observations were made on Table 4.3,

There was significant difference in the post-hoc test mean scores in the management of computer anxiety of the young and old NOUN freshmen. The older NOUN freshmen (Mean = 34.15) had their computer anxiety significantly managed than younger NOUN freshmen with (Mean = 44.27). In other words, the older freshmen significantly benefited more than younger NOUN freshmen.

4.4 Hypothesis Four: There is no significant interaction effect of treatment and age on NOUN freshmen's computer anxiety.

Table 4.1 indicates there was no significant interaction effect of treatment and age in the management of computer anxiety of NOUN freshmen ($F_{2, 72} = 2.499$, $p > 0.05$, $\eta^2 = 0.065$). This means there was no significant interaction effect of treatment and age in the computer anxiety of the NOUN freshmen. Hence, hypothesis four which state that there is no significant interaction effect of treatment and age on NOUN freshmen's computer anxiety was accepted.

4.5 Hypothesis Five: There is no significant interaction effect of treatment and gender on NOUN freshmen's computer anxiety.

Table 4.1 shows there was no significant interaction effect of treatments and gender in the management of computer anxiety of NOUN freshmen ($F_{2, 72} = 2.324$, $p > 0.05$, $\eta^2 = 0.061$). Premised on this, the null hypothesis which states that there is no significant interaction effect of treatment and gender on NOUN freshmen's computer anxiety was accepted. This implies that the

interaction of the therapies (CET and CBT) and gender (male and female NOUN freshmen) have no significant interaction effect in the management of computer anxiety.

4.6 Hypothesis Six: There is no significant interaction effect of age and gender on NOUN freshmen's computer anxiety.

Table 4.1 reveals that there was no significant interaction effect of age and gender on computer anxiety of NOUN freshmen ($F_{1, 72} = 0.330$, $p > 0.05$, $\eta^2 = 0.005$). Based on this, the null hypothesis wass accepted. Therefore, there is no significant interaction effect of age and gender on NOUN freshmen's computer anxiety.

4.7 Hypothesis Seven: There is no significant interaction effect of treatment, age and gender on NOUN freshmen's computer anxiety.

Table 4.1 shows that there was no significant interaction effect of treatment, age and gender in the management of computer anxiety of NOUN freshmen ($F_{2, 72} = 0.859$, $p > 0.05$, $\eta^2 = 0.023$). Hence, hypothesis seven was accepted. This means there is no significant interaction between treatment group, age and gender.

4.8 Summary of the Findings

This study aimed at examining the effect of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among National OpenUniversity of Nigeria Freshmen. Having carried out the study, the summary of the findings is presented here:

1. There was significant main effect of treatment on the management of computer anxiety of NOUN freshmen.
2. There was no significant main effect of gender on computer anxiety of NOUN freshmen.
3. There was significant main effect of age on computer anxiety of NOUN freshmen.
4. There was no significant interaction effect of treatment and age on computer anxiety of NOUN freshmen.
5. There was no significant interaction effect of treatment and gender on computer anxiety of NOUN freshmen.
6. There was no significant interaction effect of age and gender on computer anxiety of NOUN freshmen.

7. There was no significant interaction effect of treatment, age and gender on computer anxiety of NOUN freshmen.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

In this chapter, a logical explanation of the study supported with previous empirical findings is presented. The discussion of the findings is based on the seven hypotheses tested in the study. Based on the findings, logical conclusion and recommendations were provided.

5.1 Discussion of Findings

This study examined the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen. ANCOVA was the statistical tool used to analyse the data collected. The findings are logically discussed.

Hypothesis One: **Effects of treatments on computer anxiety of NOUN freshmen.**

The result of this study indicates a significant main effect of treatments in the management of computer anxiety of the participants. The implication is that computer efficacy training and cognitive behaviour therapy were considered effective in the management of computer anxiety of participants. In other words, if computer-anxious individuals are exposed to computer efficacy training and cognitive behaviour therapy, they could be helped to develop skills that will help effectively deal with their phobic condition. Despite the fact that both treatments were effective, Table 4.2 clearly indicates the marginal difference between the treatment packages. This finding is in consonance with the findings of Rosen, Sear and Weil (1993) who found cognitive behaviour therapy effective in the management of anxiety among computer-phobic students. This finding is also consistent with that of Brosnan and Thorpe (2006) who established that cognitive behaviour therapy was effective in reducing anxiety among computer-anxious participants while their coping cognition was also improved. Similarly, the finding of the study is in agreement with that of Brozovich, Goldin, Lee, Jazaieri, Heimberg, and Gross (2015), who found that cognitive behaviour therapy (CBT) was effective in the management of social anxiety among adults.

Furthermore, the finding corroborates that of Ebert, Zarski, Christensen, Stikkelbroek, Cuijpers, Berking, and Riper (2015) who reported that CBT was very efficacious in the treatment of anxiety among children and adolescents. The above finding is also supported by previous findings (White, 1998 and Main and Elliot, 2005) that cognitive behaviour therapy was potent in

the treatment of generalised anxiety disorders. Again, studies (Gould, Buckminster, Pollack, Otto, and Yap, 1997; Western and Morrison, 2001; Linden, Baer, Zubraegel, 2002; Douglas, Ladouceur and Leger, 2003; Linden, Zubraegel and Baer 2005; Covin, Quiment and Seeds, 2007) have also confirmed that cognitive behaviour therapy was very helpful in improving symptoms in people with anxiety. Additionally, the finding of the study is also in congruence with that of Fathi-Ashtiani, Salimi and Emamghohivand (2006) who found that cognitive therapy was effective in test anxiety among high school students.

The reason for this could be that the cognitive behaviour therapy is more cognitive than computer efficacy training. It is also more encompassing than CET which is a corollary of CBT. Participants in CBT group have been exposed to how their thinking pattern influences their emotional reaction and behaviours in respect of computer use. They have also learnt to identify their irrational and distorted thought beliefs and negative self-statements which predispose them to computer anxiety and counter such self-defeating thought with the principles of CBT. The effectiveness of computer efficacy training in the management of computer anxiety of NOUN freshmen was confirmed in this study. The finding agrees with that of Compeau and Higgins (1995) who discovered a relationship between self-efficacy and learning to use computers and software. This implies that the belief about one's capabilities to use technology successfully were strongly related to decisions about whether and how much to use technology. This finding also corroborates that of Igbaria and Iivari (1995) that self-efficacy was positively correlated with perceived ease of use, perceived usefulness and usage, but negatively correlated with computer anxiety. Zhang and Espinoza (1998) found that computer-related self-efficacy influences a person's attitudes, perceptions, and beliefs about technology, and this relationship was clearly demonstrated in this study.

According to Bandura (1986) self-efficacy theory posits that it is mainly perceived inefficacy in coping with potentially aversive events that gives rise to both fearful expectations and avoidance behaviour. People who judge themselves as efficacious in managing potential threats neither fear nor shun them. In contrast, if people judge themselves as inefficacious in exercising control over potential threats, they view threats anxiously, conjure up possible calamities were they to have any contact with them, and avoid them. Compeau and Higgins (1995) found that individuals with high self-efficacy experienced less computer anxiety, used and enjoyed using computers more. On the other hand, individuals who have anxiety when using

computers, are fearful of interacting with computers, and or have low efficacy when using them, may shun and refrain from using them completely. Karsten and Roth (1998) indicate that "prior research consistently indicates that computer efficacy is positively correlated with an individual's willingness to choose and participate in computer activities, expectations of success in such activities, and persistence or effective coping behaviours when faced with computer-related difficulties.

Chua and Chen (1997), who conducted a meta-analysis of studies of computer anxiety, concluded that the correlation between computer anxiety and prior computer experience was the "most consistent findings". They indicated that an increase in computer experience generally reduced computer anxiety. Many research findings showed that computer anxiety can be significantly reduced by exposing people to computers, but much of it depends on the type of exposure (Chua et al., 1999). The study revealed that when individuals gained more experienced with computers, they were less likely to be anxious when dealing with technology. Delcourt and Kinzie (1993) found that individuals who have high computer efficacy will feel competent in using different computer hardware and software. Ertmer, Addison, Lane, Ross and Woods (1999) suggested that educators with higher computer efficacy are likely to be more enthusiastic to use technology in their classrooms than those with lower levels of self-efficacy. They concluded that educators' personal beliefs with regard to their computer proficiency are the main factors in determining whether or not they will use computers in teaching and learning. Furthermore, a study by Czaja, Charness, Fisk, Hertzog, Nair, Rogers, and Sharit (2006) found that computer efficacy was an important predictor of general use of computer and that people with lower self-efficacy are less likely to use computer in general. Attitudes towards computer knowledge associated with a concept of computer efficacy (Delcourt and Kenzie, 1993), which, in turn, has proven to be a factor in understanding the frequency and success with which individuals use computers (Bandura, 1986; Compeau and Higgins, 1995).

This finding also aligns with other studies (Webster and Martocchio, 1992; Zhang and Espinoza, 1998) which established the effectiveness of computer efficacy training on computer anxiety and computer related behaviours and increased willingness to learn and use computers. Further still, the finding is in congruence with that of Medvin, Reed, and Behr (2002) that discovered that self-efficacy was positively correlated to computer values, negatively correlated with computer anxiety and that self-efficacy training was effective in the managing Computer

anxiety and increasing computer efficacy and values. Similar finding by (Ellis and Allaire, 1999; Czaja et al., 2006) revealed that having experience with computers generally results in low anxiety and higher self-efficacy.

Hypothesis Two: Gender effect and computer anxiety NOUN freshmen.

This hypothesis was accepted because the results in Table 4.1 show that there was no significant main effect of gender on computer anxiety of NOUN freshmen. The finding of this study agrees with numerous studies that revealed no significant gender correlation in computer anxiety of managers (Howard and Smith, 1986) and among business professionals (Igbaria and Parasuraman, 1989). The finding also affirms the study of Ray and Minch's (1990) which showed no significant differences between gender and computer anxiety among business professionals. This finding was further corroborated by that of Smith (2001) who examined the relationship between computer anxiety and computer-related tasks performance among college students and found no gender differences in their computer anxiety. Similarly, the finding is in consonant with that of Chao (2001) who found no significant difference on gender basis and computer anxiety among preservice teachers. In the same vein, Sam, Othman, and Nordin (2005) in a bid to determine differences in men's computer anxiety when compared to women found that gender differences did not exist. The finding was further corroborated by that of Adebowale, Adediwura, and Bada, (2009) and Karsten and Roth (1998) whose studies showed no gender difference in computer anxiety of students. The work of Johnson and Wardlow, (2004) and Rosen, Sears, and Weil (1987) also found no significant differences in computer anxiety by the main effect of gender.

The finding could be attributed to the fact that most computer anxious learners in NOUN, irrespective of gender did not have sound computer background in their former schools. Similarly, the fact that both male and female students of NOUN are subjected to the same process such as online tutor marked assignments; e-examination, etc could bridge gender gap in computer anxiety. It could also be due to the fact that computer anxiety is a psychological imbalance that affects individuals irrespective of gender.

On the other hands, the finding of this study contradicts that of Kiliç (2015), Birol, Bekirogullari, Etci, and Dagli, (2008) who observed a difference in computer anxiety between genders. Their study revealed that female respondents exhibited more anxiety than their male

counterparts. The finding is also in contrast with various studies (Sanalan, 2016; Broos, 2005; Schottenbauer, Rodriguez, Glass, and Arnkoff, 2004) who found that computer usage at school was dominated by male participants and that female participants showed higher anxiety than their male counterparts. Furtherstill, the finding negates that of Schumacher and Morahan-Martin (2001) that gender differences continually exist among college students' computer anxiety. Durndell and Haag (2002) also reported similar finding that male students experienced lower computer anxiety than females. Still in contrast with the finding, Halder and Chaudhuri (2011) in a study of secondary school teacher trainees found gender difference in relation to computer anxiety and that male trainees had higher computer efficacy and lower computer anxiety than female trainees. Brosnan and Lee (1998) also found that males were more computer anxious than females in their study.

Hypothesis Three: Effect of age on computer anxiety of NOUN freshmen.

The null hypothesis which states that there is significant main effect of age in the management of computer anxiety of NOUN freshmen is rejected. Specifically, Table 4.3 indicates that the older NOUN freshmen's computer anxiety was better managed than the younger NOUN freshmen. The finding substantiates that of Dyck and Smither (1994) who found that a significant relationship between age and levels of computer anxiety. The finding also corroborates other studies (Klein, Knupfer, and Crooks, 1993: Jennings, Austin and Onwuegbuzie, (2001) and Yoon, Jang, and Xie (2015) which revealed that older adults have more interest in learning about computers, greater confidence, and exhibit less computer anxiety than do younger adults. The finding of this study also confirms some studies (Ellis and Allaire, 1999; Czaja et al., 2006; Maurer, 2001; Czaja and Sharit, 1998; Czaja, Charness, Fisk, Nair and Rogers, 2006; and Oluwole, 2009) which indicated differences between older/middle-aged adults and young adults with respect to use of computers and computer anxiety.

