

**EFFECT OF TRAINING IN FUNCTIONAL  
BEHAVIOUR ANALYSIS ON SELF EFFICACY  
TOWARDS MANAGING STUDENTS'  
CHALLENGING BEHAVIOR AMONG SPECIAL  
EDUCATION NEEDS TEACHERS**

**BY**

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**i**

## DECLARATION

I declare that this research was carried out by me and was submitted to the Center for Child and Adolescent Mental Health of the University of Ibadan. No part of this thesis has been previously presented or published anywhere else.

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## **DEDICATION**

This project is dedicated to the Glory of Almighty God, the Master of the universe; the thanks and praise of My Lord Jesus Christ, the Greatest Advocate for Children and the less privileged persons; and all teachers in Osun State and beyond, who have to overcome the challenges of poor/irregular remunerations and perpetual lack of teaching aids and incentives while struggling to build the leaders of tomorrow.

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The journey which began about 18 months ago indeed started way back in the year 2009 with a dream and the conviction that I am meant to be a child and adolescent mental health professional. The dream conceived by me was nurtured by many. I wish to attempt to mention as many of these persons in no particular order as I consider all their contributions towards my growth and development in the field of CAMH to be the little drops of water that has made this ocean to flow ceaselessly.

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## KEY TO ABBREVIATIONS/ ACRONYMS

<b>CB</b>	Challenging Behavior
<b>FBA</b>	Functional Behaviour Analysis
<b>MBI</b>	Maslach Burnout Inventory
<b>PRO QOL</b>	Professional Quality of Life
<b>PQOLS</b>	Professional Quality of Life Scale
<b>SD</b>	Standard Deviation
<b>SE</b>	Self-efficacy
<b>TSES</b>	Teachers' Self Efficacy Scale

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## ABSTRACTS

Functional Behavioural Analysis is an empirically proven investigatory procedure for the determination of the purpose of behaviours. It has been useful in the management of challenging behaviours more importantly among students with special educational needs. This evidence has been growing worldwide but is still limited in Nigeria. Special education teachers who are at the forefront of educating children who have special educational needs tend to regularly encounter children with challenging behaviours. These teachers need all the support and professional enhancement that will help them to deliver more efficiently on their occupational goals. Special education teachers in Osun State have not previously been exposed to Functional Behavioural Analysis (FBA). The aim of this study is to evaluate the effect of FBA training on the self-efficacy of special education teachers towards managing student challenging behaviour (CB).

The study was a quasi-experimental study with an intervention group (N = 20) and control group (N = 20) which were based in two separate schools. The intervention and control groups each had 10 qualified teachers and 10 student-teachers. Participants completed a questionnaire packet which included a semi-structured socio-demographic questionnaire, a knowledge and practice of FBA and CB questionnaire, The Teacher Sense of Efficacy Scale (TSES), the Maslach Burnout Inventory (MBI) and the teachers Professional Quality of Life Scale (PQOLS) for the pre-intervention assessment. This was followed by delivery of the training on FBA for the intervention group. The training was delivered in two sessions each lasting for about 2 hours over a period of two weeks. Follow up support for the teachers were also done over a period of two weeks. Hence, post-intervention assessment was done at 4 weeks after the pre-intervention assessment.

The data was analyzed using appropriate descriptive and inferential statistics. Analysis of baseline socio-demographic, knowledge and experience of CB and FBA parameters revealed no

statistically significant difference between the intervention group and the control group (1.00/0.607). Also a comparison of the level of total efficacy, total burnout and total quality of life revealed no differences across the two groups prior to the intervention. There were no statistically significant differences in overall self-efficacy (total TSES score) and the subscale scores which include Student engagement, Instructional Materials, and Classroom Management across the two groups of qualified teachers (p value= 0.315, 0.310, 0.841 and 0.085 respectively). Post intervention, the total self-efficacy was higher among the intervention group (M=156.00; SD=33.58) than the control group (M=131.11; SD=33.59) with a p value of 0.033. Similarly the efficacy on student engagement and the efficacy on classroom management were also significantly higher among the participants in the intervention group when compared to the control group (P= 0.025 and 0.024 respectively). The total burnout experience was higher among the control group (M=65.00; SD=13.53) than the intervention group (M=49.70; SD=13.14) with a p value of 0.023. there was an increase in mean self-efficacy of the Intervention group (Pre-intervention -M=125.33; SD=26.40 and Post-Intervention M=156.44; SD=30.36) with a small effect size (Partial Eta<sup>2</sup>=0.49). Also, there was a significant increase in the efficacy in student engagement after the intervention (Pre-intervention -M=43.00; SD=10.27 and Post-Intervention M=52.44; SD=9.58) with a medium effect size (Partial Eta<sup>2</sup>=0.56). The efficacy in classroom management among the intervention group also increased significantly (Pre-intervention -M=39.44; SD=8.66 and Post-Intervention M=50.33; SD=10.97) with a large effect size (Partial Eta<sup>2</sup>=0.99).

Analysis of covariance affirmed there was a significant difference between the intervention group and the control group on the post-intervention scores on the TSES [F (1,18)=8.95, p=0.009, partial eta squared=0.36]. Also, there was a significant difference between the intervention group



and the control group on the post-intervention scores on the PQOLS [ $F(1,17)=9.82, p=0.006$ , partial eta squared=0.380]. Satisfaction with the training was high with 95.5% of them expressing that they were mostly/very satisfied with the training and with all of them expressed desire for further training. Level of significance was set at 0.05.

The study showed that the FBA based training had a significantly positive impact on the self-efficacy of primary school teachers in schools for children with special needs in Osun state. The training also has a potential for reducing the burnout experience of these teachers and improving their quality of life. It is recommended that the study is replicated with a larger sample and if confirmed to be effective should be extended to all staff working within the special educational schools in the state of Osun and areas with similar profiles.

**Keywords:** Functional Behavioural Analysis, Challenging Behaviours, Self-efficacy, Burnout, Special Education, Teachers, Primary School

## CHAPTER ONE

### INTRODUCTION

#### 1.1 BACKGROUND TO THE STUDY

Special education is the educational instruction designed to meet the unique needs of individuals who have peculiar educational requirements due to specific abilities, disabilities or limitations. Specifically, children with disabilities or functional impairments require special educational provisions which are targeted towards addressing their individual limitations. Aside from the parents of these children, special education teachers are at the forefront of helping these children to develop holistically. These special education teachers during the discharge of their duties have to maintain a stable mental relationship with their students to ensure that their wellbeing is guaranteed (Spilt et al., 2011).

Poor wellbeing due to teachers' problematic relationships with their students could present with emotional exhaustion; feelings of being psychologically drained and depleted in the teachers. Another outcome could be depersonalization which entails development of a cynical and negative attitude toward work and students (Postareff et al., 2007). This can lead to distancing or uncaring reactions toward others. These are the main components of burnout (Schaufeli, 2003). Low self-efficacy has also been found to be one of the reported outcomes of teachers' working in stressful environments (Arvidsson et al., 2016). Improving the wellbeing of teachers and enhancing their ability to effectively adapt to situations by overcoming challenges that might impede their

ability to efficiently deliver on their responsibilities will go a long way to positively impact their lives and outcomes on the children (Sarıçam and Sakız, 2014).

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Self-efficacy is “*belief in one’s capabilities to organize and execute the courses of action required to produce given attainments*” (Bandura, 1977). While teachers’ self-efficacy can be described as the teachers’ belief in their capabilities to bring about desirable changes in their students’ behaviours and achievement (Gibson and Dembo, 1984). Studies have shown that teacher self-efficacy can have significant impact on outcome measures of teachers’ ability like persistence, enthusiasm, commitment and instructional behavior (Tschannen-Moran and Hoy, 2001). These can also be related to student outcomes such as achievement, motivation, and self-efficacy beliefs (Tschannen-Moran and Hoy, 2001, Pfitzner-Eden, 2016). Low self-efficacy among teachers has been linked to increase in staff vulnerability especially among those teachers who work with people who have challenging behaviours (Hastings and Brown, 2002).

Challenging behaviours are “culturally abnormal behaviour(s) of such intensity, frequency or duration that the physical safety of the person or others is placed in serious jeopardy, or behaviour which is likely to seriously limit or deny access to the use of ordinary community facilities” (Emerson and Bromley, 1995a). Examples of these behaviours include, temper tantrums, shouting, self-injurious behaviour, uncooperativeness and property damage among others. These types of behaviours are quite common among children with special education needs (Chung et al., 1996, Poppes et al., 2010). The negative impact of these challenging behaviours on special needs teachers has also been documented (Male, 2003, Male and May, 1997a, Male and May, 1997b). Teachers have also been shown to preferentially engage in teaching activities with non-problem children more often than with problem children and also when they work with problem children the scope of their instruction was found to be limited to tasks associated with lower rates of behaviour problems (Carr et al., 1991). This eventually leads to

negative outcomes for children who exhibit challenging behaviours. It has also been documented that there are reliable strategies for managing challenging behaviours in children with learning disabilities (Pilling et al., 2015). The effect of these management strategies have been shown to include the improvement of measures related to the wellbeing of teachers. One of the effective strategies for managing challenging behaviours is Functional Behavioural Analysis (FBA).

This FBA is an investigatory procedure derived from applied behavioural analysis that provides a process for the determination of the purpose or reasons for behaviours displayed by individuals with cognitive or communication disabilities. Evidence of the basis for applying FBA as an intervention towards reducing the impact of challenging behaviours is gradually growing. A recent study in Nigeria (Bello-Mojeed et al., 2016) described parent-mediated behavioural intervention based on FBA as a feasible and promising intervention for autistic children who have challenging behaviours. This investigatory procedure provides the basis for interventions instituted for persons with challenging behaviours more so those with intellectual disabilities. Various studies have shown the beneficial effects of FBA on students (March and Horner, 2002) and their teachers (Deanne et al, 2015). In spite of evidence showing the effectiveness of strategies for managing challenging behaviours, the knowledge and the application of these strategies are still not widespread, especially in low and middle income countries. Even in high income countries, teachers still have misconceptions about the causes and the basic principles of behaviour with their knowledge and experience on management modalities found to be limited (Male, 2003).

Therefore, it has become imperative that special education needs teachers are given training and continuous post training support on the management of challenging behaviours towards improving the outcomes for children who have special education needs, and the

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teachers' own sense of efficacy and well-being. Implementing evidence based strategies for enhancing the skills of special education needs teachers will go a long way to validate the benefits of these strategies further among populations who has previously not benefitted from such interventions.

## **1.2 PROBLEM STATEMENT**

Challenging behaviours are quite common among children within the special education setting with prevalence ranging between 10% and 40% (Bakare et al., 2010, Emerson et al., 2001). Special education teachers need to be well equipped to manage the challenging behaviour of their students. A preliminary survey shows that special education teachers in the special schools in the state of Osun have had little exposure to modalities for managing challenging behaviours. Specifically, functional behavioural analysis which is an effective investigatory procedure towards managing student challenging behaviour has received little or no attention among this population.

## **1.3 JUSTIFICATION AND RELEVANCE OF THE STUDY**

Research into the effectiveness of FBA in management of challenging behaviours is still limited in Nigeria (Bello-Mojeed et al., 2016). There is little or no evidence that the teachers who work with children who have special educational needs within formal educational settings in Osun State have been previously exposed to FBA. Training them on the use of FBA could go a long way to enhance their ability to manage challenging behaviours in children with special education needs. This could also provide an empirical basis for the integration of FBA based intervention into the educational system in Nigeria as is the case in other parts of the world.

**1.3 AIM:** The aim of this study was to determine the effect of a FBA training on the self-efficacy of teachers working in special schools in Osun State for children with special educational needs.

**1.4 SPECIFIC OBJECTIVES:**

The Specific objectives of this study were:

1. To evaluate the effect of FBA Training on the self-efficacy of special education teachers in Osun State.
2. To determine the effect of FBA training on special education teachers' experience of Burnout .
3. To determine the effect of FBA training on the Professional Quality of Life of special education teachers in Osun State

**1.5 NULL HYPOTHESIS**

There will be no difference in the post-intervention outcome measures (Self-efficacy, Experience of burnout and Professional Quality of Life) between teachers who receive the training on FBA (intervention group) and the teachers who do not receive the training on FBA (control groups).



## **1.6 PRIMARY OUTCOME MEASURE**

Increase in self-efficacy of study participants

## **1.7 SECONDARY OUTCOME MEASURE**

Experience of Teacher Burnout

Professional Quality of Life

Knowledge of Functional Behavioural Analysis

Client satisfaction

**(1410 words)**

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## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 FUNCTIONAL BEHAVIOURAL ANALYSIS

##### 2.1.1 Definition

According to Iwata et. al (2000), Functional Behavioural Analysis (FBA) is a precise method for the identification of the functions of behaviours. It is characterized by objective measures of emerging behaviour taken under multiple test and control conditions which involve the identification of the functional relationship between antecedent and consequent events (Iwata et al., 2000). FBA involves systematic manipulation of these antecedent and consequent events to identify factors that maintain the undesired behaviour (Bloom et al., 2011). Identification of the role of the undesired behaviour eventually leads to the development of individualized modalities for modifying the behaviours towards desirable alternatives or outright extinction or differential reinforcement of problem behaviour (Iwata et al., 1994).

The development of FBA has transformed the treatment process for self-injurious behaviour and other problem behaviours (Davis et al., 2012). It has also enabled clinicians and researchers to minimize trial and error approaches by being able to predict specific interventions that were more likely to be effective in addressing problem behaviours (Iwata et al., 1994). The process of FBA and its outcomes have been found to be acceptable to both teachers and parents of persons with problem behaviour with majority of participants of a study reporting that FBA is an acceptable means of assessing the function of problem behaviour, does not cause undue discomfort to the child, and one that is effective in identifying the function served by the child's behaviour (Langthorne and McGill, 2011).

### **2.1.2 Theoretical basis of FBA**

The theoretical basis for the application of FBA was derived from operant conditioning (Iwata et al., 1994, Schlinger and Normand, 2013). Operant conditioning according to Skinner is a process of changing behaviours in response to the consequences of previous patterns of behaviour. The process of conditioning the subject entails the introduction of consequences which includes; reinforcers, punishments and rewards (Staddon and Cerutti, 2003). The individual learns over time to adopt the desired behaviour and to avoid the undesired behaviour in order to get the benefits of the desired consequences or avoid the untoward effects of the undesired consequences. In FBA, behaviours are analyzed in the context of the purpose of the behaviour or the expected consequence that predicts the likelihood of a repeat or reoccurrence of the behaviour (Roscoe et al., 2015). In line with operant conditioning, clinicians or other functional analysts determine the environmental triggers of problem behaviour after which they develop effective reinforcement-based interventions which involves the manipulation of commonly occurring antecedents (e.g., academic demands) and consequences (e.g., reprimands) (Schlichenmeyer et al., 2013).

### **2.1.3 The process of FBA**

According to Baer et al (1968), all research on FBA of behaviour borders on the disposition of the society to the problem being studied. The behaviour is identified and observed in its context, based on the perceived import of the behaviour towards the individual and others within the context of what is ideal in that society (Iwata et al., 1994). The existing relationship between the behaviour being studied and the subject in whom the behaviour is being studied is then described in the light of how important the observed behaviour is to the subject at the point of exhibiting the behaviour (Baer et al., 1968).

In an epidemiological study of behavioural functions of self-injurious behaviour, Iwata *et al.* described change processes in behaviour in ongoing treatment programs (Iwata et al., 1994). They described three categories of potential sources of reinforcement which can be used to understand challenging behaviour and appropriately condition the behaviour towards more acceptable alternatives. These include social-positive reinforcement, social-negative reinforcement and automatic reinforcement.

**Social-positive reinforcement:** Individuals who exhibit self-injurious behaviours were found to respond to social interaction cues around them. These cues include, receiving attention from the therapists, being given food by the therapist or being given access to leisure materials. Non-contingent attentions (or other cues) were found to effectively reduce self-injurious behaviour.

**Social-negative reinforcement:** When the individuals exhibit challenging behaviours in response to academics, task demands or work given to them, provision for escape or time outs were found to be effective in the reduction of self-injurious behaviour. Non-contingent negative reinforcements may involve the removal of task demands or other aversive stimuli. Others include reduced frequency of tasks presented or continuous access to alternate stimuli.

**Automatic reinforcement:** Challenging behaviour is produced directly independent of social environment. Reinforcements are carried out by introducing alternative objects to the subject outside the influence of the social environment.

#### 2.1.4 Application of FBA

The term FBA refers to the manipulation of environmental events under experimental conditions with systematic observations of behaviour (Horner, 1994). Towards being able to properly describe the observed behaviour, the observed characteristics have to be described in three phases, the observed behaviour, antecedent events and the consequences (Carr and Durand, 1985). These three events sequentially occur from the Antecedent to the Behavior and the Consequence (Grodén, 1989). These are all described with the acronym ABC.

For a detailed analysis of the ABC, the first step is to determine motivating event that precede the behaviour. This is known as establishing operations. The process of establishing operations has been described as environmental events, operations, or stimulus conditions that affect an organism's behaviour by altering the conditioning (reinforcing or punishing) effectiveness of other environmental events and (b) the frequency of occurrence of that part of the organism's repertoire relevant to those events as consequences (Michael, 2000, Michael, 1982). This concept has provided behavioural analysts with an approach for describing the variables that influence the effect of operant controlling variables (Laraway et al., 2003).

In chronological order, the approach towards applying FBA in clinical practices begins from the (a) training of the analyst, proceeds to (b) documentation of past or potential risks of the behaviour, informed consent, and modifications in assessment procedures; then (c) selection of appropriate cases for analysis; (d) data collection and interpretation.

- (a) Training of the analyst: For the analyst to be able to consistently follow the sequence of interactions that are prescribed for specific intervention requires requisite training and practice. Studies have shown that besides trained behavioural analysts, workshop

attendants, undergraduate students; teachers in training (Wallace et al., 2004), practicing teachers (Moore et al., 2002) can all be trained to efficiently execute FBA with a high degree of consistency. The training for teachers can be long and intensive as was done by Grey et. al (2005) for a period of 7 months. It involved classroom instructions and supervision. The training resulted in significant benefit for the teachers, students and the school environment (Grey et al., 2005). It can also be brief interventions as shown by Moore et al who taught 3 elementary teachers to efficiently deliver functional analysis to their students.

- (b) Documentation of past or potential risks of the behaviour: The analyst needs to gather information from all sources about the target behaviour and determine the potential risks involved. The risks has to be assessed with considerations of the dangerousness of the behaviour to the client and other significant others in his life. According to Iwata and Dozier, (Iwata and Dozier, 2008) there are attached ethical issues which necessitate the need for taking informed consent. Poorly documented risk could lead to the exhibition of behaviour outside the context of the possible behaviours the analyst has made provisions for with regards to the safety of the subject.
- (c) Selection of cases for analysis: Typically, no two scenarios for challenging behaviour are identical with regards to the confounding factor, the response of the subject and potential modifiers. Hence every case will undergo modifications as assessment progresses. Hence Iwata and Dozier (2008) recommended that selecting a case for which there is a strong suspicion that problem behaviour is maintained by a particular social consequence as much as possible is the first step. The analyst then follows this up by exposing the subject to the consequences to

determine if the outcomes are positive or negative. This can help to develop a hypothesis for interventions for the behaviour type.

(d) Data collection and interpretation: Collection of data can be by direct observation of the therapist or analyst with traditional paper and pencil documentation. Sessions can also be recorded by video tape recorders, which can be later reviewed by the analyst. The interpretation of the data is subjective but guidelines are available to ensure validity of the results obtained. Computer soft-wares have also been developed to improve the ease of the collection and interpretation of observational data in behavioural analysis (Kahng and Iwata, 1998).

### **2.1.5 Limitations of FBA**

#### **Risks from potentially dangerous behaviour**

The subject in FBA may have to be exposed to conditions that may occasion problem behaviour, thereby posing additional risk (Bloom et al., 2011, Iwata and Dozier, 2008). This raises the issue of whether the benefits from the intervention will indeed outweigh the risk it poses to the subject. Proposed approach towards resolving this include conducting a FBA to determine less severe precursor behaviours that reliably precede the target behaviour. Interfering with these have been found to also be as effective as interfering with the target behaviour itself towards reducing the frequency of the undesired behaviour and increasing the desired one (Herscovitch, Roscoe, Libby, Bourret, & Ahearn, 2009; Najdowski, Wallace, Ellsworth, MacAleese, & Cleveland, 2008; Smith & Churchill, 2002).

#### **Limited time for assessment**

The timing of procedures vis-à-vis duration of sessions and frequency of sessions (Bloom et al., 2011) could also be a limitation.. Most researchers had previously recognized several 10-15 minutes sessions, which seems practically impossible in most clinical settings. This was initially resolved by the development of abbreviated procedures most importantly the brief FBA which takes a duration of about 5 minutes for each session. Another alternative is to limit the occurrence of target behaviour to one per session by maximizing the information obtained from the episodes focusing on the latency between episodes rather than the frequency of the episodes (Thomason-Sassi, Iwata, Neidert, & Roscoe, 2011).

### **Limited control over environmental conditions**

All FBA reported in research are implemented within controlled environments needed to isolate the effects of independent variables. These specialized environmental conditions may be unavailable in some service settings (Ervin et al., 2001; Sterling-Turner, Robinson, & Wilczynski, 2001) and may also present variability which can affect the reliability of the assessment process. This raises the question of whether functional analyses can be conducted under naturalistic conditions. McCord, Thompson, and Iwata (2001) conducted a series of transition trials (probes) throughout the day in settings commonly occupied by two subjects who engaged in self-injurious behaviour (SIB) and examined the percentage of trials in which SIB occurred as a function of different types of transitions. Similar extensions of FBA methodology were described by Wacker, Berg, Derby, Asmus, and Healey (1998), who conducted the analyses in subjects' homes by coaching the parents to implement assessment conditions with their children. They reported no loss of precision in the delivery of the FBA. This suggests that appropriately modifying the environmental conditions will go a long way towards controlling the influence of confounding factors.



## **2.2 Challenging Behaviors**

### **2.2.1 Definition of challenging behaviour**

According to the Royal College of Psychiatrists, challenging behaviours can be defined as “behaviour of such an intensity, frequency, or duration as to threaten the quality of life and/or the physical safety of the individual or others and is likely to lead to responses that are restrictive, aversive, or result in exclusion”. Another widely used definition described challenging behaviour as “culturally abnormal behaviour(s) of such intensity, frequency or duration that the physical safety of the person or others is placed in serious jeopardy, or behaviour which is likely to seriously limit or deny access to the use of ordinary community facilities” (Emerson and Bromley, 1995b).

Both definitions highlight the potential impact of challenging behaviours on the wellbeing of the individual and others while also summarizing the outcomes of challenging behaviours with regards to the response of others to the challenging behaviours towards preventing the adverse effects of challenging behaviours. The definition by Buck and Ambrosino was more descriptive of the different types of behaviours the child may exhibit which includes, biting of self and others, aggressiveness and other non- aggressive behaviours which include over activity, impulsivity and non-compliant behaviour (Buck and Ambrosino, 2004).

### **2.2.2 Prevalence of challenging behaviours**

Varying incident rates and prevalence of challenging behaviours have been reported by different researchers across different populations of students. In Britain, Emerson *et al.* (Emerson *et al.*, 2001) reported that 10-15% of people with learning disability in contact with educational, health or social care services for people with learning disabilities had challenging behaviours.

Aggression was found in 7% of them, 4-5% exhibited destructive behaviours while 4% exhibited self-injurious behaviours. About 9-12% exhibited other forms of challenging behaviours. In the study, it was reported that prevalence of challenging behaviours was higher among individuals with higher severity of their learning disabilities and those on in patient care. Another study (Lowe et al., 2007) reported a prevalence of 10% (5.5-16.8%). In Norway, another study (Holden and Gitlesen, 2006) that explored the prevalence of challenging behaviours among a sample of 900 individuals with intellectual disability reported a prevalence of 11%. Much higher prevalence rates have been found among older populations of adults who have learning disabilities and are living within the community. Grey *et al.*, reported a prevalence rate of 45% among a sample of 159 adults with mild to moderate learning disability (Grey et al., 2010). Studies in sub-Saharan Africa have looked at the prevalence of emotional disorders in individuals with learning disabilities. In South Africa, for instance, a school based study (Molteno et al., 2001) reported a 31% prevalence of psychopathology while in Nigeria, another study among children in an educational institution revealed a prevalence rate of 47.7% (Bakare et al., 2010).

### **Risk factors for challenging behaviours**

#### **Age**

Davies and Oliver (Davies and Oliver, 2013) examined age related changes in the prevalence of aggression and self-injurious behaviour in a systematic review. They reported that consistently, aggression across age groups tends to follow a curvilinear pattern of distribution. This connotes that aggression steadily rises with increasing age from childhood and teenage years into young adulthood, which tends to decrease with further increase in age (Tyrer et al., 2006). Self-injurious behaviour has not consistently been shown to follow the same profile

(Smith et al., 1996, Rojahn et al., 1993). Specifically among autistic children some studies

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(Murphy et al., 2009, McTiernan et al., 2011) did not find age to be a risk factor for challenging behaviours.

### **Gender/Sex**

Several studies have reported that the male gender is a risk factor for challenging behaviours across populations of individuals who have learning disabilities. A population study (Emerson et al., 2001) conducted towards exploring the situation and characteristics of individuals who were exhibiting challenging behaviours. They reported that about two thirds of subjects in the sample population selected from two areas in England were men/boys. A meta-analysis of studies that looked at risk factors for challenging behaviours by reviewing a total of 86 studies over a period of 30 years (1973-2003) reported that the males were significantly more likely to exhibit challenging behaviours (McClintock et al., 2003). A recent study (Dworschak et al., 2016) also identified the male gender as one of the putative risk markers that explained 8.4% of the variance concerning challenging behaviour in the study population. The other factors highlighted include intense need for care, communication skills and residential setting. Other researchers have not found any gender differences. For instance, a study done in Norway found no association between gender and challenging behaviour (Holden and Gitlesen, 2006).