A plausible reason for this difference could be due to the fact that NOUN older freshmen were more matured and are responsible for the financial and material resources needed for their study. It could also be that they took the intervention programmeme more seriously than the younger freshmen since it is believed that older freshmen have target for the completion of their programmeme for one reason or the other (especially career advancement) and would appreciate any intervention that could help in realizing their dreams.

Hypothesis Four: Effects of treatments and gender on NOUN freshmen's computer anxiety.

The null hypothesis which states that there was no significant interaction effect of treatment and gender on NOUN freshmen's computer anxiety accepted. In other words, gender did not significantly moderate the effect of treatment on NOUN freshmen's computer anxiety. The finding of this study contradicts several studies (Broos, 2005; Brosnan, 1998; Chua, Chen, and Wong, 1999; Schottenbauer, Rodriguez, Glass, and Arnkoff, 2004) which found that females are more anxious about computers than their male counterparts. Schumacher and Morahan-Martin (2001) fond that the increasing overall computer use in the United States did not diminish gender differences in computer experiences. Their study found that gender differences continually exist among college students. Female college students have higher computer anxiety than male students.

In a study by Durndell and Haag (2002), it was established that males experienced more positive attitudes towards the internet, reported longer internet use and lower computer anxiety than females. They also found that male participants had higher computer self-efficacy than females, and that this was more so with advanced as opposed to beginning skills. Cassidy and Eachus (2002) revealed similar results in their study. Their study also showed that male participants had significantly higher computer efficacy as compared to their female counterparts. Czaja et al. (2006) and Halder and Chaudhuri, 2011) also reported that women have higher computer anxiety, lower computer efficacy, and lower general computer attitudes. Some studies (Igbaria and Parasuraman, 1989; Ray and Minch, 1990) also indicated significant difference between gender and computer anxiety. More studies (Chou, 2003; Joiner et al 2005; Joiner et al, 2007; Sun, 2008) also revealed similar finding that males had lower computer anxiety than females.

The finding of this study corroborates certain studies (Smith 2001, Dyck and Smither 1996) who found that gender did not significantly moderate the effect of treatment on computer apprehension and attitudes. In the same vein, studies (Sam, Othman, and Nordin, 2005; Adebowale, Adediwura, and Bada, 2009) have also indicated that no gender differences were obtained for computer anxiety. Johnson and Wardlow (2004) equally found no significant differences in computer anxiety by the main effect of gender..

Hypothesis Five: Effects of treatments and age on computer anxiety of NOUN freshmen.

The null hypothesis which states that there is no significant interaction effect of treatment and age on NOUN freshmen's computer anxiety was accepted. This implies that the interaction of the therapies (CET and CBT) and age (young and old NOUN freshmen) have no significant effect on NOUN freshmen's computer anxiety. This is in agreement with Reed, Doty, and May, 2005 whose study did not reveal interacting effect of age on computer anxiety. Contrary wise, the finding of the study is in contradiction with Klein, Knupfer, and Crooks, (1993); Dyck and Smither, (1994) who reported a significant interacton effect of age on computer anxiety. Kelley and Charness (1995) also reported similar finding.

A possible reason for the finding of this study could be related to the narrow gap between young and old NOUN freshmen who participated in the intervention programmeme. Also, anxiety is a psychological distress that has no respect for age and NOUN freshmen irrespective of age are not immune from computer anxiety.

Hypothesis Six: Effects of gender and age on computer anxiety of NOUN freshmen.

The null hypothesis which states that there is no significant interacting effect of gender and age in the management of computer anxiety of NOUN freshmen was accepted. This implies that there was no significant interacting effect of gender and age in the management of computer anxiety of NOUN freshmen. The connotation of this is that gender and age did not moderate NOUN freshmen's computer anxiety. This finding is in consonance with that of Igbaria and Parasuraman (1989) and Ray and Minch (1990) which revealed no significant interaction between gender and computer anxiety. The finding is however contrary to Chou (2001) who found that gender is a variable that moderates the effects of training methods and computer attitudes and that male respondents will generally score higher on computer learning performance measures and score lower on computer anxiety measures. Czaja et al. (2006) also confirmed age and gender interaction on computer anxiety. Halder and Chaudhuri (2011) in their study noticed the interacting effect of gender and computer anxiety.

Hypothesis Seven: Three-way interaction effect of treatments, gender and age on NOUN freshmen's computer anxiety.

The hypothesis which states that there is no significant interactive effect of treatment, gender and age on NOUN freshmen's computer anxiety was accepted. The results in Table 4.1 clearly shows that there was a significant effect of treatment on computer anxiety of NOUN freshmen, age and gender did not moderate the effect of treatment on computer anxiety of NOUN freshmen.

Several studies have revealed the individual effect of treatment on computer anxiety (Hynnienen, Pallesen, Bakke, and Nordhus, 2010; Brosnan and Thorpe, 2006; Rosen, Sears and Weil, 1993; Weil and Rosen, 1995), gender on computer anxiety (Lee and Huang, 2014, Dyck and Smither, 1996; and Karsten and Roth 1998) and age on computer anxiety (Ellis and Allaire, 1999; Czaja, Charness, Fisk, Nair and Rogers, 2006; Oluwole, 2009; Chou, 2003; Joiner et al 2005; Joiner et al, 2007; Sun, 2008). However, the establishment of a three way interactive effects of treatment age and gender on NOUN freshmen's computer anxiety remains a challenge.

A likely explanation for this could be that computer anxiety is one of the major transitional challenges many NOUN freshmen irrespective of age and gender are faced with. The fact that NOUN freshmen (young and old; male and female) must inevitably use or interact with computer could also be a good reason. This situation may prompt the insignificance of age and gender on the computer anxiety of NOUN freshmen.

5.2 Conclusion

On the basis of the findings of this study, the following conclusions were made.

Computer efficacy training and cognitive behaviour therapy were effective in the management of computer anxiety among NOUN freshmen. It is expected that proper application of these intervention programmemes should yield similar result in future. On the potency of the treatment interventions, cognitive behaviour therapy was more effective in the management of computer anxiety than computer efficacy training. Age had significant effect in the management of computer anxiety among NOUN freshmen while gender did not.

5.3 Implications of Findings

The findings of this study provide empirical support for the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen. The outcome of this study has great implications for distance learners, counsellors, educational psychologists, cyber psychology, management of NOUN and other Open and Distance Learning (ODL) institutions, ICT personnel in ODL institutions, stakeholders in open and distance learning and researchers who may intend to carry out further studies.

Freshers in the ODL institutions are faced with many challenges of which computer anxiety is prominent. Many of these learners are facing the reality of utilising computer as a tool or resource for their studies as against their orientation in their previous schools.

Therefore, cousellor and educational psychologists should be encouraged and confident to use the cognitive behaviour therapy and computer efficacy training in managing computer-related anxiety among distance learners. It is expedient for distance learners to avail themselves for intervention strategies such as cognitive behaviour therapy and computer efficacy training from qualified personnel in order to bulid their confidence in their ability to use computer and as well reorder their irrational thoughts about computer and ICT generally. Counsellors, educational psychologists, ODL institutions should prevail on computer-anxious learners to take advantage of these interventions as it will go a long way at reducing academic failure induced by computer phobia among learners and enhance retention of students.

Nigerian government, the Ministry of Education, the National University Commission (NUC), African Council on Distance Education (ACDE) and the Regional Training and Research Institute for Open and Distance Learning (RETRIDAL) should take cognisance of the immense drawback to students' ability to cope maximally in their studies occassioned by computer anxiety and draw out strong policy that will enhance the integration of ICT in open and distance education in Nigeria and regions where open and distance learners are engrossed with computer-related anxiety among learners.

Since the intervention strategies have been found to be efficacious in the management of computer anxiety among distance learners, the study serves as a precursor to other researchers to investigate the potency of other strategies for the same purpose.

5.4 Recommendations

The following recommendations are given based on the findings of this study.

1. Computer efficacy training (CET) and cognitive behaviour therapy (CBT) should be incorporated into the orientation programmeme of fresh students in NOUN. CET should be an integral component of the orientation programmeme which should be anchored by qualified personnel. This kind of training at the inception/resumption of study is very critical as it would equip learners with skills needed to cope in the open and distance learning (ODL) environment.
2. Newly admitted NOUN students should be screened for computer competence and anxiety/attitude to determine their status. The university should make provision for the computer anxious and incompetent ones within weeks of resumption to undergo intervention programmeme that will enhance their computer skills and reduce phobia.
3. Students' counsellors should be well equipped with skills in CBT and CET and should be compelled to utilize these interventions in the management of computer anxiety among NOUN students in order to diffuse their anxiety. For instance, the Regional Training and Research Institute for Open and Distance Learning (RETRIDAL) should first organise training for counsellors in this respect before employing the strategies to assist learners.
4. All NOUN study centre should be well-equipped with computer centres where learners could easily interact with computer and also observe others using computers freely since many of them do not own personal computers.
5. Service providers should take cognisance of age in computer appreciation training for open distance learning students.
6. Counsellors, ICT personnel and other NOUN staff should encourage computer anxious learners noting that their students are at different level of computer literacy and competence.
7. Computer anxious learners should avail themselves for CET and CBT since these strategies had been found to be efficacious in managing computer anxiety.
8. Prospective applicants (admission seekers) into NOUN should equip themselves with computer skills in order to have a smooth sail in the institution. They should prepare adequately for the use of computer as this is inevitable in the ODL setting.

5.5 Contributions to Knowledge.

The findings of this study have contributed to knowledge in the following respects.

1. The study has filled research gap on the need for some efficacious interventions to manage computer anxiety among NOUN freshmen, having noted that computer confidence and ease of use are critical and germane to the success of open and distance learners who cannot evade the use of computer and computer-mediated resources in order to cope in the open and distance learning environment.
2. It has also established that though computer efficacy training and cognitive behaviour therapy were effective in the management of computer anxiety among NOUN freshmen, the latter was more efficacious.
3. The treatment packages and the therapeutic sessions used in the study have shown better understanding of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety among NOUN freshmen.
4. The study has added to the existing literature on the effectiveness of computer efficacy training and cognitive behaviour therapy in the management of computer anxiety.
5. The vast literature reviewed in this study had better demonstrated relationship between and among age, gender and computer anxiety.

5.6 Limitations of the study

A major challenge faced by the researcher was the inability to commence the study as planned because NOUN students were writing their first semester examination.

It was also a herculean task for the therapist to compel participants to sustain attendance throughout the programmeme. In one of the groups, there was attrition of five participants. Many of the participants complained of their time while some complained of distance because they live outside the cities where the trainings were being held.

Another challenge was that recent studies were somewhat scarce on some key aspect of the study. For instance, studies on computer efficacy training and cognitive behaviour therapy were not only scanty; the available ones were also old. In spite of the afore-mentioned limitations, findings of this study remain valid and usable.

5.7 Suggestions for Further Studies

The effectiveness of computer efficacy training and cognitive behaviour therapy in management of computer anxiety can be replicated among NOUN freshmen in other geo-political zones of the country other than the Southwestern zone where this study was conducted. Future researches should consider other variables that were not considered in this study such as programmeme of study, cognitive style, social support, etc.

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APPENDIX 1

TREATMENT PACKAGE

Experimental Group 1 – Computer Efficacy Training (CET)

Session 1

Topic: General Introduction and Administration of Instrument to obtain Pre-test Scores

Objectives: At the end of the session, the resarcher was able to:

i. Initiate and establish rapport with the participants.

ii. Introduce the participants to computer efficacy training

iii. Administer the pre-test

Step 1

The main purpose of this session was ice-breaking and administration of pre-test to the participants. The rearcher welcomed participants to the training programmeme and introduced himself and his training assistant. There was self-introduction by each participant.

Step 2

The therapist gave orientation on the purpose and nature of the training, the main concept and the objectives of the training. The therapist explained the rules and regulations guiding the conduct of the programmeme and what is expected of the participants. The time, duration and content of the various sessions of the training were also communicated to the participants. Participants were given opportunity to ask questions and make clarifications on the training.

Step3: The pre-test was administered, participants were guided on how to fill the questionnaire and the test was collected immediately.

Session 2

Topic: Concept of Self-efficacy and computer efficacy

Objectives: Participants were exposed to:

- The meaning of self-efficacy and computter efficacy.
- The importance of self-efficacy in relation to computer efficacy.
- The various sources of self/computer self-efficacy.

Step 1

Concept of self-efficacy and computer efficacy

Self-efficacy is one's capability to organise and execute the course of action required to produce given or exhibit a certain performance (Bandura, 1977). The theory of self-efficacy explains how behaviour refers to belief in one's "can do" cognition and shows a sense of control over one's environment. It suggest that self-efficacy is not a perceived and observed skill but individuals' internal belief responding to the question of "what can I do" with the available skills under certain conditions. It represents an individual's self-confidence in being able to fulfill a task which requires effort and persistence. personal judgments of one's capabilities to organize and execute courses of action to attain designated types of educational performances" The key words used in describing self-efficacy are sentences starting with the question of "can I achieve this", "I can do it" (ICANISM). When an iindividual with high self-efficacy is faced with a difficult task, he/she perceive it as a challenge that needs to be getting over with rather than avoiding it. Self-efficacy involves the capability of controlling the emotional performance acquired by the individual to be used in times of challenge. It contains aspects such as cognitive processes, emotions and behaviours which can be controlled by the individuals themselves, affecting right or wrong doing behaviours and being associated with persistence in dealing with difficulties; students with low self-efficacy absent themselves from learning situations and tasks. Self-efficacy beliefs not only involve the exercise of control over action but also the self-regulation of various personal determinants of learning, such as thought processes and motivation. Self-efficacy is an important psychological construct in understanding the reason people choose to pursue particular activities and the extent of effort they devote to these. Self-efficacy is a result or outcome of the belief that one has the confidence and the ability to execute the courses of actions required to deal with a given situation in which they are trained. Bandura's (1997) construct of self-efficacy has been widely used in research on human motivation and goal attainment.

Bandura's (2001) studies have shown that self-efficacy is influenced by the social cognitive theory of behaviour. This states that environmental situations, cognitive and personal factors, and demographic characteristics can influence an individual's behaviour.

He stated further mentioned that individuals who are easily discouraged will fail; whereas, confident individuals who fall short of their goal will increase their efforts and persevere, resulting in attaining the goal. Individuals' self-efficacy expectancies can vary with the task due to the magnitude, generality, and difficulty of the task to be accomplished.

The magnitude of the task may be beyond the limits of the individual, thus causing anxiety. Some tasks require a minor mastery, causing an individual to falsely believe successes can come easily. This false belief causes individuals to become discouraged by failure when attempting a task they think is easy when in reality it is difficult. Setbacks in difficult efforts serve a useful purpose in teaching how to succeed by requiring sustained effort. Convincing individuals that they can succeed by persevering in the face of adversity enables them to rebound from setbacks.

Self-efficacy, as defined in Bandura's (1997) social cognitive theory, is "the belief in one's capabilities to organize and execute courses of action required to produce given attainments" (Bandura, 1997). The theoretical framework of self-efficacy is grounded in Bandura's social cognitive theory of personality which views people as self-organizing, proactive, self-reflecting, and self-regulating rather than as passively reacting organisms influenced by environmental factors or driven by hidden inner desires. In addition, it explains that an individual's functioning and activities are the outcome of a dynamic interaction of three important factors. These are: (i) A person's behaviour; (ii) Personal factors (e.g., thoughts, beliefs, etc.); and (iii) Environmental conditions. These three factors together exert mutual influences on one another. Bandura calls this reciprocal interaction as reciprocal determinism and according to him, it is triadic in form. Bandura noted that self-efficacy is a multi-dimensional construct which influences people's performance directly and indirectly through its effects on other determining factors such as motivation, self-regulation, attribution and emotion. Therefore, self-efficacy beliefs play a crucial role in affecting task choice, effort, persistence, resilience, and achievement of individuals it is task-specific; that is, self-efficacy beliefs are specific to certain tasks and activities in certain situations and contexts

Computer Efficacy

Computer efficacy is the extent of an individual's perceived ability to use a computer. It is a measure of how confident computer users are with their ability to understand, use, and apply computer knowledge and skills. Thus, computer efficacy is a belief one has in his capability to use computer. Anyone with little confidence in his/her ability to use computers stands a risk of performing poorly on computer –based tasks. An individual who perceives himself/herself as been able to use computer will feel competent in using different computer hardware and software. Persons with a low computer efficacy belief that they will encounter difficulty in performing tasks on computers and find a way of avoiding it. On the other hands, individuals with high computer efficacy will be more enthusiastic to use computer effectively than those with lower levels of computer efficacy. An individual's beliefs with regard to their computer proficiency are the main factors in determining whether or not he/she will be able use computers in teaching and learning process.

Step 2

Importance of self-efficacy in relation to computer

- Computer self-efficacy is a veritable tool in effective use of computer. Learners with high level computer efficacy will be able to overcome computer anxiety while it may be a difficult task for a student with low computer efficacy to overcome computer phobia.
- Computer self-efficacy will influence the thinking pattern of Open Distance Learners towards personally performing different tasks on computer such as course and examination registration, writing tutor marked assignments, use of the e-library, assessing books/course materials from courseware, interact with academic advisors, facilitators, counsellors, colleagues across various study centres.
- Computer self-efficacy influences choice of behaviour towards computer. An individual's behaviour towards computer is a subject to his computer efficacy. It is a motivator of behaviour of an individual.
- Self-efficacy helps to determine how much effort people put into a task. High computer efficacy propels an idividual to be interested in performing different tasks on computers.
- Self-belief affects recognition of human as producer rather than foretellers.

- Self-belief affects human agency by influencing an individual's thought patterns and emotional reactions.

Step 3

Sources of Self-efficacy

- Mastery experiences: Mastery of experiences is a combination of cognitive and behavioural tools to create a successful, appropriate course of action to control a situation. It is a personal experience of mastery of a task.
- Social models: These are experiences gained through imitating a model (i.e., observing a peer doing a particular task). They are vicarious experiences which occur when an individual sees another individual succeeding in a task then feels compelled to strive for the same mastery. On the other hand, if a person sees another failing at a task, this may undermine the level of motivation, and self-efficacy is harder to obtain.
- Social persuasion: This involves verbal persuasion, in form of encouragement and support by other people Social persuasion is usually accomplished through encouragement, support, positive comment, and other sources of persuasion from superiors, colleagues at work, friends, or family for completing a task. This instills confidence and makes the person strive harder at more difficult tasks.
- Somatic model: This comprised the physiological and emotional states of a person which can be viewed by others as positive or negative. It has to do with emotional arousal, consisting of controlling one's level of fatigue, stress, and anxiety A person who perceives another person negatively while performing a task may harbor the emotion of low self-efficacy for that task. If a person performing a task, and being observed, looks physiologically tense or moody, then the observer may avoid the same task for fear of the same tension and stress.

Step 4

The participants were given the opportunity to discuss in the class some reasons for the relevance of computer efficacy among the students and after reasonable contributions the class was closed for the day.

Step 5

Assignment

- What do you understand by self-efficacy and computer efficacy?

- How would distance learner tackle the issue of computer use?

Session 3:

Topic: Computer Anxiety

Objectives: participants were facilitated on the:

- Concept of computerAnxiety.
- Causes and symptoms of computer anxiety among NOUN students.
- Manifestation/Effects of Computer anxiety among NOUN students

Step 1

Concept of Computer Anxiety

Computer anxiety is the apprehension, fear or uneasiness which an individual manifests when about to use or while using computer. A computer-anxious person is an individual who exhibits fear of using computer; resists solving problems with computer or get information through computer usage. It is the phobic or apprehensive behaviour expressed by an individual towards computers while using it or when about to use it.

Step 2

Causes of computer Anxiety

Participants identified their perceived causes of computer anxiety while the researcher moderated their contributions.

- Lack of computer skills and experience
- Lack of or inadequate computer confidence
- Fear of destroying computer
- Fear of being embarrassed or look foolish
- Lack of prior information/orientation on the use of computer in NOUN before their admission, etc.

Step 3

Symptoms of Computer anxiety

- The reseacher asked the participants to discuss how they feel while using computer especially during online examination. Some of the participants responded thus:

- A male participant said “I was not prepared to use computer to the extent it is being used in NOUN”

- A female participant said “I just cannot cope with online exam”.
- Another female participant explained that her fingers shake involuntarily most times when using computer, especilly during e-examination.
- A male participant said “my heart beat often increases when using computer”.

The therapist explained the following physiological and psychological symptoms of computer anxiety:

- Sweaty palms
- Dizziness
- Shortness of breath and the inability to take action.
- Sense of choking.
- Chest pain.
- Stomach upset.
- Numbness or tingling
- Restlessness.
- Fatigue
- Muscle tension
- Depression
- Difficulty in concentrating.
- Irritation.
- Frustration.
- Bewilderment, etc.

Step 4

Manifestation/Effects of Computer Anxiety among NOUN Students.

The researcher explained some way in which computer anxiety manifested among NOUN students and its consequences.

✓ Avoidance of computer by learners.
✓ The use of third party to submit Tutor Marked Assignment (TMA).
✓ Absence from computer-based examinations.
✓ Loss of time during e-examination.

- ✓ Procrastination in attempting computer-related tasks including assessing e-books, use of e-counselling portal, i-learn portal.
- ✓ Deferment of admission, examination and programmemes.
- ✓ Academic failure.
- ✓ Frustration.
- ✓ Drop out.

Participants contributed freely and meaningfully to the discussion and it was a lively session.

The discussion revealed that participants are affected in one way or the other by the points raised above. Some of their responses are summarised hereunder:

- A male participant from the depatment of Mass Communication said "some of my mates left school and when I tried to find out from them, most of them complained that they don't belief in the use of ICT as being utilised in NOUN.
- Quite a good number of the participants reported that they visit cyber café to print out their Tutor Marked Assignment, answer the questions and take it back to the café where they are usually helped to submit their assignments.
- A female participant responded that she lost much time while writing her first (semester) examination due to the muscle tension she experienced.
- Many participants also reported that they do not visit the university website to benefit from the e-library, i-learn, e-counselling, etc portals.

Assignment

- Participants were asked to profer solution to the problem of computer anxiety among NOUN students.

Session 4

Topic: The Meaning of Computer and Computer System

Objective: Participants were taken through the following;

- Definition of computer
- Explain IPOS (Input, Process, Output and System
- Types of computer

Step 1

Meaning of Computer: Computer is an electronic device that accepts data as input, processes it, and gives the required information as output.

Step 2

Explanation of Computer as IPOS:

- **Input**: The input operation recognizes input (data entered into the computer) from the keyboard or mouse.
- **Process**: The processing operation manipulates data and information within the computer system according to the user's instructions.
- **Output**: The output operation sends output to the video screen or printer, i.e., the output devices get result from the computer.
- **Storage**: The storage operation keeps track of files for use later. Examples of storage devices include floppy disks and hard drives.

Step 3

Types of computer

- **Micro-computers**: These are the least and are designed for personal use in the office or at home often referred to as a PC (Personal Computer). In that class are desktops, Lap-tops/ notebooks, Palm-tops/PDAs (Personal Digital Assistants), organisers and calculators.
- **Mini-computer**: This is a general purpose computer sometimes about the size of a small filing cabinet. It is faster, more expensive and has a higher storage capacity than the average desktop model. The mini-computer is oriented towards multiple users.
- **Mainframe**: This is the type of computer suited for use by very large organisations that deal with both vast database and extensive data processing. The mainframe occupies as much as a small room. For example, organisations such as airports, power stations utilize the mainframe.
- **Supercomputers**: This is the largest in this classification of computers. They are used for complex scientific and defence applications such as in Space Research and Administration and Meteorological Centres.

Assignment

- As a take home assignment, participants will be asked to write and explain types and functions of computer.

Session 5

Topic: Parts of computer (Hardware and Software)

Objectives:

- Meaning of computer hardware and software.
- Be able to identify and explain types of computer hardware and software

Step 1

- **Hardware:** The computer hardware is the physical equipment consisting of all the electro-mechanical parts of the computer system down to the cable of the units.
- **Software:** Software is a group name for all programmes which drive the computer. The computer follows formalised rules and procedures called software.

Step 2

- **Types of Hardware:** Hardware includes the central processing unit, the memory, hard disk, Keyboard, Mouse, scanner Microphone, etc.
- **Types of computer software:** Software is in two categories.

- **System Software:** Operating System – The Operating system is the resource manager as it controls both the hardware and software resources. E.g. Windows, DOS, LinuxBIOS (Basic Input and Output System) – Responsible for initializing the computer when switched on by checking the presence and functionality of all devices in the PC
- **Application Software:** These are software packages designed to achieve a particular data processing task. E.g., Word processing application; MS-Word, Spreadsheet application; MS-Excel, Database Management application; MS-Access, Graphics application; Corel-draw, Adobe pagemaker, Adobe Photoshop, Web browser application; Internet explorer, Mozilla firefox, Google chrome etc.

Session 6

Topic

Word Processor (I)

Objective

This session exposed participants to word procession which is a very vital computer skill that every computer user must have.

- Explain Word Processor
- Word Processing Tasks

Step 1

- **WORD PROCESSOR:** Word processor is a computer programme that enables us to create a document, edit, format, print and also save it for future use. The various tasks involved in word processing were identified.