### **Severity of Learning Disability**

Various studies have shown that the more severe the learning disability, the higher the likelihood and the severity of challenging behaviours. Among a sample of 70 individuals with learning disability, about 44% showed more than one challenging behaviour with these rising to 79% in persons with much more severe challenging behaviours (Emerson and Bromley, 1995b). McTiernan *et al.*, evaluated determinants of the frequency and severity of challenging behaviours

among a sample of individuals below the age of 18 years who have autism. They found out that the Intelligence Quotient (IQ) of the participants was a significant predictor of the intensity and frequency of challenging behaviours with a lower IQ predicting higher frequencies of challenging behaviour.

## **Psychiatric Symptoms**

Moss.*et al.* reported that the presence of, and the increase in the severity of psychiatric symptoms is associated with an increase in the prevalence of challenging behaviours (Moss et al., 2000). This concurrence of psychiatric symptoms and challenging behaviour among persons with intellectual disabilities has also been reported by other researchers.

### **2.3 Self-efficacy**

#### **2.3.1 Definition of Self-efficacy**

The psychological concept of self-efficacy was theoretically presented by Albert Bandura in 1977 (Bandura, 1977). He presented an integrative framework to explain and to predict psychological changes by different modalities of intervention. His view was that change observed in intervention are mediated by cognitive processes and these processes are induced and altered most readily by experience of mastery arising from effective performance. Self-efficacy is defined as “the belief in one’s capabilities to organize and execute the courses of action required to manage prospective situations”(Bandura, 2010). In this conceptual system, the experience of personal mastery is believed to influence both initiation and persistence of coping behaviour which implies that individuals are more likely to persist in a particular intervention relationship when they have a sense of personal efficacy, or individual ability. Individuals have the potential to self-regulate themselves based on their perception of their efficacy when performing specific tasks.

Raising self-efficacy is seen as a means of helping people to cope with threatening situations (Bandura, 1986b). This has been shown to be influential in the ability of individuals to deliver on professional set goals. For instance, studies have looked at the role of self-efficacy in the functioning of health professionals (Nørgaard et al., 2012), various categories of students, which includes high school students (Ambiel and Noronha, 2016), information technology users (van Dinther et al., 2011) and teachers (van Dinther et al., 2011). According to Bandura, people needed to believe that their actions can bring about the desired outcomes and forestall the undesired one before as their incentive to persist in a role or sustain an action (Bandura, 1986b). All factors that influence the perception that an individual will persist in behaviour are rooted in the core belief that the individual is able to effectively perform. Summarily, self-percepts of efficacy influence thought patterns, actions and emotional arousal with a higher level of induced self-efficacy bringing about a higher performance and a lower emotional arousal state . There is a need to always differentiate between self-efficacy and self-esteem. These two concepts are used to represent the same idea. The literature clearly revealed that self- efficacy and self-esteem are different phenomena. According to Bandura (Bandura, 2010), “perceived self-efficacy is concerned with judgments of personal capability, whereas self- esteem is concerned with judgments of self-worth.” Self-efficacy and self-esteem are ideas that are independent from one another in their levels. Certain individuals may hold a high level of efficacy for a given task while displaying no self-worth for completing the task skillfully. Conversely, another individual may display low levels of self-efficacy regarding a task and not affect their self-esteem in any form.

### **2.3.2 Theories of self-efficacy**

#### **Social cognitive theory and self-efficacy**

Self-efficacy is one of the theoretical components of social cognitive theory. According to Bandura's social cognitive theory, when people observe a model performing a behaviour, and the consequences of the observed behaviour, they are able to remember the process and use the information to guide their own subsequent behaviours (Bandura, 1986b). Social cognitive theory states that the likelihood that an individual will change a pattern of behaviour through his or her experiences is dependent on the impact of quality and the significance of the experience. According to McAlister et al in the book "Health Behavior and Health Education", ways by which self-efficacy can be developed or increased include mastery experience, which is a process that helps an individual achieve simple tasks that could advance into more complex objectives and outcomes.

Therefore, empowering an individual to be more efficient or capable at his or her duty post is expected to improve the self-efficacy of such an individual. Other ways by which self-efficacy can be increased are by improving the physical and the emotional state of the individual. This could entail providing information on how to cope with the prescribed job situation. Also verbal persuasion can be utilized to encourage the individual to persist in the task that is at hand. Self-efficacy is highly predictive of behaviour especially in situations that have potential health related outcomes (Hoffman, 2013). For instance, if a professional e.g. a teacher is trained on how to be able to better cope with the teaching experience, there is a likelihood that the self-efficacy of the teacher will improve. Better self-efficacy with better teaching experience will invariably translate into a better teacher-student relationship. Similarly giving emotional and psychological

support for the same group of teachers with associated verbal persuasion can go a long way to also improve their self-efficacy and their capability to fulfill their roles.

### **2.3.3 Teacher self-efficacy**

Teacher efficacy can be defined as “teachers’ beliefs in their abilities to organize and execute courses of action necessary to bring about desired results (Tschannen-Moran and Hoy, 2001). It depends upon the judgment of the teacher’s capabilities to bring about desired outcomes of student engagement and learning even among students who may be difficult or unmotivated (Tschannen-Moran and Hoy, 2001). Research exploring teacher self-efficacy and its correlates has been steadily increasing over the last decade. It is now widely accepted to be an important motivational construct that is positively related to a variety of outcomes for both the teachers and their students (Scherer et al., 2016). It is an important correlate of teachers’ wellbeing, job satisfaction and instructional behaviour (Tschannen-Moran and Hoy, 2001, Skaalvik and Skaalvik, 2010, Caprara et al., 2006).

Teachers who have a high self-efficacy have a strong belief in their capability to make a difference in the lives of their students and are more likely to be considered to be more competent than those who have a low self-efficacy (Trentham et al., 1985). Also teachers with a high self-efficacy are also better equipped to motivate low achieving students with better outcomes than teachers with low self-efficacy while teacher efficacy beliefs have been shown to have a direct effect on their perceived success in instructing mainstreamed special education students (Brownell and Pajares, 1999).



### **2.3.3.1 Research into Self-efficacy of different group of teachers**

#### **Developing Teacher self-efficacy**

Teacher self-efficacy can be developed over a wide range of methods. In the United States of America the self-efficacy of a sample of pre-service teachers were examined (Thomas and Mucherah, 2016). The study found that an immersive and supportive environment will go a long way to promote teacher self-efficacy even from the period of their training. Another study among student teachers undergoing their student teaching experience also demonstrated an increase in their self-efficacy after their teaching experience (Knoblauch and Woolfolk Hoy, 2008). This study compared their self-esteem across the setting of teaching practice. They found that those who had their teaching practice in urban settings had a significantly lower level of perceived collective self-efficacy compared to their counterparts who had their own experience in rural and suburban settings.

Another study compared self-efficacy and job stress across two groups of teachers; teachers in training and practicing teachers (Klassen and Chiu, 2011). They found that there were similar interactions between self-efficacy/job stress and occupational commitment/quitting intention. They however reported that pre-service teachers had significantly higher levels of commitment and lesser stress. These studies suggest that teacher self-efficacy is a concept that begins even during the training of teachers and persists as the teachers continually gain experience in their profession.

Other studies have found that in-service training or other professional development programs also increase teacher self-efficacy. Ross and Bruce (2007) conducted a randomized field trial of the effect of a professional development program on teacher self-efficacy among a

sample of mathematics teachers. They reported that the teachers who had professional development performed better than the control group in all aspects of efficacy measured (Ross and Bruce, 2007). However the only statistically significant finding was in the aspect of classroom management which the researchers attributed to the specific attention given to classroom management in the design of the intervention.

The effect of pedagogical training on a sample of university teachers' teaching and self efficacy beliefs was also explored. The researchers (Postareff et al., 2007) found that pedagogical training was effective in improving the self-efficacy beliefs of the teachers. Even when the effect of teaching experience was held constant, in order to find out the unique effect of pedagogical training, the results remained the same.

Another factor that has been found to enhance teacher self-efficacy is the number of years spent in service. Some researchers have found that self-efficacy of teachers seem to be very high during their pre-service training reaching a peak just prior to their commencement of service

with a drop during the first year of service. This steadily increases as the year progress but never again might never reach the pre-service levels again (Soodak et al., 1998, Hoy and Spero, 2005). Hoy and Spero (2005) noted that the mastery experience during the period of training to become a teacher is one of the strongest influences in the development of the teachers' self-efficacy. They concluded that the drop in self-efficacy of teachers during their first year of life might be related to the level of support they get which seems to dwindle with the attainment of autonomy and overall responsibility for the progress of the students.

The level of teachers' experiences have also been found to determine their reported self-efficacy with teachers who have limited experience reporting low self-efficacy with regards to handling students with difficult classroom behaviours (Carter et al., 1988), while teacher isolation with regards to relating with others, participation in decision making or collaborating with others due to organizational constraints also tend to limit the self-efficacy of teachers (Hoy and Woolfolk, 1993).

All these summarily mean that towards enhancing the self-efficacy of teachers, there is a need to ensure that the teachers are appropriately trained during their pre-service years, that they are given all the organizational and institutional support they require to be efficient and that they receive continuous and periodic professional development from their first year in service to ensure that they stay abreast of current issues in their field and are able to receive instruction on ways by which they can positively better influence their students.

**(4634 words)**

## CHAPTER THREE

### METHODOLOGY

#### 3.1 STUDY LOCATION

The study was conducted at the Schools for Persons with Special Needs in Osogbo and Ilesha, in The State of Osun, Southwestern Nigeria. The capital city of the state of Osun is Osogbo. The Ministry of Education in the State oversees the management of all educational institutions in the state. There are nine primary schools for Persons with Special needs with each of the schools situated in each of the nine headquarters of the nine political districts in the state. Teachers who work in these schools can be deployed to work in any of the schools from time to time through transfers conducted by the Directorate for Special Education in the State Ministry of Education. The transfers or deployments are done based on the specific needs of the schools and the availability of teachers. These special schools also serve as training centers for students of the colleges of educations who come to practice what they have learnt in their institutions.

#### **The School for Children with Special Needs, Osogbo and Ilesha**

The school in Osogbo began with a single classroom in January 1984. The current site for the school is now occupying a vast land having 14 classrooms, a block of six common rooms as hostel, a block of three rooms as Vocational Centre and resource room, a standard football field, a spacious multipurpose hall, a spacious sickbay and other utilities all around the compound.

The school in Ilesha was established in the year 1979. The school has a total of 8 classrooms. However, the classrooms are in various stages of disrepair. The Ministry of

Education is currently making plans to take the school to a permanent and more spacious site. Overall outlook of the school in Ilesha is not as conducive as the school environment in Oshogbo.

### **3.2 STUDY DESIGN**

The adopted study design was a quasi-experimental two-group controlled study carried out in 3-phases, baseline, intervention and post-intervention phases. At baseline, both the intervention and control groups completed all the survey instruments except the client satisfaction questionnaire. This was followed by the administration of the intervention to the intervention group.

### **3.3 STUDY POPULATION**

The study population was Special Education Teachers working in the primary schools for persons with special needs in Osun State.

#### **3.3.1 INCLUSION CRITERIA**

1. Special Education teachers who provided consent and work in the schools for persons with special needs in Osun State.
2. All teachers who have been teaching at the study site since the onset of the current term which is from January to April, 2017 (Student teachers & Qualified teachers).

#### **3.3.2 EXCLUSION CRITERIA**

1. Teachers who were not consistently teaching students during the entire period of the study.

2. Teachers whose responsibilities were strictly limited to administrative duties with limited classroom duties during the period of the study.

### 3.4 SAMPLE SIZE

The sample size was calculated using the formula:

$$n = 2F(\sigma/d)^2$$

Where  $\sigma$  represents the standard deviation for the Teachers Self efficacy Scale,  $F = 7.85$ , assuming 80% power and 0.05 level of significance (Wade 1999) and “d” is the hypothesized difference between the intervention and control group after the treatment. The assumption was that the intervention will produce an increase of one standard deviation in self-efficacy in the intervention group more than the control group. The calculated minimum sample size was 16 for each group  $2 \times 7.85 (1/1)^2 = 16$ . This was rounded up to 20 in each group, bringing the total number of study participants to 40, in order to account for possible attrition in the course of the study.

### 3.5 SAMPLING TECHNIQUE

All the teachers who met the inclusion criteria were considered to be potential study participants. The study participants were selected by a two-staged, sampling method. The first stage was the senatorial districts in Osun State. There are three senatorial districts. Two out of the three (Ife/Ijesa and Osun Central Senatorial Districts) were purposely included into this study because, there are four schools located within Ife/Ijesha and Osun Central Senatorial districts of the state, one secondary and three primary schools. The study was conducted in two out of the

three primary schools for persons with special needs located in these two senatorial districts of the state. Balloting was used to assign one school as “intervention” group and the other as “control” group. The study was conducted within the school environment. The intention was to select 20 participants from each of the senatorial districts. The Ife/Ijesha Senatorial district has two schools; one in Ile-Ife and the other in Ilesha. The school in Ilesha was selected by balloting out of the two.