Step 2

Creating a New Document

- Switch on the computer
- Windows displays a desktop screen with many icons on it.
- Search for Microsoft Word icon, point it with the help of the mouse and double click to select the application.
- If you've already started Word, you create a new document by clicking New on the File menu. In the NewDocument task pane that opens, click Blank document.
- In the upper-left corner of the document, or page, is the insertion point, a blinking vertical line. Typed content will appear there.
- Keep typing continuously even if the end of the line encountered. With the help of the word wrap property the lines will be automatically displayed in the next consecutive lines.
- Press ENTER to start another paragraph.

Navigating Through Document

- Movement around the created document is achieved with the help of the following operations:

To perform this action...	Press...
To move one character to the left	LEFT ARROW
To move one character to the right	RIGHT ARROW
To move up one line	UP ARROW
To move down one line	DOWN ARROW
To move to the end of a line	END
To move to the beginning of a line	HOME
To move up one screen (scrolling)	PAGE UP
To move down one screen (scrolling)	PAGE DOWN
To move to the end of a document	CTRL+END
To move to the beginning of a document	CTRL+HOME

Selecting the text in the document

- To select the document in the text the following operations can be performed:

To perform this action...	Press...
To select one character to the right	SHIFT+RIGHT ARROW
To select one character to the left	SHIFT+LEFT ARROW
To select to the beginning of a word	CTRL+SHIFT+LEFT ARROW
To select to the end of a line	SHIFT+END
To select to the beginning of a line	SHIFT+HOME
To select the entire document	CTRL+A

Word Processor (II) - Editing the document

Objectives

- Identification of steps involved in editing a document

Steps 1

Editing the document

- **Cut**

Cut operation removes the selection from the active document and places it on the clipboard.

- Select the text to be cut in the document.

- Go to Edit menu and select Cut option or click the cut icon ( ) in the toolbar or make use of the shortcut key combination Ctrl+X to cut the text.

Copy

- Copy the selection to the clipboard
- Select the text to be copied in the document.
- Go to Edit menu and select Copy option or click the copy icon ( ) in the toolbar or make use of the shortcut key combination Ctrl+C to copy the selected text.

Paste

- Paste/inserts the contents of the clipboard at the insertion point (cursor) or whatever is selected.
- First go to the place where you want to display the cut text.
- From the Edit menu select Paste option or click paste icon ( ) in the toolbar or press the short cut key Ctrl+V

Find and Replace

- Find searches for specified text in the active document.
- To find a specified text in the document go to Edit menu choose find option or click the find icon ( ) on the toolbar or make use of the shortcut key combination Ctrl+F.
- The Find and Replace dialog box will get displayed.

  - Enter the text to be searched in the Find what tab.
  - Clicking the Find Next button the specified text will be located in the document.

- Replace searches for and replaces specified text.
- To replace go to edit menu and select Replace option or click the replace icon in the toolbar or make use of the shortcut key combination Ctrl+H.
- Find and Replace dialog will get displayed.

○ Clicking Find Next and Replace buttons the specified text will be replaced.

○ To replace all the instance of the text "lecture" with the text "lecture schedule" click Replace All button in the Find and Replace window.

○ Then every instance of the text lecture in the document will get replaced with the text lecture schedule.

Formatting the Document

○ **Font**

- Font change font style, size, color and a large number of other features.
- To change the font style, size of a selected text go to format menu and select Font option or click the font icon () in the format toolbar.
- The Font dialog box will get displayed.
- In the Font dialog box choose font face, font style, font size, font color etc.
- Click OK button then the applied font effects will get reflected in the document.

○ **Bold, Italic and Underline**

- Bold, Italic, Underline - Format selected text: **Bold**, *Italic*, or Underlined
- To bold the text press Ctrl + B or click the bold icon () on the toolbar
- To underline the text press Ctrl + U or click the underline icon () on the toolbar
- To italics the text press Ctrl + I or click the italic icon () on the toolbar

○ **Paragraph**

- Paragraph under format menu indents a paragraph using either margin or place some chosen amount of space before or after the paragraph.
- Select the paragraph if already entered or simply go to Format menu and choose Paragraph option or click the paragraph icon () in the toolbar.
- Paragraph dialog box will get displayed.

- In the paragraph window we can set Alignment, Indentation and Spacing for paragraphs.
- Click OK will reflect the changes in the document accordingly.

Saving the document

- To save the document for the first time click File MenuàChoose Save As
- Save As dialog Box will get displayed.
- Select the directory where you want to save or create a new folder by clicking New Folder icon.

Enter the file name in the File name

- Click Save. The file is saved under the new name.
- To save subsequently click on Save from File Menu.
- Or hold the Ctrl. Key and press S from keyboard.
- Or click Save button () in the standard toolbar.

Participants were asked to type a word document of a page and also practice the day's activities and submit in the next meeting.

- They will be intimated with the time and venue for the next session.

Session 7:

Topic: Internet and its uses

Objectives

- Internet and its uses.
- Types of computer network.
- The World wide
- Using the internet to communicate.
- Browsing the Internet

Activity

Step 1

The researcher reviewed the lesson and assessed the assignment given to the participants before proceeding to the lesson of the day.

Internet and its uses

Internet as a worldwide interconnection of different types of computers from thousands of networks around the world. It is a global network connecting millions of computers. These computers are connected through telephone lines and satellite links. The primary function of the Internet is to share information either by sending or receiving of particular information. It involves bringing together people, process, data, and things to make networked connections more relevant and valuable than ever before—turning information into actions that create new capabilities, richer experiences, and unprecedented economic opportunity for businesses, individuals, and countries.

Step 2

Types of computer networks

- **Local Area Network (LAN)**: A LAN is two or more connected computers sharing certain resources in a relatively small geographic location, often in the same building. Examples include home networks and office networks.

  Example Local Area Network
- **Wide Area Network (WAN)**: A WAN typically consists of two or more LANs. The computers are farther apart and are linked by telephone lines, dedicated telephone lines, or radio waves. The Internet is the largest Wide Area Network (WAN) in existence.

  Example Wide Area Network

  A browser is a programmeme that allows you to interact and view the internet and contents of the Web. The Web Browser, Internet Explorer, or IE is developed by Microsoft and comes pre-installed when you buy a Windows computer. Internet Explorer is probably the most commonly used browser.

  To open the internet explorer, click on the blue icon  .

Step 3

The World Wide Web

- The World Wide Web is a virtual network of websites connected by hyperlinks (or "links"). Websites are stored on servers on the Internet, so the World Wide Web is a part of the Internet. The backbone of the World Wide Web is made of HTML files, which are

specially formatted documents that can contain links, as well as images and other media. All web browsers can read HTML files.

URL:To get to a webpage, you can type the URL (Uniform Resource Locator) into a browser. The URL, also known as the web address, tells the browser exactly where to find the page. You can also do this by following a link from a different page or by searching for the page using a search engine.

Finding information online

The most common way to find information online is with a search engine. All you have to do is type in a few words, and the search engine will give you a list of results you can click on. There are many different search engines you can use, but google is the most popular one.

Using the Internet to communicate

The Internet isn't just about finding information. It's also about connecting with friends, family, and people you've never met before. Today, there are many different ways to communicate online, including social networking**,** chat**,** VoIP**,** and blogging**.**

Social networking

Social networking has become one of the main ways people keep in touch. Below are a few of the most popular social networking sites:

- **Facebook** is used by about 1 billion people**.** If you have family or friends who live far away, you can use Facebook to keep up with their lives. You can also share things you've found online that interest you.
- **Twitter** lets you share brief messages (or "tweets") with the entire world or with just your circle of friends. By following people with similar interests, you can discover new things you wouldn't have found otherwise.
- **LinkedIn** is a site you can use for business networking. It allows you to connect with other people in your field and discover new job opportunities.

Chat and instant messaging

Chat and instant messaging programmes allow you to have conversations with your friends or just write them a quick note. Two examples are Yahoo! Messenger and Microsoft Messenger. Some sites, such as Gmail and Facebook, allow you to chat

within your browser.

VoIP

VoIP (Voice over Internet Protocol)**,** allows you to have telephone service through your Internet connection. Some services also let you do video conferencing, such as Skype and Facebook video calling. Many of these services are free or very inexpensive, and some people use them as a replacement for a landline or simply to save minutes on their mobile phones.

Blogs

The average user has the ability to shape the Web by adding to it. If you have knowledge or interests you're passionate about, you can create your own blog and share your thoughts with the world.

Media on the Internet

TV, radio, and the Internet used to be completely separate things, but that's no longer true with today's technology. You can now watch TV shows on your computer, and you can connect to the Internet on many TVs and DVD/Blu-ray players. In addition, radio stations from around the world allow you to listen online, and many online-only radio stations now exist.

Streaming media

TV and radio on the Internet are examples of streaming media, which means the media downloads while it's playing so you don't have to wait for it to download first.

Media players and embedded media

Media is often embedded in a webpage, which means it plays within the web browser. Other times, you'll use a separate programme called a media player to play it. Examples include Windows Media Player and iTunes.

Step 4

Browsing or Surfing

Browsing: Browsing (otherwise known as surfing) is the process of checking out sites on the internet. It is the exploration of the World Wide Web by following one interesting link to another, usually with a definite objective but without a planned search strategy. Surfing is usually an exploration without a definite objective or search strategy.

Internet Browsing Procedure.

1. Type a web address, also known as a URL, into the address bar, and then press “Enter”.

2. The website will appear.

To search the Web:

1. Click the address bar and begin typing search terms. As you're typing, Internet Explorer will display suggestions for search terms and related websites. You may also see “History” results, which are websites you've previously visited.

2. Click one of the suggestions to navigate to a website or see search results. Alternatively, you can finish typing your search term and press “Enter”. The search results will appear.

If you don't want the browser to suggest ssearch terms as you type, click Turn off suggestions**.**

Navigation Buttons

Internet Explorer uses four buttons for navigation: the “Back” and “Forward”, “Refresh”, and “Home” buttons.

- The “Back” and “Forward” buttons allow you to move through pages you've recently viewed. Click and hold either button to view your recent history.
- The “Refresh” button will reload the current page. If a website stops working, try using the “Refresh” button.
- While a page is loading, the Refresh button will temporarily become the Stop button. Click this button to stop a webpage from loading.
- Clicking the Home button will take you directly to your homepage.

Windows and tabs

You can open multiple websites in the same window using tabs. Tabs are usually more convenient than opening multiple windows.

To open a new window*:*

1. Right-click the top of the browser window and select Menu bar. The menu bar will appear.

2. Click file and select new window. Alternatively, you can press Ctrl+N on your keyboard.

3. A new window will appear.

To open a new tab:

1. Click the new tab button to the right of the open tabs. Alternatively, press Ctrl+T on your keyboard.
2. The new tab will appear. Type a URL in the address bar and press "Enter|" to navigate to a new page.
3. The page will open in the new tab.

Whenever you open a new tab, you'll see the new tab page. The new tab page will show you thumbnails of the websites you visit most frequently. You can click any thumbnail to navigate to that site.

Browsing history

Like all browsers, Internet Explorer saves your browsing history, which includes details and cookies from all the sites you visit. You can search your history to find a previously viewed page or delete your history for the sake of privacy.

To view your browsing history*:*

1. Click the star in the top-right corner of the browser.
2. The "favorites" bar will appear on the right side of the browser window. Click the "History" tab. A list of date ranges will appear.
3. To view the sites you visited at a given time, click the desired date range. A list of sites will appear. To navigate to a site, just click the link.

To search your history:

1. If you can't remember the exact name or address of a website you've visited before, you can search your browsing history. Click the drop-down menu at the top of the History tab, then select Search history.
2. A search bar will appear. Type a search term or website name, then click **Search now**.
3. A list of results will appear. Just click a link to navigate to any of the websites on the list.

Managing tabs

Tabs can be moved or pulled in and out of windows for easy access. Moving a tab can be

useful if you want to switch easily between two tabs. Pulling a tab into a new window is helpful if you want to view two webpages side by side.

To move tabs:

1. Click and drag the tab you want to move.
2. Release the mouse when you've moved the tab to the desired position.

To pull tabs:

1. Click and drag the tab you want to pull out of the window.
2. Release the mouse. The tab will now appear in its own window.
3. To pull the tab back into a window, click and drag the tab over the desired window. Release the mouse when you see the tab appear in the window.

Downloading files

Internet Explorer can display many different types of documents, media, and other files, such as PDF and MP3 files. But there may be times when you'll want to access a file outside of the browser. To do this, you'll need to download the file directly to your computer.

For example, suppose you need to complete and print a form you find online. You could download it to your computer, then open it with the appropriate programme (such as Microsoft Word) to edit it.

To download a file:

If you click a link to a file, it may download automatically. However, depending on the file type, it may just open within the browser. To prevent a file from opening in Internet Explorer, you can use Save target as to download it to your computer.