The second stage was the status of the teachers (Qualified/Student Teachers). A total of 10 qualified teachers and 13 student teachers were found in Ilesha out of which 10 of the student teachers (selected by balloting) and all the qualified teachers who were present at the onset of the research were recruited into the intervention group. The Oshogbo school has a total of 26 teachers and 30 student teachers out of which 10 teachers and 10 student teachers (selected by balloting) were included in the control group.

### **3.6 STUDY INSTRUMENTS.**

The study instruments include (1) Socio-demographic and Professional Experience questionnaire (2) Teacher Self Efficacy Scale (Tschannen-Moran and Hoy, 2001). (3) Maslach’s Burn out Inventory (Maslach and Jackson, 1981) (4) Professional Quality of Life Scale (Stamm, 2010), (5) Client Satisfaction Questionnaire (Atkinson and Greenfield, 2004)

#### **3.6.1 Socio-Demographic and Professional-Experience Questionnaire (Appendix 2)**

This consisted of questions relating to the socio-demographic characteristics of the teachers which include, age, gender, marital status, number of years in service, previous training in management of challenging behaviour or FBA, area of specialty and highest educational

qualification. The study participants were also asked about their experiences with children who have challenging behaviours. They were also required to specify the frequency of such encounters (how often?). The study participants were also asked to explain their understanding of the terms “Challenging Behaviors” and Functional Behavioural Analysis. To determine the knowledge of the participants about challenging behaviours, an evaluation of their responses to the question “What are Challenging Behaviours” was done. Their responses were expected to be similar or related to the definition of CB in existing literature. The responses were graded across 4 levels which include “No attempt” (when the participant fails to attempt answering the question), “Poor Attempt” (when the participant attempts the question but the responses does not describe any of the features of challenging behaviours), “Fair Attempt” (when the participant’s response does not fully describe the features of challenging behaviours) “Good Attempt” (when the participant’s response fully describes what challenging behaviour is). This grading of the responses was done by two resident doctors who eventually reached a consensus on the scoring for each participant. This was finally reviewed by the researcher. These 4 levels include; 0=No Attempt/Idea, 1=Poor attempt, 2=Fair attempt and 3=Good attempt. Two resident doctors in training in Psychiatry were asked to help in grading each of the responses separately. The grading was then compared and a consensus was reached on the specific score for each of the items attained by the participant. The researcher also verified these scores. A similar method was used to grade the responses to the question “what is FA”.

### **3.6.2 Teacher Self Efficacy Scale (TSES) (Appendix 3)**

The Teacher Self Efficacy Scale is a 24 item instrument developed by Tschannen-Moran



& Hoy (Tschannen-Moran and Hoy, 2001). Bandura's social cognitive theory was the theoretical framework that was applied in the development of the instrument. There are three sub-scales which include; Efficacy in student engagement, Efficacy in instructional practices and Efficacy in Classroom Management. The items are rated on a Likert scale which has 9 levels ranging from Nothing (1) to "A great deal" (9). The total score for each of the participants on the TSES was determined by summing up all the item scores. Subscale scores were also determined by adding all the items for each of the subscales. The instrument has been previously adapted for use among a sample of teachers in Ibadan, Southwestern Nigeria (Durowoju and Onuka, 2015).

### **3.6.3 Maslach's Burn out Inventory (MBI) (Appendix 4)**

Maslach Burnout Inventory (MBI) (Maslach and Jackson, 1981) was used to assess the burnout experience among the teachers. The MBI is a 22-question instrument that assesses the degree of burnout experience. Three subscales have been identified namely Emotional Exhaustion (EE) (9 items), Depersonalization (DP) (5 items) and Decreased feeling of Personal Accomplishment (PA) (8 items). Emotional Exhaustion (EE) refers to the feelings of being emotionally over extended and exhausted by one's work. Depersonalization DP expresses the degree to which the teacher holds an unfeeling and impersonal response towards recipients of one's service, care treatment or instruction. The Personal Accomplishment PA subscale assesses the feelings of competence and successful achievements on one's work with people. The frequency with which the respondent experience each item is measured on a 7-point likert scale ranging from never (0) and everyday (6). The scores thus ranged from 0 to 54 on EE subscale, from 0 to 30 on the DP subscale and from 0 to 48 on the PA subscale because of the limited psychometric evidence of the relationship between the subscales, the scores are considered separately and not combined

into one single score. Higher mean scores on the EE and the DP subscales corresponded to higher levels of Burnout, whereas lower mean scores on the PA subscale correspond to higher levels of Burnout. The authors (Maslach and Jackson, 1981) reported reliability coefficient of 0.90 for emotional exhaustion, 0.79 for depersonalization and 0.71 for decreased feeling of personal accomplishment. Test-retest (one month) in an American sample was 0.60 - 0.80. Split-half and Odd Even, 0.57 and 0.92 respectively for Nigerian sample (Coker, 1999). The MBI has also been previously used in Nigeria (Coker et al., 2016, Olley, 2003, Adekola, 2010).

#### **3.6.4 Professional Quality of Life Scale (ProQOL) (Appendix 5)**

The Pro QOL is a 30 item scale that measures the quality one feels in relation to their work with regards to providing help or support for others (Stamm, 2010). The instrument has three subscales namely: Compassion Satisfaction (CS), Burnout and Secondary Traumatic Stress. Burnout and Secondary Traumatic Stress are both component of Compassion Fatigue (CF). Compassion satisfaction subscale scale tries to elicit the pleasure derived by professional from being able to do their work well; the Burnout scale seeks to elicit from professional, the difficulties and associated feelings of hopelessness they experience in dealing with their work pressures or in doing their job effectively; while the Secondary Traumatic Stress scale seeks to elicit problems experienced by professionals as a result of being exposed to the traumatic experiences of other people. A score of 43 or less signifies low point on any of the scales, a score around 50 is average while scoring beyond 57 is high. The higher the individual scores on the Compassion satisfaction subscale the better while the higher the scores on the Burnout and Secondary Traumatic Subscale, the worse off the person is. Reliability scores of .87, .72 and .80

have been confirmed for the scale, (Stamm, 2005). The scale has been previously used in Nigeria among a sample of mental health professionals (Adeyemo et al., 2015, Omoaregba et al., 2016).

### **3.6.5 Client Satisfaction Questionnaire (Appendix 6)**

This instrument was adapted from the instrument developed by Atkinson and Greenfield (2004). It was used to ascertain the intervention groups' experience of the intervention. It is an 8 item questionnaire scored on a likert scale of 1-4 with variable responses in accordance with the specific questions. This has been used successfully in other intervention studies in Nigeria (Bella-Awusah et al., 2015, Bello-Mojeed et al., 2016).

### **3.7 STUDY PROCEDURE**

After obtaining all the required approvals, the schools head teachers were approached about the proposed training, i.e. the two special education primary schools located within Ilesha/Osogbo axis of the state which have been purposively selected. The teachers in the school at Ilesha were selected as the intervention group while the teachers in the school at Oshogbo were the control group. A list of all Special Education Teachers in the school at Ilesha was obtained and it was found out that there were a total of 10 qualified teachers and 13 student teachers in the school. The student teachers were students of the College of Education in their second year of study. They were having their second teaching practice experience and had been in the school for 2 months before the onset of the study. Their current student teaching practice experience was expected to last for 6 months spanning through the second and third term of the school session for the 2016/2017 academic year.

Due to the limited number of teachers in the school, all the teachers were recruited into the study. The teachers were encouraged to volunteer for the training behavioural management of challenging behaviours in order to improve their capability to help their students. A corresponding number of teachers were also selected from the school in Oshogbo to serve as the control group.

### **3.7.1 PRE-TEST**

A review of the study instruments was done by my supervisors and 2 special education needs teachers to assess the face validity of the instruments. Also the local relevance of all the items was ascertained. Some of the items in the socio-demographic and the professional experience questionnaire were rephrased for better clarity of the content. The instrument (as amended by me) were pre-tested among 10 special education teachers who were not included in the main study to determine the suitability of the instruments.

### **3.7.2 THE INTERVENTION**

The intervention was a training that was delivered using the adapted version of an existing manual developed by Loman and Bogemeir(Loman and Borgmeier, 2010). Power point slides were prepared for the presentation and printouts of the handouts of the slides and practice scenarios were made available to the participants (Appendix 7). The training manual is for school based personnel. The manual was reviewed and due to the limited time available for the training as a result of the changes in the school calendar resulting from some unexpected challenges that disrupted the school calendar; the training was delivered in two sessions each lasting for not less than 2 hours. The central halls within the schools were used as the site for the delivery of the intervention (Photo 1). Sessions were conducted during the one hour long break

period for the teachers and additional support was given intermittently during support visits to the schools. The first two sessions were:

1) Overview of Challenging Behavior: This session gave general information about challenging behaviours and the likely causes of challenging behaviours among persons who have learning disabilities.

2) Overview of FBA and its application: This session gave an overview of FBA, the principles and how it is applied.

At the end of the second session, all the teachers were paired up and were asked to work together to identify, describe and outline modalities for managing specific CB they observe in their students (Photo 2). These all led to practical sessions which gave avenue for role plays on assessment and intervention that required the application of FBA. The entire intervention lasted for a period of four weeks. With regards to the control group (Photo 4), no intervention was done. The period of baseline assessment was used to discuss some of the challenges they were facing in their career as special education teachers.

### **3.7.3 POST INTERVENTION**

At the time of post-intervention data collection, student-teachers in the control group were yet to return to school for the new term. Also one of the qualified teachers in the control group was unavoidably absent. Therefore, the analysis of the study outcome towards achieving

the study objectives was restricted to only the qualified teachers in the intervention (n=10) and control (N=9) groups who had complete data (Total N = 19).

### **3.8 DATA MANAGEMENT**

The data were cleaned and coded before entering into a computer. Data analysis was carried out using the Statistical Package for the Social Sciences version 20 (SPSS – 20). All data were thereafter presented using charts, graphs and frequency tables. Scores on continuous outcome measures such as self-efficacy and burnout are presented using mean and standard deviation. Student t-test was used to compare normally distributed continuous measures across categorical variable (e.g. intervention group versus control group) and the Chi-square was used to test for associations between categorical variables. Differences in mean scores in outcome measures between the intervention and control groups were compared at baseline and at each of the post intervention assessments using t tests. Differences between baseline and post intervention outcome measures within the intervention and control groups for the qualified teachers were compared using paired-t tests. The effect of the training was determined by Analysis of Covariance (ANCOVA) using the post intervention outcome measures as the dependent variables and controlling for baseline scores and any baseline differences. The effect size of the intervention was also determined as Cohen's d with 0.2, 0.5, and 0.8 considered small, medium and large effect sizes respectively (Cohen 1988). The level of significance was set at 5% ( $p \leq 0.05$ ).

### **3.9 ETHICAL CONSIDERATION`1**

Ethical approval to conduct the study was sought from the Ethical Review Committee of the State Specialist Hospital Osogbo (Appendix 10) . An official permission was requested from the State Ministry of Education of Osun State (Appendix 9). All data obtained from participants during the study was treated with utmost confidentiality. All the participants were requested to anonymously complete the study instruments. The data obtained was kept in a computer system which had a password that was available only to the researcher. All study participants were given detailed information about the study and were required to give their consent freely prior to their inclusion in the study. They were informed that the decision to participate in, remain within or withdraw from the research was exclusively theirs.

**(2934 Words)**

## CHAPTER FOUR

### RESULTS

This chapter presents the results of the data analysis. Descriptive statistics are presented first, followed by analyses towards answering the specific objectives. This chapter on results is presented in two parts. Part A; shows the socio-demographic characteristics and the baseline data for the whole 40 participants (10 qualified teachers and 10 student teachers in the intervention group and same numbers in the control group). Part B shows the socio-demographic characteristics and outcome analysis of the data restricted to the 19 qualified teachers for whom there was complete pre and post intervention outcome data (10 in the intervention group and 9 in the control group).

#### **PART A (All 40 participants)**

##### **4.1.1 Socio-demographic Characteristics of all 40 Participants**

A total of 40 qualified and student-teachers participated in the study. These participants included 10 qualified teachers and 10 student-teachers from each of the study sites i.e. 20 from the intervention group (Ilesha) and 20 from the control group (Oshogbo). The results of the socio-demographic characteristics of the participants are presented in Table 1a below. The age of the participants ranged between 18 and 57 years with the mean age being 31.9 (SD; 12.8) and a median age of 25.5 years with an inter-quartile range of 23.5 years. The mean number of years of experience was 9.2 years with a standard deviation of 11.1. The median year of experience was 4.0 years. The minimum year of experience as a teacher was 1 while the maximum was 34



years. The years of experience as a special needs teacher ranged from 1-28 years with an interquartile range of 10.3years.