1. Right-click the file you want to download, then select Save target as.
2. A dialog box will appear. Select the location where you want to save the file, enter a file name, and click Save. Your Downloads folder will be selected by default.
3. A dialog box at the bottom of the screen will show you when the download is complete. Click Open to open the file. To open the folder where the file has been saved, click Open folder.

For various reasons, some sites don't allow you to download their content. For example, YouTube and Hulu don't allow you to download their videos.

To access your downloads:

1. Click the Tools menu in the top-right corner of the window, then select View downloads. Alternatively, you can press Ctrl+J on your keyboard.

2. A dialog box will appear with a list of your downloaded files. From here, you can open downloaded files or search for downloads. You can also clear all of the downloads in the list by clicking Clear list.

Step 5

The researcher felt the pulse of participants on the day's lesson. They found it very illuminating and interesting. They were asked to browse the internet to download 2015 school calendar of NOUN. They were also giving some keywords to browse. The researcher commended them for their patience and contributions..

Session 8

Topic: Overall review, Post-Experiment Test Administration and Conclusion.

Participants were led to assess and summarize their experience based on what they have benefited from the training programmeme. After the review, the researcher appreciated and commended the participants for their cooperation during the intervention programmeme and administered the post-test. Certificate of participation was presented to the participants. Refreshment was served to the participants at the end of this session.

Experimental Group 2- Cognitive behaviour therapy

Session I: General Orientation and the administration of pre-test.

Topic: General Introduction and Administration of Instrument to obtain Pre-test Scores

Objectives: At the end of the session, the researcher was able to:

- Initiate and establish rapport with the participants.
- Introduce the participants to computer efficacy training
- Administer the pre-test

Step 1

The researcher assembled all participants together in an interactive session and welcomed them into the group. There was exchange of pleasantries among members with self-introduction starting from the researcher. Earnest efforts were made by the researcher to establish good rapport with the participants. This yielded positive result as it enhanced participants' readiness to participate in the programmeme.

Step 2

The purpose and format of the programmeme was explained by the therapist to the group. The benefits derivable from the programmeme were also discussed with the participants. They were assured that the programmeme would create in them new thinking processes that would reduce their computer anxiety. They were informed that regular attendance to meetings was important as only participants who complete all sessions could benefit fully as proceedings would be cumulative. The need to adhere to all instructions and complete all assignments was emphasized. Participants were encouraged to feel free and ask questions for clarification. The subsequent meeting date, time and venue were communicated to the participants. Participants' clarifications on the programmeme were properly attended to.

Step3: The pre-test was administered, participants were guided on how to fill the questionnaire and the test was collected immediately.

Assignment

Participants were asked to state their views about the use of ICT by NOUN students.

Session II

Cognitive Behaviour Therapy

The Concept of Cognitive behaviour therapy

Objectives

- The researcher exposed participants to;
- The origin of cognitive behaviour therapy
- The concept of cognitive behaviour therapy
- Basic assumptions of cognitive behaviour therapy

Step 1

The researcher welcomed the participants to the class. He appreciated them for making themselves for the third session. The assignment given to the participants during the previous session was discussed.

Step 2

Origin of Cognitive behaviour therapy

The cognitive behaviour therapy was developed by Aaron T. Becks in the early 1960s from what he originally termed cognitive therapy. He was a trained psychoanalyst. He conducted series of experiments to empirically validate psychoanalysis for use by the medical community but the results did not yield his expected result, hence, he sought other explanations for depression. He identified distorted negative cognition (primary thought and beliefs) as a primary feature of depression and developed a short-term treatment which he termed cognitive behaviour therapy. His theory evolved from helping depressed patients recognize their faulty automatic thoughts that negatively affect their behaviour. In contrast to other forms of psychotherapy, CBT aims to quickly resolve maladaptive thoughts or behaviours without necessarily delving too deeply into why they may occur. Cognitive behaviour therapy (CBT) is one of the most frequently used psychotherapeutic orientations, with considerable research supporting its effectiveness and adaptability in clinical practice. CBT integrates the rationale and techniques from both cognitive therapy and behavioural therapy, taking advantage of their complimentary relationship. While the efficacy of CBT has been firmly established in the treatment of a variety of disorders and problems, its history and utility are deeply rooted in the treatment of anxiety and depression symptoms. Aaron T. Beck is recognized as the father of CBT.

Step3

Concept of Cognitive behaviour therapy

The researcher explained cognitive behaviour therapy as a psychotherapy which focuses on how irrational expectations and distorted thoughts create negative feelings, unhappiness, frustration and maladaptive behaviour and encourages client to change and correct these expectations. It is a form of psychotherapy that emphasizes the important roles of accurate and faulty thinking in individuals' actions. The therapy was designed to

produce changes in thinking and therefore changes in behaviour or mood of beneficiaries (Busari and Uwakwe 2001). Cognitive behaviour therapy (CBT) is a form of psychotherapy in which the therapist and the client work together as a team to identify and solve problems. Here, the therapist uses the cognitive model to help clients overcome their difficulties by changing their thinking, behaviour, and emotional responses. CBT also emphasises the learning process and the ways in which external environments can change both cognition and behaviour. In this therapy, subjects are helped to retrain themselves and change misconceptions, strengthen their coping skills and increase their self-control. They are assisted to critically evaluate their attitudes and behaviours by recognizing, observing and monitoring their own thoughts and assumptions with a view to changing their irrational thinking, self-defeating statements and replacing them with constructive and rational thoughts and beliefs. This would lead to more constructive behaviour patterns. The aim of CBT is to change individuals' cognitive behaviours and emotive processes about their disturbing situations. Specifically, CBT will be used in this intervention programmeme to change participants' thinking pattern that predisposed them to computer anxiety and replace such thoughts with rational thoughts. This will instill in the participants new orientation about computers and ICT generally and reduce their anxiety with optimal improvement on their interaction and effectiveness. CBT is used by psychologists and therapists to help promote positive change in individuals, to help alleviate emotional distress, and to address a myriad of psycho/social behavioural issues such as depression, anxiety (computer anxiety inclusive), etc. Cognitive behaviour therapy helps in the identification and treatment of difficulties arising from individuals' irrational thinking, misperceptions, dysfunctional thoughts, and faulty learning.

Step 4

The researcher highlighted and explained the fundamental assumptions of cognitive behaviour therapy thus:

- Cognitive activity affects individual's behaviour.
- Cognitive activity can be monitored and changed.
- Cognitive changes can lead to desired behavioural changes.

The researcher appreciated the participants and encouraged them to be available for the next session.

Assignment

In rounding up the session, the participants were asked to write out what they considered to be their personal problems especially those that were related to their studies and other life activities.

Session III

Topic: Computer Anxiety

Objectives: participants were facilitated on the:

- Concept of computerAnxiety.
- Causes and symptoms of computer anxiety among NOUN students.
- Manifestation/Effects of Computer anxiety among NOUN students

Step 1

The researcher welcomed participants and appreciated their cooperation so far. The assignment given to the participants was discussed.

Step 2

Concept of Computer Anxiety

Computer anxiety is the apprehension, fear or uneasiness which an individual manifests when about to use or while using computer. A computer-anxious person is an individual who exhibits fear of using computer; resists solving problems with computer or get information through computer usage. It is the phobic or apprehensive behaviour expressed by an individual towards computers while using it or when about to use it.

Step 3

Causes of computer Anxiety

Participants identified their perceived causes of computer anxiety while the researcher moderated their contributions.

- Lack of computer skills and experience
- Lack of or inadequate computer confidence
- Fear of destroying computer

- Fear of being embarrassed or look foolish
- Lack of prior information/orientation on the use of computer in NOUN before their admission, etc.
- Fear of not being able to perform task appropriately.

Step 4

Symptoms of Computer anxiety

- The researcher asked the participants to discuss how they feel while using computer especially during online examination. Some of the participants responded thus:

- A male participant said "sometimes I shake while using computer but I cannot understand why I shake".
- A female participant said " I once shed tears in my exam when I could not cope with computer again"
- Another female participant added "for me, I sweat profusely most times when using computer".
- A male responded that he experiences serious tension and find it difficult to manipulate computer most times especially during online examination.

The therapist explained the following physiological and psychological symptoms of computer anxiety:

- Sweaty palms
- Dizziness
- Shortness of breath and the inability to take action.
- Sense of choking.
- Chest pain.
- Stomach upset.
- Numbness or tingling
- Restlessness.
- Fatigue
- Muscle tension
- Depression
- Difficulty in concentrating.

- Irritation.
- Frustration.
- Bewilderment, etc.

Step 5

Manifestation/Effects of Computer Anxiety among NOUN Students.

The researcher explained some way in which computer anxiety manifested among NOUN students and its consequences.

- ✓ Avoidance of computer by learners.
- ✓ The use of third party to submit Tutor Marked Assignment (TMA).
- ✓ Absence from computer-based examinations.
- ✓ Loss of time during e-examination.
- ✓ Procrastination in attempting computer-related tasks including assessing e-books, use of e-counselling portal, i-learn portal.
- ✓ Deferment of admission, examination and programmemes.
- ✓ Academic failure.
- ✓ Frustration.
- ✓ Drop out.

Participants contributed freely and meaningfully to the discussion and it was a lively session. The discussion revealed that participants are affected in one way or the other by the points raised above. Some of their responses are summarised hereunder:

- A male participant declare that he does not see reasons for most of the things NOUN do online, particularly tutor marked assignments and examinations.
- Some participants reported that they visit cyber café to print out their Tutor Marked Assignment, answer the questions and take it back to the café where they are usually helped to submit their assignments.
- Some participants responded that they lost much time while writing her first (semester) examination due to restlessness and muscle tension she experienced.
- Some participants reported that some of their mates dropped out due to their lack of interest in using computer.
- Majority of the participants said that they do not visit the university website to benefit from the e-library, i-learn, e-counselling, etc portals.

- Another female student responded that she feels she can't just operate computer successfully.

Assignment

- Participants were asked to proffer solution to the problem of computer anxiety among NOUN students.

Closing remarks:

- The participants were commended for their cooperation and encouraged to do their homework. They were also reminded of the time and venue for the next session.

Session IV

Topic: Cognitive Distortions/Triad

Objectives

The following issues were expounded:

- Meaning of cognitive distortions/cognitive triad
- Common cognitive distortions

Step 1

The researcher welcomed participants to the day's session. The assignment was discussed briefly with the participants.

Step 2

The researcher defined cognitive distortion as those thoughts that people tend to have in their information processing which lead them to faulty assumptions and misconceptions that fuel emotional and behavioural problems. These distortions usually operate in our automatic thoughts. The therapist explained that psychological distress (such as anxiety) is activated by a set of three major cognitive patterns called cognitive triad. The cognitive triad forces individuals to view themselves negatively; have negative view of their environment and exhibit negative view of their future. He explains father that it has been established that certain faulty thought processes frequently run together. The cognitive triad are the negative automatic thoughts which center around people's understanding of:

– themselves

- Others (the world)
- Future

Viewing Self in a Negative Way:

The anxious person sees himself as deficient, inadequate, and unworthy. He tends to attribute his unpleasant experiences to a physical, mental or moral defect in himself. Such individual shows less optimism towards a worthwhile task, believing he cannot cope or that such task is not meant for someone of his type. Furthermore, he regards himself as undesirable and worthless because of his presumed defect and tends to reject himself because of it. He regards an obstacle as an impossible barrier; difficulty in dealing with a problem is interpreted as a total failure. He views himself as incompetent and preoccupy with self-defeating thoughts which cloud his mind from perceiving reality of his situation. This situation leads him to manifest moodiness and signs of unhappiness.

Construing Experiences in a Negative Way

These are maladaptive thinking patterns that distort reality in a negative way, and make us perceive the world as being more hostile than it actually is. The individual consistently interprets his interactions with his environment (e.g. computer laboratory/computer) as representing defeat, deprivation and inability. The typical cognition show a variety of deviations from logical thinking, including overgeneralizations, polarised thinking, arbitrary selection, magnifications, etc. The patient automatically makes a negative interpretation of a situation even though more obvious and more plausible explanations exist. He tailors the facts to fit his negative conclusions.

Viewing the Future in a Negative Way

The anxious individual anticipates that his current difficulties or challenge will continue indefinitely. As such person looks into the future, he sees a life of unremitting hardship, frustration and deprivation and uncertainty. A computer anxious person tends to feel helpless, looks at his/her future computer competence as almost impossible. Such individuals are encumbered with thoughts such as "It is not important" "What's the use? Nothing that I do makes the slightest difference" "Nobody will appreciate my slightest effort" "Things have gone out of control", etc.

Step3

The therapist identified and discussed some examples of cognitive distortions also referred to as negative automatic thoughts.

All–Or–Nothing Thinking: Seeing things in black–and–white categories. For instance, if a teacher's performance falls short of perfect, he/she sees him/herself as a total failure. An individual that could not perform a given task on computer perfectly begins to assess him/herself as someone that cannot use computer or a never do well person.