**Table 1a: Descriptive statistics of socio-demographic characteristics of all study participants (N=40)**

<b>Parameters</b>	<b>Mean(SD)</b>	<b>Median</b>	<b>Interquartile Range</b>
<b>Age in years</b>	31.9(12.8)	25.5	23.5
<b>Number of years of experience as a teacher</b>	9.2(11.1)	4.0	11.8
<b>Number of years of experience as a Special educational needs teacher</b>	7.2(9.1)	2.0	10.3

A higher population of the teachers was females (25; 62.5%) while a greater number of them (27; 67.5%) were Christians. All the student teachers were having their second teaching practice experience. The highest level of education of the students (n=20) was Senior Secondary Certificate Examination (SSCE). Majority of the teachers (n=14; 70% of teachers and 35% of study participants) had a higher National Certificate Examination (NCE) qualification with only one of them having a Master's Degree in Education. The rest had Bachelors' Degrees in Education. These are presented in Table 1b below. Most of the teachers specialized in Hearing

Impairment (HI) (n=24;60%). About 15% of them specialized in Intellectual Disabilities (ID) while 4(10%) specialized in Visual Impairment (VH). Five of the teachers (12.5%) had no main area of specialization.

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**Table 1b: Frequency distribution of socio-demographic characteristics of all study participants**

(N=40)

Variable	Frequency	Percentage
<b>Status</b>		
Qualified Teachers	20	50.0
Student Teachers	20	50.0
<b>Study Site</b>		
Ilesha	20	50.0
Oshogbo	20	50.0
<b>Gender</b>		
Male	15	37.5
Female	25	62.5
<b>Religion</b>		
Islam	13	32.5
Christianity	27	67.5
<b>Highest Level of</b>		
MSc	1	2.5
B.Ed.	5	12.5
NCE	14	35.0
SSCE	20	50.0
NCE	14	35.0
<b>Area of Specialization</b>		
PES	1	2.5
Visual Impairment	4	10.0
None	5	12.5
Intellectual Disability	6	15.0
Hearing Impairment	24	60.0

#### **4.1.2 The Correlation between Socio-demographic characteristics, and baseline Self-efficacy, Burnout, and professional quality of life of all the research participants combined**

An exploration of the relationships between all continuous variables in the socio- demographic characteristics and the total baseline scale and subscale scores of TSES, MBI and PQOLS of all

the participants was carried out with Pearson correlation. There were significant positive correlations between participant's age and years of teaching experience as a teacher and as a special education needs teacher respectively ( $r=0.926, p=0.000$ ;  $r=0.884, p=0.000$ ). There were significant positive correlations between years of teaching experience and years of teaching experience in special education ( $r=0.954, p=0.000$ ). Similarly, there were significant positive correlations between total self-efficacy and overall professional quality of life ( $r=0.370, p=0.019$ ) and also between self-efficacy and compassion satisfaction subscale of the PQOLS ( $r=0.480, p=0.002$ ).

There were also significant positive correlations between total self-efficacy score and all TSES subscale scores. While there was no significant correlation between total self-efficacy score and total burnout score by the MBI. However there was a significant negative correlation between the total TSES and the Depersonalization subscale of the MBI ( $r=-0.348, p=0.028$ ).

There were significant negative correlations between total MBI scores and total PQOLS scores ( $r=-0.480, p=0.02$ ). With significant positive correlations between the total MBI score and all the subscale scores of MBI while there was a significant negative correlation between the total MBI score and the Burnout Subscale score of the PQOLS ( $r=-0.323, p=0.042$ ). There were also significant positive correlations between the total PQOLS score and all the subscales of the PQOLS. There was a significant positive correlation between the instructional strategies subscale of the TSES and the total PQOLS scores ( $r=0.372, p=0.018$ ) while there were no significant correlations between the total PQOLS scores and the remaining subscales.

**Table 1c: Correlation table of Socio-demographic characteristics, Self-efficacy, Burnout, and Professional Quality of Life of all the research participants (combined) (N=40)**

<i>Variables</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.Age at last birthday	1														
2.Years of teaching	<b>.926**</b>	1													
3.Years of SE teaching	<b>.884**</b>	<b>.954*</b>	1												
4.Total score TSES	-.023	.019	-.011	1											
5.Total MBI	-.200	-.224	-.248	-.281	1										
6.Total PQOL	-.160	-.175	-.139	<b>.370*</b>	-	1									
7.Student Engagement TSES	-.100	-.053	.070	<b>.828*</b>	-.216	.298	1								
				*											
8.Instructional Strategy	.018	0.018	.015	<b>.830*</b>	-.298	<b>.372**</b>	<b>.717**</b>	1							
9.Classroom management	-.046	.066	.020	<b>.848*</b>	-.174	.195	<b>.705**</b>	<b>.752</b>	1						
10.Emotional Exhaustion	<b>-.344*</b>	<b>-.361*</b>	<b>-.397*</b>	-.063	<b>.738*</b>	-.212	-.130	-.143	-.016	1					
11.Personal Accomplishment	.114	.128	.111	-.257	<b>.581*</b>	-	-.100	-.153	-.102	-.043	1				
12. Depersonalization MBI	-.127	-.188	-.169	<b>-.348*</b>	<b>.788*</b>	<b>-.378*</b>	-.259	<b>.400</b>	<b>-.334*</b>	<b>.429**</b>	<b>.379*</b>	1			
13 Burnout PQOLS.	-.297	-.264	-.218	.196	<b>-.323*</b>	<b>.832**</b>	.143	.137	.095	-.114	-	-.106	1		
14. Traumatic Stress PQOLS	-.215	-.207	-.167	.030	<b>-.397*</b>	<b>.646**</b>	.114	.046	-.033	-	-.228	-.257	.588	1	
15. Compassion Satisfaction	.107	.052	.050	<b>.480*</b>	-.272	<b>.615**</b>	<b>.321*</b>	<b>.510</b>	.301	-.009	-.297	<b>-.389*</b>	.262	-.136	1

\*=p<0.05; \*\*=p<0.001

## **Part B (20 qualified teachers only)**

### **4.2 Socio-demographics and outcome analysis restricted to Qualified Teachers (N=20)**

This section shows the results from only the qualified teachers who had complete pre-intervention and post-intervention data. The student-teachers were excluded from this Section because those in the control group had not returned to school at the time of post-intervention data collection. Also one of the teachers in the control group was unavoidably absent Hence, there are a total number of 19 qualified teachers (10 Intervention; 9 Control) with post intervention data.

#### **4.2.1 Presentation of comparison of continuous socio-demographic characteristics**

Table 2a shows the socio-demographic characteristics of the two groups of qualified teachers i.e. intervention group and the control group. For the intervention group, the mean age was 43.90 years (SD=8.10) while that of the control group was 41.10 years (SD=11.40). However, this difference was not statistically significant ( $p=0.535$ ). There were also no statistically significant differences in the number of years of experience as a teacher ( $p=0.843$ ) and number of years as a special education teacher ( $p=0.714$ ) between teachers in intervention and those in control group.

**Table 2a: Comparison of Socio-demographic and baseline characteristics of the study participants across Intervention and Control groups (N=20)**

Parameters	Intervention Group (N=10)	Control Group (N=10)	T test/df (p-value)
Age at last birthday (in years)	Mean (SD) 43.90 (8.10)	Mean (SD) 41.10 (11.40)	0.633/17 (0.535)
Years of experience as a teacher	17.70 (11.17)	16.70 (11.08)	0.201/17 (0.843)
Years of experience as a special education teacher	14.20(10.36)	12.60 (8.76)	0.373/17 (0.714)

#### 4.2.2 Presentation of comparison of categorical socio-demographic characteristics

A cross tabulation of the categorical socio-demographic parameters was done across the teachers in the Intervention Group and their counterparts in the Control Group. There were no statistically significant differences across all the parameters which include Gender, religion, education and specialization of the participants. These are shown in Table 2b below.

**Table 2b: Comparison of the Socio-demographic characteristics of the study subjects**

**across the Intervention and Control groups for categorical variables (N=20)**

Parameters	Intervention (N=10)	Group	Control (N=10)	Group	X <sup>2</sup> /df(p-value)
Gender	Frequency(percentages)				
Male	4(40%)		4(40%)		0.000/1 (1.00)
Female	6(60%)		6(60%)		
Religion					
Christianity	10(100%)		8(80%)		2.22/1 (0.474)
Islam	0(0%)		2(20%)		
Education					
NCE	7(70%)		7(70%)		1.200/2(0.549)
B.Ed.	2(20%)		3(30%)		
MSc	1(10%)		0(0%)		
Specialization					
None	3(30%)		0(0%)		6.67/4 (0.155)
Intellectual Disability	0(0%)		1(1%)		
Hearing Impairment	4(40%)		8(80%)		
PES	1(10%)		0(0%)		
Visual Impairment	2(20%)		1(10%)		



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### 4.2.3 Baseline Knowledge and Practice of Participants about Challenging Behaviors and

#### Functional Analysis

The result is presented in Table 4 below. Only 2(10.0%) of the participants made a fair attempt at describing what challenging behaviors (CB) were. Almost half of them (n=18; 45%) made no attempt at responding to the question. When the participants were asked “What is Functional Analysis”, only 2 participants, (one in each group = 10.0%) of the participants made a fair attempt at answering the question while Majority (13=65%) of the participants made a poor attempt at answering the question. Six of them made no attempt at answering the questions. The participants were also asked about previous experiences in managing CB. Only 5 (25%) of them have had previous experiences in managing CBs. Also nearly all the participants (18=90%) have never had any previous training in FBA.

The participants were also asked how often they encountered children with CB. About 4(20%) of them said they had never encountered children with challenging behaviors while 6(30%) responded that they encountered children with CB all the time. A comparative analysis of the knowledge and practice of participants on CB and FBA was done through a cross tabulation of the responses to the questions on CB and FBA in addition to those on previous training on FBA an previous encounters on CB across the Intervention group versus the Control Groups. As shown in Table 3 below, there were no valid statistically significant differences in baseline responses to the questions across the two groups of participants.

**Table 3: Comparison of Baseline knowledge and experience of Functional Behavioural**

**Analysis and Challenging Behaviours across the two groups of qualified teachers**

Parameters	Intervention Group (N=10)	Control Group (N=10)	X <sup>2</sup> /df (p-value)
<b>What are Challenging behaviors?</b>			
No attempt	4(40%)	2(20%)	1.00/2 (0.607)
Poor attempt	5(50%)	7(70%)	
Fair attempt	1(10%)	1(10%)	
<b>What is Functional analysis?</b>			
No attempt	10(100%)	9(90%)	1.053/1 (0.305)
Poor attempt	0(0%)	1(10%)	
<b>Previous experience in managing CB?</b>			
No	9(90%)	6(60%)	2.40/1 (0.121)
Yes	1(10%)	4(40%)	
<b>Previous Training in FA?</b>			
No	10(100%)	8(80%)	2.222/1 (0.136)
Yes	0(0%)	2(20%)	
<b>Frequency of encounters with CB</b>			
Never	3(30%)	1(10%)	3.00/3 (0.392)
Seldom	1(10%)	0(0%)	
Often	3(30%)	6(60%)	
All the time	3(30%)	3(30%)	

### **4.2.3 Comparison of the baseline scores of the participants on Teacher Self Efficacy Scale and its subscales, Maslach Burnout Inventory and its subscales and Professional Quality of Life Scale and its subscales**

The self-efficacy of the study participants, their burnout experience and professional quality of life before the intervention, was analyzed for differences across the two groups of qualified teachers; the intervention group and the control group. The result of the independent sample t-tests of the total TSES and its subscales, MBI and its subscales and PQOLS and its subscales are hereby presented in Table 4 below.

With regards to the total score on the self-efficacy of the participants at baseline pre-intervention, There were no statistically significant differences in overall self-efficacy (total TSES score) and the subscale scores which include Student engagement, Instructional Materials, and Classroom Management across the two groups of qualified teachers (p value= 0.315, 0.310, 0.841 and 0.085 respectively).

Burnout experience subscale of emotional exhaustion was significantly higher among the control group (M=25.10;SD 6.17) participants than the intervention group (M=17.20, 8.27) with a p value of 0.026. Also, the mean overall professional quality of life, burnout and traumatic stress subscale scores were significantly higher for the intervention group compared to the control group (p= 0.023, 0.038 and 0.032 respectively).

**Table 4: Comparative analysis (Independent sample t-test) of the outcome measures at baseline for qualified teachers only across the intervention and control groups (N=20)**

Parameters	Intervention group	Control group	t/df	P-value
Total Teacher Self Efficacy Scale Score Pre-test	125.50(26.03)	136.00(20.13)	-1.03/17	0.315
Efficacy in student engagement	42.80(9.70)	48.10(8.60)	-1.05/17	0.310
Efficacy in Instructional strategies	43.10(9.24)	45.00(9.46)	-2.03/17	0.841
Efficacy in Classroom Management	39.60(8.17)	46.70(9.44)	-1.80/17	0.089
Total Maslach Burnout Inventory (MBI)	40.40(17.67)	51.60(12.06)	-1.59/17	0.128
Emotional Exhaustion subscale of MBI	17.20(8.27)	25.10(6.17)	-2.42/17	<b>0.026</b>
Personal Accomplishment Subscale of MBI	15.50(8.38)	16.50(8.29)	-.263/17	0.795
Depersonalization Subscale of MBI	7.70(5.95)	10.00(4.37)	-0.99/17	0.337
Total Professional Quality of Life Scale (PQOLS)	113.30(7.99)	103.20(10.03)	2.49/17	<b>0.023</b>
Compassion Satisfaction Subscale of PQOLS	39.10(3.60)	36.70(8.34)	0.84/17	0.415
Burnout Subscale of PQOLS	37.70(3.34)	34.30(3.47)	2.24/17	<b>0.038</b>
Traumatic Stress subscale of PQOLS	36.50(3.98)	32.20(4.29)	2.32/17	<b>0.032</b>

#### **4.2.3 Paired sample t-test analysis of the Pre and Post intervention scores of participants within the Intervention group on the parameters for Self-efficacy, Burnout and PQOL**

The scores obtained at the pre-intervention and post- intervention measurements were compared using Paired sample t-test. The Results are presented in Table 5 below. The results show that there were significant changes in all the domains of self-efficacy (Total self-efficacy, efficacy in student engagement, efficacy in instructional strategies and efficacy in classroom management). With regards to the total efficacy, the mean self-efficacy of the Intervention group increased from 124.11 to 146.68 ( $t=-4.67$ ,  $p=0.000$ ) with a large effect size ( $\text{Eta}^2=0.55$ ).

This evaluation of the impact of the intervention also showed statistically significant decrease in burnout reported by the teachers on the Burnout subscale of the PQOLS. The pre-intervention means score was 38.18 while the post-intervention mean score was 35.24 ( $t=2.79$ ,  $p=0.013$ ) The  $\text{Eta}^2$  statistic also indicated a large effect size.

**Table 5: Comparative analysis of Mean Scores of Total TSES scores and TSES subscale scores for Intervention Group (Pre and Post Intervention) (N=19)**

Parameters	Pre- Intervention	Post- Intervention	P-value	T	Eta
<b>Total Teacher Self Efficacy Scale Score Pre-test</b>	124.11	146.68	<b>0.000</b>	-4.67	<b>0.55</b>
<b>Efficacy in student engagement</b>	43.82	51.12	<b>0.001</b>	-4.08	<b>0.49</b>
<b>Efficacy in Instructional strategies</b>	41.53	47.18	<b>0.035</b>	-2.37	<b>0.24</b>
<b>Efficacy in Classroom Management</b>	39.41	48.24	<b>0.003</b>	-3.72	<b>0.44</b>
<b>Total MBI</b>	48.79	46.37	0.46	0.76	0.031
<b>Total PQOLS</b>	111.53	110.32	0.63	0.48	0.013
<b>Burnout PQOLS</b>	38.18	35.24	<b>0.013</b>	2.79	<b>0.34</b>

**4.2.5 Comparison of the post-intervention scores of the outcome measures: Teacher Self Efficacy Scale and its subscales, Maslach Burnout Inventory and its subscales and Professional Quality of Life Scale and its subscales**

The independent sample t-test exploring possible differences among the outcome measures across the two groups of participants found some significant differences (Table 6 below). Post intervention, the total self-efficacy was higher among the intervention group (M=156.00; SD=33.58) than the control group (M=131.11; SD=33.59) with a p value of 0.033. Similarly the efficacy on student engagement and the efficacy on classroom management were also significantly

higher among the participants in the intervention group when compared to the control group ( $P=0.025$  and  $0.024$  respectively).

The total burnout experience was higher among the control group ( $M=65.00$ ;  $SD=13.53$ ) than the intervention group ( $M=49.70$ ;  $SD=13.14$ ) with a  $p$  value of  $0.023$ . There were no significant differences in the subscale score of burnout experience across the two groups of participants as was measured by the MBI. Also, the professional quality of life was significantly higher in the control group than the intervention group in the domains of total PQOLS score and the subscale score of burnout experience and traumatic stress ( $p$  value=  $0.003$ ,  $0.006$  and  $0.020$  respectively).



**Table 6: Comparative analysis (Independent sample t-test) of the post-intervention outcome measures for qualified teachers only in the intervention and control groups (N=19)**

Parameters	Intervention group	Control group	t/df	P-value
<b>Total Teacher Self Efficacy Scale Score Pre-test</b>	156.00(33.58)	131.11(33.59)	2.33/17	<b>0.033</b>
<b>Efficacy in student engagement</b>	54.20(10.60)	44.22(13.84)	2.46/17	<b>0.025</b>
<b>Efficacy in Instructional strategies</b>	49.60(12.42)	43.67(12.86)	1.56/17	0.138
<b>Efficacy in Classroom Management</b>	52.20(11.91)	43.22(10.56)	2.47/17	<b>0.024</b>
<b>Total Maslach Burnout Inventory (MBI)</b>	49.70(13.14)	65.00(13.53)	-2.50/17	<b>0.023</b>
<b>Emotional Exhaustion subscale of MBI</b>	14.60(10.59)	22.56(8.51)	-1.79/17	0.091
<b>Personal Accomplishment Subscale of MBI</b>	29.90(7.03)	33.22(9.38)	-0.88/17	0.391
<b>Depersonalization Subscale of MBI</b>	5.20(4.59)	9.22(6.83)	-1.52/17	0.147
<b>Total Professional Quality of Life Scale (PQOLS)</b>	89.60(5.30)	102.56(10.18)	-3.53/17	<b>0.003</b>
<b>Compassion Satisfaction Subscale of PQOLS</b>	40.60(4.72)	41.89(4.96)	-0.58/17	0.569
<b>Burnout Subscale of PQOLS</b>	29.30(2.58)	34.11(4.01)	-3.14/17	<b>0.006</b>
<b>Traumatic Stress subscale of PQOLS</b>	19.70(6.43)	26.56(4.98)	-2.58/17	<b>0.020</b>

#### 4.2.6 Comparison of Pre-intervention versus Post-Intervention scores on outcome measures for control group (qualified teachers only)

Table 7 below shows the paired sample t-test comparative analysis exploring the outcome measures within the control group. There were no statistically significant differences in self-efficacy pre and post intervention. There was a statistically significant ( $p=0.026$ ) increase in total MBI (Pre- intervention - $M=16.44$ ;  $SD=9.11$  and Post-Intervention  $M=65.00$ ;  $SD=13.53$ ) with a small effect size (Partial  $\eta^2=0.48$ ). There was also a significant increase in the Personal accomplishment subscale score of the MBI (Pre-intervention - $M=50.33$ ;  $SD=12.06$  and Post-Intervention  $M=33.22$ ;  $SD=9.38$ ) with a medium effect size (Partial  $\eta^2=0.50$ ). While there was a decrease in mean scores on the traumatic stress subscale of PQOLS (Pre-intervention - $M=32.00$ ;  $SD=4.50$  and Post-Intervention  $M=26.56$ ;  $SD=4.98$ ) with a medium effect size (Partial  $\eta^2=0.58$ ).

**Table 7: Comparative analysis of Mean Scores (Paired sample t-test) of Pre and Post Intervention scores of total scores and subscale scores of Teacher Sense of Efficacy Scale, Maslach Burn out Inventory and Professional quality of Life Scale for CONTROL GROUP; (*Qualified Teachers only*) (N=9)**

Parameters	Pre- Intervention	Post- Intervention	P-value	t/df	Eta
<b>Total Teacher Self Efficacy Scale Score Pre-test</b>	135.89(21.35)	131.11(21.35)	0.133	1.67/8	0.24
<b>Efficacy in student engagement</b>	47.89(21.35)	44.22(13.84)	0.289	1.14/8	0.14
<b>Efficacy in Instructional strategies</b>	45.22(10.01)	43.67(12.87)	0.519	0.68/8	0.05
<b>Efficacy in Classroom Management</b>	47.00(9.96)	43.22(10.56)	0.058	2.22/8	0.38
<b>Total Maslach Burnout Inventory</b>	50.33(12.06)	65.00(13.53)	<b>0.026</b>	- 2.72/8	0.48
<b>Emotional Exhaustion Subscale of MBI</b>	23.89(5.13)	25.56(8.52)	0.675	0.44/8	0.024
<b>Personal Accomplishment Subscale of MBI</b>	16.44(9.11)	33.22(9.38)	<b>0.021</b>	- 2.85/8	0.50
<b>Depersonalization Subscale of MBI</b>	10.00(4.63)	9.22(6.83)	0.618	0.52/8	0.029
<b>Total Professional Quality of Life Scale</b>	102.89(10.59)	102.56(10.18)	0.940	0.08/8	0.0008
<b>Compassion Satisfaction Subscale of PQOLS</b>	36.33(8.16)	41.89(4.96)	0.117	- 1.76/8	0.28
<b>Burnout Subscale of PQOLS</b>	34.56(3.58)	34.11(4.01)	0.804	0.26/8	0.0084
<b>Traumatic Stress subscale of PQOLS</b>	32.00(4.50)	26.56(4.98)	<b>0.010</b>	3.35/8	<b>0.58</b>

#### 4.2.6 Comparison of Pre-intervention versus Post-Intervention scores on outcome measures in the intervention group (qualified teachers only)

Table 8 below shows the paired sample t-test comparative analysis exploring the outcome measures within the Intervention group. The results show that there were some significant changes. With regards to the total efficacy, there was an increase in mean self-efficacy of the Intervention group (Pre-intervention -M=125.33; SD=26.40 and Post-Intervention M=156.44; SD=30.36) with a small effect size (Partial Eta <sup>2</sup> =0.49). Also, there was a significant increase in the efficacy in student engagement after the intervention (Pre-intervention -M=43.00; SD=10.27 and Post-Intervention M=52.44; SD=9.58) with a medium effect size (Partial Eta <sup>2</sup> =0.56). The efficacy in classroom management among the intervention group also increased significantly (Pre-intervention -M=39.44; SD=8.66 and Post-Intervention M=50.33; SD=10.97) with a large effect size (Partial Eta <sup>2</sup> =0.99).

This evaluation of the impact of the intervention also showed that there was a statistically significant decrease in the level of burnout reported by the teachers as measured by the Burnout subscale of the PQOLS. The pre-intervention means score was 37.11(SD=2.93) while the post-intervention mean score was 29.22(SD=2.73) (t=5.42, p=0.013) The Eta<sup>2</sup> statistic also indicated moderate effect size (Partial Eta <sup>2</sup> =0.77).

**Table 8: Comparative analysis of Mean Scores (Paired sample t-test) of Pre and Post Intervention scores of total scores and subscale scores of Teacher Sense of Efficacy Scale, Maslach Burn out Inventory and Professional quality of Life Scale for INTERVENTION GROUP; (*Qualified Teachers only*) (N=10)**

Parameters	Pre- Intervention	Post- Intervention	P-value	t/df	Eta
<b>Total Teacher Self Efficacy Scale Score Pre-test</b>	125.33(26.54)	156.44(30.36)	<b>0.016</b>	-2.96/9	<b>0.49</b>
<b>Efficacy in student engagement</b>	43.00(10.27)	52.44(9.58)	<b>0.008</b>	-3.39/9	<b>0.56</b>
<b>Efficacy in Instructional strategies</b>	42.89(9.78)	47.67(11.47)	0.170	-1.49/9	0.20
<b>Efficacy in Classroom Management</b>	39.44(8.66)	50.33(10.97)	<b>0.007</b>	-3.51/9	<b>0.99</b>
<b>Total Maslach Burnout Inventory (MBI)</b>	42.44(18.58)	49.22(13.85)	0.179	-1.60/9	0.22
<b>Emotional Exhaustion subscale of MBI</b>	17.44(8.73)	14.89(11.19)	0.436	0.82/9	0.07
<b>Personal Accomplishment Subscale of Maslach Burnout Inventory</b>	16.44(8.31)	28.56(5.94)	0.452	-3.46/9	0.57
<b>Depersonalization Subscale of MBI</b>	8.56(5.62)	5.78(4.47)	0.135	1.64/9	0.23
<b>Total Professional Quality of Life Scale (PQOLS)</b>	112.22(7.66)	89.22(5.472)	0.213	6.99/9	0.85
<b>Compassion Satisfaction Subscale of PQOLS</b>	38.67(3.53)	40.33(4.92)	0.264	-1.19/9	0.14
<b>Burnout subscale of PQOLS</b>	37.11(2.93)	29.22(2.73)	<b>0.013</b>	5.42/9	<b>0.77</b>
<b>Traumatic Stress Subscale of the PQOLS</b>	36.44(4.22)	19.67(6.82)	0.421	5.79/9	0.79

## MULTIVARIATE ANALYSES TO DETERMINE TREATMENT EFFECT

In line with the first objective of the study which was *“to determine the effect of FBA Training on the self-efficacy of special education teachers in Osun State”*, a one-way between-groups Analysis of Covariance (ANCOVA) was conducted to determine the effectiveness of the intervention (FBA training) on improving teachers’ self-efficacy. The independent groups were the intervention group and the control group while the dependent variable was the post-intervention TSES scores. The pre-intervention TSES scores were entered as the covariate. Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate. After adjusting for pre-intervention scores, there was a significant difference between the intervention group and the control group on the post-intervention scores on the TSES [F (1,18)=8.95, p=0.009, partial eta squared=0.36]. There was also a relationship between the pre-intervention and post-intervention TSES scores (partial eta squared 0.23).