Arbitrary inference: This refers to the drawing of an unjustified conclusion. For example, a man who does not talk about his wife getting additional academic qualification. His wife gets upset and concludes that he is not interested in her future. She neglects other possible explanations.

Polarized Thinking

The main feature of this distortion is an insistence on either-or choices: You tend to perceive everything at the extremes, with very little room for a middle ground. People and things are good or bad, wonderful or horrible. This creates a black and white world, and because you miss all the nuances of grey, your reactions to events swing from one emotional extreme to another. One of the great dangers in polarized thinking is its impact on how you judge yourself. If you aren't perfect or brilliant, then you must be a failure or totally stupid. There is no room for mistakes or mediocrity.

Selective abstraction or **mental filtering:** This is an act of picking out a single negative detailed and dwell on it exclusively so that the individual vision of all reality becomes darkened, like the drop of ink that discolours the entire beaker of water. It involves focusing one's attention on one detail while ignoring everything else. A single detail may be picked out and the whole event or situation is coloured by this detail. Each person has his or her own particular type of filter. Some are hypersensitive to any suggestion of injustice or being treated unfairly. As a result they are frequently angry and resentful. Others are hypersensitive to the slightest possibility of danger (either to themselves or a loved one) and often find themselves feeling nervous, worried, and fearful. By the very process of filtering you magnify and "awfulize" your thoughts. When you pull negative things out of context, isolated from all the good experiences around you, you make them

larger and more awful than they really are. The end result is that all your fears, losses, and irritations become exaggerated in importance because they fill your awareness to the exclusion of everything else. In essence, when you filter, you lose your sense of perspective and your thinking becomes warped.

Overgeneralization This involves assuming that one negative event constitutes a pattern of never-ending negative events. It is the drawing of a general conclusion based upon a limited event. It is a serious distortion that can affect one's sense of judgment via baseless conclusions about things and events. A victim of this distortion will not consider all evidences available concerning an event or situation but will rather base his or her conclusion on a single evidence or incident. For instance, "*a computer user who failed a course in an online examination may conclude that he/she can never pass an online test".* Overgeneralizations are often couched in the form of absolute statements, as if there were some law written in stone which limits your chances for happiness. Other examples of overgeneralized thoughts include *"everyone looks at me as imperfect… I cannot do anything correctly*" *"Nobody understands me..., I'll never be able to trust anyone again..., I will always be sad..., and I'll never get a decent job...* Your conclusion is based on one or two pieces of evidence and carefully ignores everything you know about yourself to the contrary. Cue words that indicate you may be over generalizing are *"all, every, none, never, always, everybody, and nobody."*

A common form of over generalization is **global labeling**. This occurs whenever one makes a sweeping statement aimed at characterizing a person or group of persons ignoring the fact that human beings are complex and that our actions can be characterized in all kinds of ways.

Personalisation: This is usually the case when an individual sees himself as the cause of some negative external event which in fact he was not primarily responsible for. It is the tendency to relate everything around one to oneself. A somewhat depressed mother blames herself when she sees any sadness in her children. A recently married man thinks that every time his wife talks about feeling tired she means she is tired of him. A man whose wife complains about rising prices hears the complaints as attacks on his abilities as a breadwinner. A major aspect of personalization is the habit of continually comparing yourself to other people: *"They have more money than we do..., He's more*

successful with women than I am..., I'm more deserving of disability compensation than a lot of other people who get it..., They can use computer better than me…, I am not making any headway like them…, They gave her a back brace and not me." The opportunities for comparison never end. The underlying assumption is that your worth is questionable. You are therefore continually forced to test your value as a person by measuring yourself against others. If you come out better, you feel good for a short while, if you come out worse, you feel diminished in some way. The basic thinking error in personalization is that you interpret each experience, each conversation, each look as a clue to your worth and value. As a result, you end up making yourself a lot more depressed or angry than you really need to be.

Magnification (Catastrophizing) or Minimization: Exaggerating the importance of things (such as a person's goof-up or someone else's achievement) or you inappropriately shrink things until they appear tiny (a person's desirable qualities or the other fellow's imperfections). This also called the binocular trick. This has to do with making mountains out of mole hills. They tend to imagine and expect the worst possible consequences. Catastrophic thoughts often start with the words "what if." *"what if the computer stops working...." "what if the system breaks…" "what if I don't understand excel/spreadsheet…""what if people laugh at me as I use the computer…""What if the train derails..., What if this airplane crashes..., What if my husband leaves me for another woman...* There are no limits to a really fertile catastrophic imagination.

While catastrophes can and do occur, they occur infrequently. People who catastrophize a lot go around thinking as though a catastrophe was about to strike or has already occurred. They are always in "chain". **Minimization** on the other hands is the reverse of magnification. It is an undervaluation of positive attributes. A woman may have low self-esteem because she is not well-off. She neglects the respect that she commands for being an efficient employee, a good mother, a caring wife, a cheerful neighbour, and a loyal friend. Also, an individual may not be very good in Corel Draw and became upset or worthless as a result, whereas s/he may be vast in word processing.

Labeling and Mislabeling: This is an extreme form of over-generalization. Instead of describing one error, the individual attaches a negative label to him/herself: "I am a loser", "I am never good with computer", "I know that I am a failure as far as computer is

concerned", "I may not complete my programmeme because I'm shattered by computer". When someone else's behaviour rubs an individual the wrong way the individual attaches a negative label to the person: 'He is a god damn louse'. Mislabeling involves describing an event with language that is highly coloured and emotionally loaded.

Should Statements: This distortional thought involves trying to motivate oneself with shoulds and shouldn'ts, as if one had to be whipped and punished before one could be expected to do thing. "Musts" and "Oughts" are also offenders. The emotional consequence is guilt. When one directs should statements toward others, the individual feel anger, frustrated and resentful.

The distorted person uses of rigid and inflexible rules about how s/he and others should act. Any deviation from his/her particular set of rules and standards is bad. As a result, the individual often judges or finds faults. Such individuals are easily annoyed oand irritated by others; believing they don't act the way they are supposed to. They have unacceptable traits, habits, and opinions that make them hard to tolerate. They should know the rules and they should follow them. Cue words indicating the presence of this distortion are ought, or must. Many people not only subject other people to a long list of rules, but also apply a bunch of shoulds to themselves. As a result, they increase their own misery when they constantly fall short of these musts and shoulds. While it is perfectly normal to have preferences about how we and others should act this should be done rationally. Our expectations should not be absolute. Likely examples of shoulds that a computer anxious person may hold include the following.

- People *should* understand that not everyone can use computer to write exam.
- NOUN management *should* know that I am not really familiar with computer before I was admitted.
- "People *should* be fair. If I'm nice to them, they should be nice back."
- Nobody should expect me to use computer …

Disqualifying the Positive: Rejecting positive experiences by insisting they don't count for some reason or other. By this way, an individual can maintain a negative belief that is

contracted by everyday experiences. For instance, a techno-phobic person can may say it is not easy to use computer; computer is for a set of people, not everybody.

Jumping to Conclusions: Making a negative interpretation though there are no definite facts that convincingly support conclusion. Examples of this are:

a. **Minding Reading:** A person arbitrarily concludes that someone is reacting negatively to him and he doesn't bother to check this out. For instance, "I can tell people don't like me because of the way they behave." Mind reading often involves a process called projection. An individual imagines that people feel the same way he/she feels and react to things the same way he/she react. Such person imagines everyone is angry when he is angry with someone or situation. If you are hypersensitive to rejection, you expect most people to feel the same. If you are very judgmental about particular habits and traits, you assume others share your belief. Mind readers jump to conclusions that are true for them, without checking whether they are true for the other person. When you frequently mind read in negative ways, you tend to overreact emotionally. In other words, your emotions are not triggered by actual facts but rather by your erroneous assumptions about other people. These assumptions are usually untested. They are born of intuition, hunches, vague misgivings, or one or two past experiences, but they are nevertheless believed as fact.
b. **The Fortune Teller Error:** Anticipating that thing will turn out badly and feel thing will turn out badly and feel convinced that prediction is an already-established fact.

Self-Worth/ Low self-regard: One makes an arbitrary decision that in order to accept oneself as worthy, okay, or to simply feel good about oneself, one has to perform in a certain way: usually most or at all the time. **Low self-regard** represents thoughts that express an unjustified lack of self-confidence. It has to do greatly with viewing oneself in a negative way. An individual may regard himself as deficient, inadequate, or unworthy, and tends to attribute his unpleasant experiences to a physical, mental or moral defect or his inability to perform some tasks as expected. Such individual sees himself as undesirable and worthless. He tags an obstacle as an impossible barrier and sees difficulty in dealing with a problem as a total failure. Examples are: " I am not good at using computer" "I cannot do it." "I'm not as pretty as my friends." "Nobody will ever

like me". "I'm going to be a failure in life." "I don't deserve to live." "I am the unfortunate type when it comes to ICT.

Emotional Reasoning; Assumption that one negative emotion necessarily reflects the way things really are. For instance, 'I feel it, therefore it must be true' I thought as much, that must be the case.

Assignment;

The participants were told to visualize the kinds of thoughts and feelings that the identified problems aroused in them for discussion at the next session

Session IVB: Identification of Participants' Problems on computer use

Objectives

At the end of the session, participants were able to:

- State tasks that computer can perform and what it can not perform.
- Identify what they are able to do on the computer and rate their general ability to use computer.
- Identification of participants' problems on the computer

Step 1

The researcher welcomed the participants back to the class. He appreciated their efforts in making sure they are always available for the programmeme. The therapist reviewed the major issues discussed during last session.

Step 2

Participants were asked to generate a list of tasks that they believe computer can perform and what it cannot perform. The essence of this was to identify participants' fact and misconceptions about computer. This exercise took about 15 minutes. Participants were asked to share their views in the group. Some of the task mentioned are:

- Word processing
- Spread sheet
- Helps in calculation
- Store and retrieve information
- Perform different tasks without instructions

- Computer can do all what man can do

Step 3

Participants were asked to identify what computer can do or what they are able to do on the computer and rate their general ability to use computer.

They identify the various things computer can do/ what they feel they can do on the computer. From their responses, many reported that they find it difficult to complete a task on the system because were unable to concentrate; they became tensed up, sweat profusely and nervous. Some said they usually don't know while they get confused while using computer. To some, they reported that they always become weak and at times incapable of pressing the key board.

While asked to rate their general ability to use computer, about two third of the participants rated themselves poor, about a third rated themselves average leaving just two individuals rating themselves above average. One thing that is common to the participants was that they don't really enjoy working with computer. In other words, they are computer-phobic.

When asked to express their views on the use of computer in NOUN, they reacted thus:

i. Computer is not for everybody.
ii. It is wrong to insist on the use of computer by all students as we do not have the same background.
iii. Computer can embarrass one if care is not taken.
iv. Computer can make one a laughing stock.
v. Computer is too fragile for my liking.
vi. I feel as if computer will shock me.
vii. Computer can destroy one's health.
viii. It is not an easy task to be able to use computer conveniently.
ix. Using computer is time consuming
x. It can make one to be lazy.

Step 3

The researcher led the participants to discuss some of the problems they were battling with in relation to computer usage. The researcher told participants that they were mainly anxious of using computer and that their belief about computer is deeply rooted in their distorted

thoughts about computer. The researcher explain further that the invention of computer one of the most important things that has happened to mankind. He added that many institutions around the world have adopted full integration of computer in their system. He informed them that the Joint Admission and Matriculation Board had already adopted the computer based test and that more examination bodies in the country will follow suit in the nearest future.

- The researcher appreciated the participants for being objective and truthful in their responses.

Assignment

Write out the ways in which you have been viewing your world, yourself and your future in negative ways and assess whether these negative views of your world, yourself and your future have any merit. Relate this to your view of computer/ ICT.

Session V Dealing with computer Anxiety (Positive Self-Statements)

Objectives: Participants were exposed to the following

i. Concept of positive self-statement is
ii. Guidelines for developing positive self-statements
iii. Developing positive self-statements and use them.

Activities

Step 1

The researcher welcomed participants and appreciated them for their efforts. He

Briefly reviewed what was done in the previous session. The home work was also discussed.

They were informed that they would be learning ways by which they can replace their negative thought patterns with positive ones.