Also in line with the second objective which was *“to determine the effect of FBA training on special education teachers’ experience of Burnout among study participants”*, another one-way between-groups ANCOVA was conducted to determine the effectiveness of the intervention (FBA training) towards reducing the teachers’ burnout experience. The independent groups were the intervention and control groups while the dependent variable was the post-intervention MBI scores. The participants’ pre-intervention MBI scores were entered as covariate. After adjusting for pre-intervention scores, there was no significant difference between the intervention group and the control group on the post-intervention scores on the MBI [F (1,17)=2.95, p=0.185, partial eta squared=0.495].

Lastly, in line with the third objective which was *“to determine the effect of FBA training on the Professional Quality of Life of special education needs teachers in Osun State”*, a one-way between-groups ANCOVA was conducted to determine the effectiveness of the intervention (FBA training) towards influencing the teachers’ professional quality of life. The independent groups were the intervention group and the control group while the dependent variable was the post intervention PQOLSscores. The participants’ pre-intervention PQOLSscores were entered as the covariate.. Preliminary checks were conducted to ensure that there was no violation of the assumptions of normality, linearity, homogeneity of variances, homogeneity of regression slopes, and reliable measurement of the covariate(Levene’s test of equality p value=0.363). After adjusting for pre-intervention scores, there was a significant difference between the intervention group and the control group on the post-intervention scores on the PQOLS [F (1,17)=9.82, p=0.006, partial eta squared=0.380]. There was also a small relationship between the pre-intervention and post-intervention scores on the PQOLS(partial eta squared 0.007).

#### **4.2.7 Post Intervention data analysis for knowledge and experience of Functional Behavioural Analysis and Challenging Behaviours across the two groups of qualified teachers**

Table 9 below show a comparison of the responses of the participants used to describe the post-intervention knowledge and experience of the study participants with regards to FBA and CB. There was a significant difference in the participants knowledge with the Intervention group demonstrating a higher knowledge of CB with majority of them making Fair (60%) and Good (40%). On the contrary, 55.6% of the control group made no attempt to answer the

question while 44.4% made poor attempts ( $p=0.000$ ). Also, there were differences in the knowledge of the participants with respect to FBA. Three participants in the intervention group made no attempt at answering the question while 7 of the control group made no attempt. Also, 30% and 40% of them made fair and good attempts respectively. This was found to be statistically significant. However, there was no significant difference in the frequency of their encounters with children who have CB during the period preceding the collection of the post-intervention data ( $p= 0.279$ ).

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**Table 9: Chi square test of Post-intervention knowledge and experience of Functional Behavioural Analysis and Challenging Behaviours across the two groups of qualified teachers (N=19)**

Parameters	Intervention Group (N=10)	Control Group (N=9)	X <sup>2</sup> /df (p-value)
<b>What are CBs?</b>			
No attempt	0(0%)	5(55.6%)	19.00/3 ( <b>0.000</b> )
Poor attempt	0(0%)	4(44.4%)	
Fair attempt	6(60%)	0(0%)	
Good attempt	4(40%)	0(0%)	
<b>What is Functional analysis?</b>			
No attempt	3(30%)	7(77.8%)	10.58/3 ( <b>0.014</b> )
Poor attempt	0(0%)	2(22.2%)	
Fair attempt	3(30%)	0(0%)	
Good attempt	4(40%)	0(0%)	
<b>Frequency of encounters with CB</b>			
Never	0(0%)	2(22.2%)	2.55/2 (0.279)
Seldom	0(0%)	0(0%)	
Often	9(90%)	6(66.7%)	
All the time	1(10%)	1(11.1%)	

#### **4.2.8 Comparative analysis of the Pre and Post intervention scores of participants within the Intervention group on the parameters for self-efficacy, Burnout and Professional Quality of life**

For the intervention group, the scores obtained at the pre-intervention and post-intervention measurements were compared using Paired sample t-test. The Results are presented in Table 10 below. The results show that there were significant changes in all the domains of self-efficacy (Total self-efficacy, efficacy in student engagement, efficacy in instructional strategies and efficacy in classroom management). With regards to the total efficacy, the mean self-efficacy of the Intervention group increased from 124.11 to 146.68 ( $t=-4.67$ ,  $p=0.000$ ) with a large effect size ( $\text{Eta}^2=0.55$ ). This evaluation of the impact of the intervention also showed that there was a statistically significant decrease in the level of burnout reported by the teachers as measured by the Burnout subscale of the PQOLS. The pre-intervention means score was 38.18 while the post- intervention mean score was 35.24 ( $t=2.79$ ,  $p=0.013$ ) The  $\text{Eta}^2$  statistic also indicated a large effect size.

**Table 10: Comparative analysis of Mean Scores of Total TSES scores and TSES subscale**

**scores for Intervention Group (Pre and Post Intervention) (N=19)**

Parameters	Intervention Group (N=10)	Control Group (N=9)	X <sup>2</sup> /df (p-value)
What are CBs?			
No attempt	0(0%)	5(55.6%)	19.00/3 ( <b>0.000</b> )
Poor attempt	0(0%)	4(44.4%)	
Fair attempt	6(60%)	0(0%)	
Good attempt	4(40%)	0(0%)	
What is FA?			
No attempt	3(30%)	7(77.8%)	10.58/3 ( <b>0.014</b> )
Poor attempt	0(0%)	2(22.2%)	
Fair attempt	3(30%)	0(0%)	
Good attempt	4(40%)	0(0%)	
Frequency of encounters with CB			
Never	0(0%)	2(22.2%)	2.55/2 (0.279)
Seldom	0(0%)	0(0%)	
Often	9(90%)	6(66.7% %)	
Allthe time	1(10%)	1(11.1%)	

#### **4.2.9 Client Satisfaction**

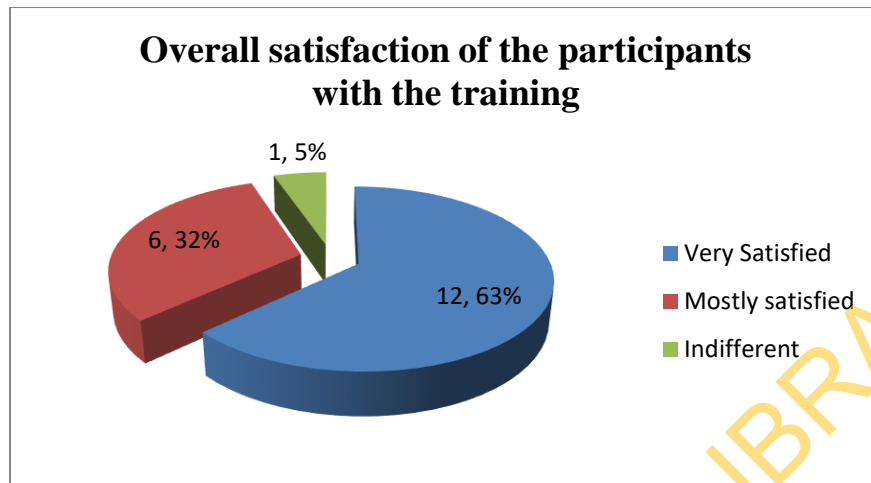
The satisfaction of the training participants (Intervention Group) with the program was evaluated with a client satisfaction questionnaire. The participants were asked to rate the quality of training they have received. For purposes of client satisfaction, feedback from all the 10 qualified teachers and 10 student-teachers (N = 20) who participated in the training were

analysed. A third of the participants ( $n=7 = 36.8\%$ ) rated the training as “Good” while two thirds of the participants ( $N=12 = 63.2\%$ ) rated the quality of training as “Excellent”. The teachers were also asked whether they received the type of training they wanted. The response of a total of 13(68.4%) was “Yes definitely” while the response of the rest was “Yes generally”. Nearly all the teachers ( $n=17-89.5\%$ ) agreed that the training met their needs with 9(47.4%) of them responding that the training met most of their needs. Only 2(10.5%) of them believed that the training did not meet any of their needs.

The teachers were also asked if they will recommend the training to a friend in need of a similar training. Their responses were quite positive as 14(73.7%) said “Yes definitely” while the rest said “Yes, I think so”. They were also asked to express how satisfied they were with the amount of information they have received to which about two thirds of the teachers ( $n=12-63.2\%$ ) expressed that they were very satisfied. A total of 16 (84.2%) teachers expressed that the training had helped them to deal with their students’ problems. However, 2 (10.5%) of the teachers stated that the training seemed to make things worse.

Overall satisfaction two thirds of the teachers ( $n=12; 63.2\%$ ) were “Very satisfied” with the training while 4(21.1%) of them were “Mostly Satisfied” with the training. Only one (5.5%) of them expressed being “Indifferent or mildly satisfied”. All the teachers said they would come back for the training at another time with 11(57.9%) of them saying “Yes, Definitely” while the rest ( $n=8=42.1\%$ ) said “Yes, I think so”.

Figure 1



(4250 Words)

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## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 DISCUSSION**

This current study set out to determine the effects of training on the application of FBA. The specific outcomes looked into include the self-efficacy of the teachers, burnout and professional quality of life of the teachers. A total of 40 participants were included in the study. Due to the limited number of subjects in the sample frame for the intervention group, all the staff of the school meant for the intervention were all included in the study thereby limiting the possibility of randomization of the subject selection process. This chapter discusses the relevant findings from the study. Furthermore, the limitations of the research, contributions to knowledge and future directions for research are discussed.

##### **5.1.1 Socio-demographic Characteristics of the study**

In the present study, there were more females than male teachers. The recruitment of the teachers from the study sites was based on the total number of teachers present within the school. Some studies looking at gender distribution among primary school teachers have reported that there are more male teachers than female teachers. A study carried out in Bayelsa state, Nigeria investigated the gender distribution of primary school teachers (Japo, 2014). They reported that there were more male teachers than female teachers in primary schools in Bayelsa State, Nigeria. Other studies have reported more females in their samples than males (Park et al., 2016). More importantly, it has been observed that more females tend to opt for teaching in primary schools

than males and that male and female students tend to learn better when taught by female teachers (Raymond Lam et al., 2010). According to Cushman, some of the factors identified as contributing to the decline in male primary school teachers related to status, salary and working in a predominantly female environment(Cushman, 2005).

The mean age of the study participants was 31.93 years with a minimum age of 18 years and a maximum age of 57 years. The young teachers are among the student teachers who were not included in the eventual comparative analysis of the post-intervention outcome measures. The mean number of years of experience as a teacher was longer than the mean years of experience as a special education teacher. This is in accordance with the fact that most of the teachers who were working in the school for children with special educational needs in Osun state were not primarily trained as special education teachers with areas of specialization. Until recently when the Ministry of Education began to implement a policy of allowing only teachers with certification in special education to head the special schools, any teacher could be posted to teach in or head the special education schools in the state. The new policy made it mandatory for teachers who wanted to remain within the special education schools to pursue additional certification in special education. Although studies have shown that teachers who have specialized training in special education have a different disposition towards students who have special educational needs (Ozcan and Kayadelen, 2015).

A greater number of the qualified teachers among the study participants have the National Certificate of Education (NCE) as their highest level of education (14=70% of qualified teachers). Five of them had Bachelor's degree in Education and one of them had a Master's degree in Education. This shows that many of the teachers still need to obtain higher qualifications to

improve their efficiency. An exploration of possible differences in socio-demographic characteristics across the intervention and control group showed no statistically significant differences. This shows that the recruitment process was able to select two relatively comparable groups. This is probably due to the fact that the posting of the teachers are done centrally and they are proportionately posted to schools in a manner that ensures there is a relatively even distribution of the teachers in line with the needs of each of the schools.

### **5.1.2 Knowledge and Practice of Participants about Challenging Behaviors and**

#### **Functional Analysis**

A comparison of the baseline scores on the knowledge of the participants and their experience of CB and FBA across the intervention and control group revealed no difference which shows that at baseline, both groups had a relatively similar level of limited knowledge and experience of the study concepts. According to the Ministry of Education in the State of Osun, teacher recruitment and deployment process are done centrally. This is to ensure that the teachers are evenly distributed across all the schools for children with special educational needs in the state of Osun. Nearly all the participants (90%) had never had any formal training in managing CB while just 25% had previously had some form of training in this area.

The comparison of the knowledge and experience of CB and FBA post-intervention showed a significant difference with the intervention group having an increase in their correct responses to the questions about FBA and CB. The modality of the training appears to have improved their knowledge. According to a review by McCahillet *al.* (2014) one of the



empirically valid modalities for training educational staff in FBA is the delivery of lectures. Other effective modalities include video modeling, feedback and written protocols (McCahill et al., 2014). In this part of the world, there are limited resources for the adoption of modalities that will require complex equipment for delivery. What is required to deliver a lecture are a venue, stationaries and basic materials for refreshment, which are not complex. This has been shown to be effective in this present study.