Step 2

Positive self-statement or self-talk

Self-talk is the internal dialogue within the subconscious mind of an individual. Self talk is the manifestation of our thoughts and beliefs. This habit starts right from the childhood and impacts our various life experiences. Positive self-talk takes place any time an individual think or talk to himself in a beneficial manner. It involves any thought a person

thinks, or any speech he say to oneself that provides a mechanism for improvement or upliftment. The purpose of positive self-talk is to put a stop to the thoughts that lead to anxiety, and to replace those thoughts with realistic, rational thoughts. When these rational self-statements are practiced and learned, your brain takes over and they automatically occur. This is a form of gentle conditioning, meaning that your brain chemistry (neurotransmission) actually changes as a result of your new thinking habits. Positive affirmations are the extraordinary tools to counteract negative beliefs, thoughts and self talk Negative self talk breeds negative responses and behaviour. Negative self talk habits can be altered by positive self-statements that counter it.
A conscious effort must be made to relinquish negative self talk habits and positive statements provide the revitalizing energy. Positive affirmations are the personal short statements that help to derive desired outcomes. Our subconscious mind does not recognize the difference between positive and negative thoughts. Thus it can be re-programmemed to eliminate negative or self limiting thoughts through feeds of positive statements. In order to effectively use positive self-talk, you have to start by changing your self-limiting statements to questions. Self-limiting statements like “It is difficult”! “I can’t handle this!” or “This is impossible!” are discouraging and are capable of increasing your anxiety in a given situation *and* debar you from searching for relevant solutions. The counsel here is that whenever you find yourself in the trap of negative thoughts like the instances above, reverse it into question form such as; “How can it be done” “*How* can I handle this?” or “*How* is this possible?”. These questions are more encouraging as they can propel the anxious individual to think deep and find solutions to his challenges.

Guidelines to developing positive self-statements.

1. Make the statements personal to yourself. Not arbitrary or generic. Use the phrase “I", your own name.

2. Keep affirmations short. How can you use the affirmations if you cannot remember them?

3. Phrase your affirmations positively. The mind accepts as truth the words that you give it. Use positive words only as affirmations. Leave out any negative words. For example say “I will not be nervous when taking my radiotherapy treatment “. Rather say “I will be calm and self-assured during my radiotherapy treatment"

4. Include a positive emotion. A phrase that triggers a positive emotion strengthens the affirmation. For example “My goals are valuable and it excites me."

5. Phrase affirmations as fact. Phrase a goal as though it is happening even if you have not achieved it yet. Your subconscious believes mental messages and works to make them a reality.

6. Say your affirmation at least 6 times a day. Repetition enhances self-confidence, acts as a reminder, and stimulates your subconscious to help you achieve your goals in life.

Examples of Positive Self-statements for different situations

When anxiety is near, i.e when contemplating using computer.

1. I’m going to be all right. My feelings are not always rational. I’m just going to relax, calm down, and everything will be all right.

2. Anxiety is not dangerous -- it’s just uncomfortable. I am fine; I’ll just continue with what I’m doing or find something more active to do.

3. Right now I have some feelings I don’t like. They are really just phantoms, however, because they are disappearing. I will be fine.

4. Right now I have feelings I don’t like. They will be over with soon and I’ll be fine. For now, I am going to focus on doing something else around me.

5. That picture (image) in my head is not a rational picture. Instead, I’m going to focus on something rational like feeling on top of any situation that arises.

6. I’ve stopped my negative thoughts before and I’m going to do it again now. I am becoming better and better at deflecting these automatic negative thoughts (ANTs) and that makes me happy.

7. So I feel a little anxiety now, SO WHAT? It’s not like it’s the first time. I am going to take some nice deep breaths and keep on going. This will help me continue to get better.

Statements to use when preparing for a task on computer

1. I’ve done this before so I know I can do it again.

2. When this is over, I’ll be glad that I did it.

3. The feeling I have about this event doesn’t make much sense. This anxiety is like a mirage in the desert. I’ll just continue to "walk" forward until I pass right through it.

4. This may seem hard now, but it will become easier and easier over time.

5. I think I have more control over these thoughts and feelings than I once imagined. I am very gently going to turn away from my old feelings and move in a new, better direction

Statements to use when you feel overwhelmed by a situation

1. I can be anxious and still focus on the task at hand. As I focus on the task, my anxiety will go down.

2. Anxiety is an old habit pattern that my body responds to. I am going to calmly and nicely change this old habit. I feel a little bit of peace, despite my anxiety, and this peace is going to grow and grow. As my peace and security grow, then anxiety and panic will have to shrink.

3. At first, my anxiety was powerful and scary, but as time goes by it doesn't have the hold on me that I once thought it had. I am moving forward gently and nicely all the time.

4. I don't need to fight my feelings. I realize that these feelings won't be allowed to stay around very much longer. I just accept my new feelings of peace, contentment, security, and confidence.

5. All these things that are happening to me seem overwhelming. But I've caught myself this time and I refuse to focus on these things. Instead, I'm going to talk slowly to myself, focus away from my problem, and continue with what I have to do. In this way, my anxiety will have to shrink away and disappear.

Note: Partly adapted from Coping Statements for Anxiety by Thomas A. Richards

Some specific negative statement and positive self-talk about computer.

The following negative statement about computer can be positively restated thus:

- I can't write e-exam with computer, I will succeed in any form of exam be it online or offline
- Computer is not easy to manipulate, computer is not wiser than me, it's not more than manipulating my GSM phone
- I can't cope with computer, I can cope with computer.
- I will soon become confused, I am on top of the situation

- Computer is too fragile, every device is fragile one way or the other but I am careful
- I am a laughing stock to those around me, I mind my business, and I am okay with my ability as I progress steadily.
- Some tasks are just difficult, there is always room for learning
- I am frustrated, I trust in my ability
- I won't bother about computer again, quitters will never win.
- Computer is not for everybody, experts in computer don't have too heads, computer is for me.

Other self statements that can diffuse anxiety

I am a special, unique and very important person

This is my day of joy

I do not require the approval of anyone, except myself to be happy

I love myself for my own uniqueness and value

I am blessed all the time

I approve of myself

I think I can

I am allowed to make mistakes because I can learn from them.

I am allowed to fall but I refuse to remain on the ground

I am allowed to cry but I refuse to make myself a pity-party

Assignment

Participants were asked to make a list of their congruities distortion's (irrational believes) and rational beliefs they held about their personal problems and their job.

Session VI: Combating disturbed, irrational defective statements on computer anxiety and use and sustaining the principles of Cognitive behaviour therapy.

Objective: Participants were exposed brief training on how to combat their irrational thought via thought stopping technique.

Activities

Step 1

The researcher welcomed participants and held brief discussion on homework assignments. He appreciated participants for their efforts.

Step 2

The researcher facilitated participants on how to combat their irrational thought pattern via thought stopping technique.

The therapist explained thought stopping technique as a veritable technique for dealing with stress that comes from an individual's negative feelings. It is an effective and quick technique to help you with the intrusive negative thoughts and worry that often accompany anxiety. The basis of this technique is that you consciously issue the command, "Stop!" when you experience repeated negative, unnecessary or distorted thoughts. You then replace the negative thought with something more positive and realistic.

This therapy may look simple; the simplicity does not make it ineffective. You may need to repeat the word several times until the negative thoughts are interrupted. Thought stopping is aimed at removing negative attitudes, self-doubts, and critical self-statements which lead to anxiety and to avoidance (Egbule, J. F., 2009) Treatment involves letting the anxious person become aware of his negative thoughts, such as fear of computer, avoidance or feeling of incompetence and teaching him to stop these thoughts which are causing him discomfort. Stopping the negative self-statements creates an internal void (Rosen, Sears and Weil, (1993). Stopping the negative self statements creates an internal void. The process is followed by covert assertion by the affected individual. Covert assertion is a process of filling the void created with positive, motivating self-statements.

Step 3

Steps in Thought Stopping

Step A: Identification of negative self-statement: The researcher facilitated participants to identify typical negative self-statements. At this stage, you will identify your negative thoughts you have about computer. Such automatic negative thoughts include the following:

1. Fear of the computer or fear of hurting it, e.g. "I will break the system"; "It will shock me"; It can blow up"; "I can hit the wrong button and jam the computer"; "I will wreck the programmeme".

2. Feeling of incompetence, e.g. “I cannot use computer effectively”; “I cannot catch On”; “I am incompetent”; “I will feel like a fool”; “I feel stupid”;
3. Feeling of alienation; e.g. “ I am the only one who is not getting it”; “everyone else knows how”; “I am not the computer type”.
4. Avoidance; e.g., I will do it later”; “I will get someone to do it”; “I will defer my e-exam till next semester”.

Step B

Here, having identified your negative self-statements, you will close his eyes and imagine the target situation where you manifest a given negative thought about computer, then, you yell “stop” loudly at the first sign of critical self-defeating thoughts.

Step C

You verbalize to yourself and yell “stop” aloud when you begin to have negative thoughts about computer.

Step D

You will verbalize to yourself and yell “stop” internally when negative thoughts begin.

Step E

You will create positive self-statements to counter your negative thoughts about computer and practice it until you get rid of the self-defeating thoughts and replace them with positive self-talk or statements.

Step 4

Combating self-defeating thoughts

The researcher led participants to create some positive statements that directly counter identified negative self-statements.

S/N	Negative Thought	Positive Self-Statement/Covert Assertion
1	I will break the system	The system is not easily broken and I am a careful person
2	It will shock me	I can use any appliance/ device that uses electricity
3	It can blow it up	It can handle it

4	I will wreck the programmeme.	I am perfect
5	I cannot use computer effectively"	I can use computer perfectly
6	Everyone else knows how to do this	If others can do this, I can also do it.
7	I am not the computer type.	Computer is for everybody
8	I am a time on task person	I will do it later.
9	I will get someone to do it	I will do it myself
10	I will defer my e-exam till next semester	I am ready for online exam
11	I cannot catch on	I am getting it
12	I am incompetent	I have ability to anything I lay my hand on.
13	I am the only one who is not getting it	With more effort, I will get it right.
14	I feel stupid	This is enjoyable
15	I will feel like a fool	It is exciting
16	I don't understand this	I can figure it out
17	Computer is too much to handle	I enjoy the challenge
18	I hope that I have enough time	Relax, take your time
19	I can hit the wrong button and jam the computer.	I know I can do it right
20	I am going to make mistake	I am an intelligent and capable person
21	This is too much to handle	I enjoy the challenge.

Note: Participants were told that they can also record the various scenarios where the thought stopping method was used with their phones or tape recorder and listen to it regularly.

Assignment

1. Identify your negative thoughts about computer for the next on week and discuss how you use thought stopping method to deal with it.
2. Participants were encouraged to practice the skills they have been taught in the treatment session and they should record their success.

Session VII: Concretization of the benefits of CBT for adequate restoration of expected behavioural outcome (i.e. reduced computer anxiety).

Objectives

At the end of this session, participants were be able to:

1. Demonstrate their ability in developing and using positive self-talk
2. Demonstrate their ability to use thought stopping technique to arrest their anxiety towards computer.

Activities

Step1

The researcher welcomed participants to the session and led them through the homework given. A recap of the last two sessions was done.

Step 2

The researcher clearly demonstrated to the students that their anxiety about computer is an imaginary distortion deeply rooted in their thought and that effective use of positive self-statement and thought stopping technique will reduce their anxiety. He likened computer to their cell phones which they manipulate easily. He further instilled confidence in them that they don't need to be a "guru", "special" or "extra-ordinary" human beings to use computer effectively. Computer is for everyone. All they need to do is to accept computer as a companion that can make them more productive and be effective. He enjoined them to see computer as the language of the 21st century which **ALL** should embrace in order not to be left behind. They were counselled to seek every opportunity they to interact with computer and increase their confidence at the expense of anxiety. He reminded them of the inevitability of using ICT in the institution since NOUN adopt integrated learning management system (ILMS).

Step 3

Researcher guided the participants in the use of positive self-talk and thought stopping technique. Volunteers among the participants were call upon to how to demonstrate positive self-talk and thought stopping methods. The researcher moderated the participants and corrected them where necessary.

Simple Steps to Successful Self Talk

The following steps are important for successful self talk

1. Find an ideal time and quiet place where you will not be disturbed. Read completely over your list of positive self talk affirmations.

2. Spend as much time as you can each day reading these statements aloud to yourself. When you cannot say them aloud practice them silently in your head/heart.

3. The goal is to picture the words and discover the emotions that are generated. Feel the feelings of each statement as you read them aloud.

4. As you read them over and over, start to identify the sentences and words that appeal to you the strongest. Honour yourself and your feelings on what is best. Write down the words you are most attracted to on a separate piece of paper.

5. Take your most attractive affirmations and ensure you read them daily. For the quick and powerful results be sure to read them first thing in the morning and last thing before you go to sleep. These are the times of day when your body is most influenced by the words and pictures you feed it.

6. Record your thoughts, observations, reactions as this process unfolds. Remember the goal is to alter or change the word and sentences until they feel very personal and powerful. You have found a powerful affirmation when it makes "goose pimples" stand up every time you read it.

7. When you feel emotional every time you read the statement your goal is to next put this in as many places as possible that you will notice them. For example, how about placing a reminder on your cell phone, your computer screensaver, your bathroom mirror, in your car, or anywhere else you will notice it.

You should note however that no matter how much positive thinking or talking you practice, you may still find yourself down, fearful or anxious. That is okay and normal and you have to allow yourselves to

realize that and accept yourselves as you are. At a time like this, remind yourself that your feelings are figments of your distorted thoughts which should not weigh you down.

The session ended interestingly with the researcher leading participants to sing the song below.

Computer is my friend

Computer is my friend

C-O-M-P-U-T-E-R

Computer is my friend

Assignment: Practice using the principles of CBT (positive self-talk and thought stopping) whenever you are filled with negative self-talk about computer.

List ways they can prevent relapse into psychological distress

Note: Some of the ideas used in this treatment package were adapted from www.russellsmal.com/journaling.

Session VIII

Topic: Overall review, Post-Experiment Test Administration and Conclusion.

The researcher reflected on what have been achieved so far in the therapeutic sessions.

Participants were led to assess and summarize their experience based on what they have benefited from the training programmeme. After the review, the researcher appreciated and commended the participants for their cooperation during the intervention programmeme and administered the post-test. Certificate of participation was presented to the participants. Refreshment was served to the participants at the end of this session.

Control Group Session 1

Topic: Administration of pre-test instrument and Seminar on Time Management.

Objective

i. To administer pre-test instruments to the participants.

ii. To present a seminar on time management.

Activity: The participants were warmly welcomed by the researcher.

The researcher familiarized himself with members of the group via introduction. Participants also introduced themselves and exchanged pleasantry. The researcher explained to the participants that the programmeme is mainly for research purposes and that their support and co-

operation was highly needed. The pre-test instrument was administered on the participants. After the administration of the pre-test instrument, the researcher presented a talk on time management. Participants appreciated the researcher for the talk.

Time Management Strategies for Distance Learners.

The concept of time, management and time management.

Time: Time is a continuum in which event occur in succession from the past to the present and on to the future. It is that part of existence which is measured in seconds, minutes, hours, days, week, months, years, etc or this process considered as a whole. Time could also mean a particular point of the day, week, month or year that is suitable for a particular activity or at which something is expected to happen – work, study, examination, sleep, holiday, recreation, visitation, church, mosque, school, etc.

Management: This means the control and organisation of something. To manage therefore is to be responsible for controlling or organising something.

Time management: This refers to a range of skills, tools and techniques used to manage time when accomplishing specific tasks, projects and goals. This encompasses a wide scope of activities which include planning, allocating, setting goals, delegation, analysis of time spent, monitoring, organizing, scheduling, prioritizing, etc. It does not just refer to business or work system but personal activities as well. Time management is not about managing the clock a question of managing the clock but of managing ourselves in respect of clock. In other words, we should manage events in our lives in relation to time. Time management gives us a chance to decide how to spend available resources, allows us to get the most of the least and helps us organize and learn how to spend our time. Time management is possible.

Facts about time

1. It cannot be stopped – no time out in life. Time flies, time and tide waits for no man all suggest that time passes very and surprisingly quickly without stoppage.
2. It cannot be stored unlike money, food and material things.
3. It cannot be stretched- 24 hours available to all irrespective of age, colour, race, status etc.
4. Work tends to expand and fill the time available.
5. It must be wisely spent.

6. If you don't control your time, others will control it for you.

Time management strategies

1. Pray for wisdom.
2. Set your realistic goals/ objectives in clear terms. You must know your purpose in life, where you are going (or any road will get you there). Your actions must be focused, relevant and result-oriented.
3. Know how you spend your time: Keep a time log of how you spend your time for a week or two, and then evaluate the result. Ask if you did all that was needed; which tasks require most time; what time of the day you are more productive and analyse where most time is devoted – job, family, personal, recreation, visitation, studies, etc?
4. Make a-to-do list. Daily, weekly, etc. This should take care of all your activities. Try to assess your progress daily. Get a big picture of your task each semester- work, facilitation, study circle, group discussion, TMA, Seminar, Exam, Project, Practicum, Clinical Attachment, Farm Practice etc. Have a time table. Make sure you don't just study/read anything that comes your way. Study a specific course at a specific scheduled time.
5. Prioritize your tasks: Managing time effectively requires distinguishing between what is important and what is urgent (Mackenzie 1990). Covey, Merril and Merril (1994) categorized our activities into four quadrant in their time management matrix – urgent, not urgent, important and not important. For activities that are urgent and important, do it personally; tasks that are not urgent but important, get an end date and do personally; tasks that are urgent but not important, delegate; while tasks that are not urgent and not important should be deleted. Former US President, Dwight D. Eisenhower was said to have used this method. "What is important is seldom urgent and what is urgent is seldom important". We should always try to spend less time on tasks that are not important regardless of their urgency in order to gain time to focus on activities that are important. Endeavour to make to-do-list as this will allow you to say no to activities that are interesting but do not fit into your basic priorities.
6. Use planning tools: such as diaries, calendar, electronic planners, wall chart, index, notebook, computer programmemes etc.
7. Get Organised: Disorganization results in poor time management. Don't attempt to do or act on just everything that comes your way. Five ways/options to handle information are:

- Act on it yourself, then throw it away or file it.

- Delegate it, i.e. give to someone else to do or file'
- Throw it away, delete or get rid of it.
- File it temporarily until it needs action or until additional information is received.
- File it permanently where you can easily find it later.

8. Schedule your time: This involves making time to do a time commitment to do things you want to do. This requires deep self-knowledge. For instance, you must know when you are at your best at performing some tasks (e.g. class time, eating, exercise, recreation/relaxation, studying (at school or home), work, family time, social time, devotion/prayer etc). Do the most challenging tasks when you have the most energy. Don't interrupt your time for high priority tasks.
9. Delegate: Assign responsibilities for a task to someone else to create time for you for activities that more important. This may involve paying someone else to do some tasks for you, e.g. cleaning, laundry, school runs, cooking, and other tasks that can be delegated.
10. Avoid Procrastination: Procrastination is a thief of time. It means putting off what one can do now till later, postponing decisions, not starting or finishing tasks. This usually results to not meeting up with deadline, not doing a good job and at times not doing what should be done at all.
11. Avoid Multitasking: Studies have shown that multitasking does not save time but rather makes one to lose time and be less productive. Multitasking may lead to difficulty in concentrating and maintaining focus when needed.
12. Say no to time wasters. Such include the following:

- Too much sleep, if you sleep for 8 hrs per day, by the time you are 60yrs you must have slept for 20yrs. Imagine what I would be if you sleep for 10hrs or more per day'
- Watching too much television/movies
- Unplanned outing.
- Talking too long with a friend.
- Unnecessary or chronic visitation
- Spending too much time on phone.
- Spending too much time on non- essential activities etc.

13. Stay healthy. Eat balanced diet for you are what you eat. Relax to rejuvenate physically and mentally. Exercise regularly. Frequent illness, moodiness and fatigue are closely associated with poor time management.

Useful hints on time management

a. Study difficult and boring courses first using your best time of the day as permitted by your schedule.

b. In every activity, ask yourself "Why am I doing this? Is it getting me closer to my objectives?

c. Force yourself to make decisions. Set deadlines for decision if more time is needed.

d. Learn to say "no" to others and yourself. Don't get involved in activities you don't have time for.

e. Maintain good filing system. This will save a lot of time in looking for misplaced items.

f. Use your time twice. You can read your course material while travelling.

g. Be *FLEXIBLE*. Don't be too rigid to make changes or adjustment to your plans or schedules when need arises.

Note: Good time managers

- are more productive
- have more energy for things they need to accomplish
- feel less stressed
- are able to do things they want
- get more things done
- relate more positively with others
- feel better about themselves.

Assignment

- As a take home assignment, participants will be asked to draw personal time management strategies.

Closing remarks

The researcher commended the participants for their contributions during the session. They were told that the next session would take place in eight weeks' time at the same venue and that they would be reminded via text messages or chats on whatsapp.

Session 2

Topic – Administration of post-test instrument at the 8th week.

Objective: Administration of post-test instrument.

Activity: The post-test instrument will be administered after which the researcher encouraged the participants to seek any assistance concerning their learning from the researcher whenever they need such.

Closing remark

- The researcher commended the participants for being part of the study.

APPENDIX II

UNIVERSITY OF IBADAN

FACULTY OF EDUCATION

GUIDANCE AND COUNSELLING DEPARTMENT

Dear respondent,

This questionnaire is designed to elicit information oncomputer anxiety among NOUN freshmen in South-West, Nigeria. You are implored to fill the questionnaire with sincerity and faithfulness. Your responses will be used for research purpose only and high level of confidentiality is guaranteed.

SECTION A (PERSONAL DATA)

Please tick (√) the appropriate option and fill in the gap where necessary.

1. Age: ( )
2. Sex: Male ( ), Female ( )
3. Religion: Christianity ( ), Islam ( ), Traditional ( )
4. Educational Qualifications: O'Level ( ), ND/HND ( ), Degree ( ), Others Specify ( )
5. Job Tenure: Below 10 Years ( ) Above 11 Years ( )
6. Matric No…… Phone No……
7. Faculty:: Science and Technology( ), Arts and Social Science ( ), Management Science ( ) Law ( ) Health Sciences ( ) Agriculture ( ) Education ( )

SECTION B (COMPUTER ANXIETY)

INSTRUCTION: Please tick (√) in the appropriate column.

S/N	ITEM	SA	A	UD	DA	SD
1	Computers do not scare me at all.					
2	I do not feel threatened when others talk about computer.					
3	I get a sinking feeling when trying to use computer.					
4	I would feel comfortable working with computer.					
5	I think using a computer would be very hard for me.					
6	I am not the type to do well with computer.					
7	I have a lot of self-confidence when it comes to working with computers.					

8	I am good with computers.					
9	Generally, I would feel okay about trying a new problem on the computer.					
10	I would like working with computers.					
11	The challenge of solving problems with computers does not appeal to me.					
12	I think working with computers would be enjoyable and stimulating.					
13	Figuring out computer problems does not appeal to me.					
14	I do not understand how some people can spend so much time working with computers and seem to enjoy it.					
15	Once I start to work on computer, I find it hard to stop.					
16	I will do as little with computer as possible.					
17	I do not enjoy talking with others about computers.					
18	It would not bother me at all not to take a computer course.					
19	I would feel at ease in a computer class.					
20	I am sure that I could work with computers.					
21	I am sure that I can learn computer language.					
22	I could get good grades in a computer class.					
23	I do not think I could handle a computer course.					

UNIVERSITY OF IBADAN

FACULTY OF EDUCATION

GUIDANCE AND COUNSELLING DEPARTMENT

Dear respondent,

This questionnaire is designed to elicit information oneffects of computer efficacy training and Cognitive behaviour therapy in the management of Computer anxiety among distance learning freshmen in South-West, Nigeria. You are implored to fill the questionnaire with sincerity and faithfulness. Your responses will be used for research purpose only and high level of confidentiality is guaranteed.

SECTION A (PERSONAL DATA)

Please tick (√) the appropriate option and fill in the gap where necessary.

1. Age: ( )
2. Sex: Male ( ), Female ( )
3. Religion: Christianity ( ), Islam ( ), Traditional ( )
4. Educational Qualifications: O'Level ( ), ND/HND ( ), Degree ( ),Others Specify ( )
5. Job Tenure: Below 10 Years ( ) Above 11 Years ( )
6. Faculty: Science and Technology( ), Arts and Social Science ( ), Management Science ( ) Law ( ) Health Sciences ( ) Agriculture ( ) Education ( )

SECTION B

INSTRUCTION: Please tick (√) in the appropriate column

NOTE: SA Strongly Agree (4),A means Agree (3), D means Disagree (2), and SD means Strongly Disagree (1)

S/N	ITEMS	SA	A	UD	D	SD
1.	I feel insecure about my ability to interpret a computer printout					
2.	I look forward to using a computer on my job					
3.	I do not think I would be able to learn a computer programmeming language					
4.	The challenge of learning about computers is exciting					
5.	I am confident that I can learn computer skills					
6.	Anyone can learn to use a computer if they are patient and					

	motivated					
7.	Learning to operate computers is like learning any new skill, the more you practice, the better you become					
8.	I am afraid that if I begin to use computer more, I will become more dependent upon them and lose some of my reasoning skills					
9.	I am sure that with time and practice I will be as comfortable working with computers as I am in working by hand					
10.	I feel that I will be able to keep up with the advances happening in the computer field					
11.	I would dislike working with machines that are smarter than I am					
12.	I feel apprehensive about using computers					
13.	I have difficulty in understanding the technical aspects of computers					
14.	It scares me to think that I could cause the computer to destroy a large amount of information by hitting the wrong key					
15.	I hesitate to use a computer for fear of making mistakes that I cannot correct					
16.	You have to be a genius to understand all the special keys contained on most computer terminals					
17.	If given the opportunity, I would like to learn more about and use computers more					
18.	I have avoided computers because they are unfamiliar and somewhat intimidating to me					
19.	I feel computers are necessary tools in both educational and work settings					

APPENDIX III


CERTIFICATE OF PARTICIPATION