### **5.1.3 Factors that influence self-efficacy**

To explore the underlying factors that relate with self-efficacy, a correlation analysis was conducted. Self-efficacy was found to be moderately positively correlated to quality of life of the participants. Karimzadeh *et al.* looked at self-efficacy and quality of life of a sample of teachers in Iran (Karimzadeh Shirazi et al., 2008). In the current research, it was found out that there were also significant positive relationships between self-efficacy and quality of life. This is consistent with previous studies which have shown that teacher self-efficacy is positively associated with job satisfaction (Caprara et al., 2006), while job satisfaction itself has been found to directly influence quality of life (Kermansaravi et al., 2015). By implication, high level of self-efficacy is expected to have an influence on the overall quality of life. Also, overall increase in self-efficacy tends to lead to improvement in wellbeing aside from resultant increase in job satisfaction. All these having further positive influence on the quality of life of the individual (Tschannen-Moran and Hoy, 2001).

Specifically, the subscale of self-efficacy in instructional strategies in this study was found to have significant positive relationship with overall professional quality of life. This suggests that any improvement in self-efficacy in instructional strategies or any modality towards enhancing

self-efficacy in instructional strategies will have a translational effect on the quality of life. Self-efficacy in instructional strategies captures the teachers' sense of efficacy in developing and implementing instructional strategies to meet students' needs (Chang and Engelhard Jr., 2015). It is expected that when teachers are able to positively impart their students, it will translate to better perception of their own self with a lower emotional arousal state and a higher performance level (Bandura, 1986a).

Also, the total self-efficacy was positively correlated to compassion satisfaction subscale of professional quality of life scale. Compassion satisfaction subscale tries to elicit the pleasure derived by the professional from being able to do their work well. If an individual is able to do his or her work well and bring about a positive outcome on set goals, this seems to be the whole essence of self-efficacy including the individuals positive feelings about helping others (Pietrantonio and Prati, 2008). This finding is similar to previous findings among other professionals. Across various professionals, self-efficacy has been found to have positive correlations with compassion satisfaction. These include rescue workers- firefighters, paramedics, and medical technicians (Prati et al., 2010) and psychological counselors (Bozgeyikli, 2012).

Although there were negative correlations between burnout experience and self-efficacy, this present study did not find any statistically significant relationship between the two groups of study participants. Various studies have demonstrated statistically significant inverse relationships between self-efficacy and burnout (Skaalvik and Skaalvik, 2010). Boujut *et al.* (2017) explored the relationship between self-efficacy and burnout among a sample of young persons

with autism in a special educational needs setting (Boujut et al., 2017). Another study done among other special education teachers also reported a similar finding (Sarıçam and Sakız, 2014). These studies have highlighted the importance of self-efficacy beliefs in special education staff's level of emotional involvement, sense of accomplishment and engagement. The reason for our finding not to have reached statistical significance might be due to the small sample size which was determined by the study design.

This study showed that there was a statistically significant inverse relationship between total self-efficacy and the depersonalization subscale of MBI. Depersonalization describe an unfeeling and impersonal response towards recipients of one's care or service (Maslach and Jackson, 1981). A teacher is not able to meet his or her expectations or that of his or her students will lack the confidence and the self-esteem to persist on the job. Such teachers could begin to experience feelings of depersonalization towards their recipients. They may become disconnected from their students' situation as a form of defense mechanism. Depersonalization as a defense mechanism had been previously established as a means of reducing the impact of trauma on the psyche of survivors of trauma (Shilony and Grossman, 1993).

#### **5.1.4 Baseline scores of participants across the intervention group and the control group**

Across the two groups of participants, a comparative analysis of the level of self-efficacy at baseline revealed no significant differences in the total self-efficacy and other subscales of self-efficacy. This was anticipated due to the expectations that each of the schools had a fair distribution of the teaching staff of the ministry of education. This is also in line with the fact that the overall comparison of the baseline socio-demographic and knowledge and experience

data across the control group and the intervention group giving more credence to any observable post-intervention differences. However, there were differences in emotional exhaustion, total professional quality of life, professional quality of life burnout and traumatic stress which have all been shown to have significant impact on teacher quality of life (Costa and Silva, 2012). The participants in the intervention group had higher levels of total professional quality of life, emotional exhaustion and traumatic stress than those ones in the control group. This could be due to the fact that besides the comparable variables like commensurate staff strength and staff skills which can be distributed fairly, other parameters which can have significant impact on functioning or capability of the teachers impacting their quality of life or their teaching experience might not be evenly distributed. Some of the factors that have been found to influence professional quality of life and related outcomes include, work load, family life, transportation, compensation policy and benefits, working environment, working condition and career growth (Islam, 2012). There is a possibility that some of these variables will be different across the two groups of participants thereby significantly confounding the other outcome measures.

### **5.1.5 Burnout experience and quality of life of the participants**

Upon exploration of the relationship between burnout and quality of life, this study found that burnout experience was inversely related to the overall quality of life of the participants as the negative correlations between total MBI and total PQOLS score was statistically significant ( $r=-0.48$ ;  $p=0.02$ ). This is in keeping with previous studies that have explored same. Among a sample of health workers, Ziaei et al. (2015) reported that a statistical significant correlation was found between quality of life and occupational burnout. They concluded that reduction of

productivity can be prevented by improving the quality of life of employees in different ways (Ziaei et al., 2015). Another study among a population of medical college teaching staff in China reported that Job-related burnout had a direct negative effect on quality of life (Yao et al., 2015). Furthermore, study among a sample of staff of non-governmental organizations in Romania also found the same relationship (Craiovan, 2015). This was also shown in a sample of teachers and principals (Pardakhtch et al., 2009) in Takestan.

The findings from their study also stated that quality of work life, adequate and fair compensation, social relevance of work life and total life space, respectively, had the most effects on burnout. It is imperative that we observe that the relationship between burnout experience and quality of life cut across all disciplines that have to do with working towards improving the situation or circumstances of others. This can only be achieved if the provider of such assistances are also in the right frame of mind and have due compensation for their efforts. The teachers in this sample population have been receiving half of their salaries for about 2 years which has the potential of increasing their level of burn out and reducing their quality of life.

#### **5.1.6 Effect of intervention on the self-efficacy of the teachers**

The effect of the FBA based training on the self-efficacy of the teachers was explored. There was a statistically significant difference between the pre and post interventions scores for the intervention group. These suggest that the training had a significant impact on the teachers within this group. This impact was statistically significant on the total self-efficacy, efficacy in student engagement and efficacy in classroom management. These changes were not observed

among the participants within the control group. Using ANCOVA to control for baseline scores showed that the treatment effect on self-efficacy was maintained. The FBA training focused on helping the teachers to be able to better understand their students with challenging behaviours and to be able to interpret the behaviours in the context of the antecedent and the consequences of the behavior towards proffering modalities of reducing the behavior. All these are related to both student engagement and classroom management.

Previous studies have shown that enhancing the experience of teachers has a significant positive effect on their reported self-efficacy with teachers with limited experience having low self-efficacy (Carter et al., 1988). Also professional development and pedagogical in-service training also significantly improve the self-efficacy of teachers across different populations (Postareff et al., 2007). These trainings will improve self-esteem and provide the individual with enough information to enhance their ability to take correct decisions.

### **5.1.7 The effect of the training on Burnout**

In this study, the burnout experience of the participants was reported across two of the outcome measures; the overall burnout measured by the MBI and its subscales and the burnout subscale of PQOLS. The comparison of the pre and post intervention scores for the intervention among the intervention group showed no statistically significant differences in burnout as measured by the MBI. However the burnout subscale of the PQOLS found statistically significant decrease in the level of burnout among the intervention group. One of the possible explanations for this observation could be that there exists an indirect relationship between training and burnout experience. This means that when the training is delivered, the trainee receives information that improves his/her function and capability. This improvement in functioning

eventually translates to better performance at work which eventually leads to a reduction in the anxiety and emotional arousal that is attached to the difficulties encountered in the delivery on responsibilities. This then leads to reduction in burnout experience.

### **5.1.8 The effect of training on quality of life**

The results of the comparison of the pre and post intervention data and the analysis of covariance for this study show that the training improved the quality of life of the participants. This improvement in quality of life was also seen in the form of reduction in the burnout measured by the PQOLS. Enhancing someone's capability towards fulfilling his goal or meeting his responsibilities professionally could go a long way to improve the quality of life of the individual. Pizolato *et al.* looked at the effect of an educational intervention on vocalization on the quality of life of a sample of teachers in Brazil. They reported a significant improvement in the quality of life of the participants in the intervention group

Gayathiri and Ramakrishna (2013) reviewed literature on the relationship between quality of work life, job satisfaction and performance. They concluded that enhancing quality of work life includes ensuring the existence of favorable conditions and environments of a workplace which supports and promotes employee satisfaction by providing them with rewards, job security, and growth opportunities. Growth opportunities with regards to professionalism are also one of the possible ways in which this training could have improved the quality of life of the study participants (Gayathiri and Ramakrishnan, 2013).

### **5.1.9 Challenges in data collection**

The training commenced 6 weeks into the second term. Changes in the school calendar had to be made because The Ministry of Education ran out of funds for feeding the students in the boarding house of their schools for persons with special educational needs. Hence they had to suspend all academic activities. Necessary amendments had to be made towards ensuring that the training was done, which made the collection of data for the post-intervention data from the control group to be extended into the 2nd week of resumption for the 3rd term. At the time of collection of the post-intervention data for the control group, the student teachers were yet to resume back for the term. This made their data for the post-intervention to be excluded from the presentation of results.

### **5.1.10 Limitations**

There were some limitations to this study. These include the fact that the sample size is small which means that caution is advised about generalizing the results. Also, randomization of the selection of the sample size was not possible due to the limited size of the sample frame. There was a lack of control over the school calendar due to organizational challenges made it difficult to collect post intervention data from student teachers in the control group. Not minding these limitations, the information from this research is vital to the design of future trainings and in similar settings.



### **5.1.11 Strength of the study**

The strengths of this study are that this is the first study in Nigeria to evaluate the effect of FBA training on self-efficacy of special education teachers. The study was able to compare a control group with the intervention group. In spite of the reduction in sample size, the analysis was still able to find statistically significant differences which points to the fact that further execution of this training under much more stable conditions with a larger sample has a potential for eliciting more significant findings.

## **5.2 Conclusions**

This study has shown that training on functional behavioral analysis implementation towards managing student challenging behaviors can be helpful towards the professional development of special education needs teachers and could improve their self-efficacy and quality of life, and reduce their burnout experience. Satisfaction with the training was high with 95.5% of them expressing that they were mostly/very satisfied with the training and with all of them expressing that they will like to come back for the training.

## **5.3 Recommendations**

The training could be effectively delivered with minimal extra resources within the school setting. Based on these, the following recommendations are hereby put forward:

1. There is a need for more studies which can either replicate or refute these findings.

2. The impact of the training on long-term basis should be determined.
3. Due to the potential benefits, The Ministry of Education should consider extending this training to all the other schools.
4. The Ministry will also be advised to provide all the educational aids for the teachers to also enhance their efficacy

**(3217 Words)**

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Photos



**Photo 1: Intervention Group Participants at the Lecture on Overview of Challenging Behaviours and Functional Behavioural Analysis**



**Photo 2: Intervention group participants presenting a case of challenging behavior they had encountered during the follow up period**



**Photo 3: Intervention Group Participants after the Post-intervention assessment**



**Photo 4: Control Group participants at the pre-test data collection**

## APPENDIX 1

### INFORMED CONSENT FORM

**Title of the research:** Effect of functional analysis based training on self efficacy towards managing student challenging behaviour among special education needs teachers

This study is being conducted by **Dr. Ibigbami Olanrewaju**, an MSc student of **The Centre for Child and Adolescent Mental Health, University of Ibadan, Nigeria**. The purpose of this research is to determine the effects of a functional analysis based training on self-efficacy of special education needs teachers.

You have been requested to participate in this training because you are a special education needs teacher who work in the special education needs school in the state of Osun, and that you work with children who have challenging behaviours.

You will be required to complete some questionnaires which will ask about you, your professional experience and basic knowledge about functional analysis. This will be followed by training on the application of functional analysis. The final stage of the study will be another assessment to determine how much the training had impacted you personally.

It is expected that the whole research will last for a period of 6 weeks. You will be expected to be available for the training for a period of 1-2 hours weekly to receive instructions and support on specific aspects of the training. Some of the sessions will be audio taped, but this will be used only for the study. The recordings will be destroyed after the study is completed.

This study is expected to improve your ability to help your students who have challenging behaviours. However, it is your choice whether to participate in the study or not. If you refuse to participate, you will not be penalized in any way. It will also not have any effect on your career progression. You will not be paid to participate in the study. However, refreshments will be served during the sessions. You will also be given pens to fill the questionnaires. You may stop participating at any time during the study.

**Statement of person giving assent:** This study has been well explained to me and I understand the nature and the purpose of the research. I will be willing to take part in the entire study.

Signature/ thumbprint of participant.....

Date.....

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**APPENDIX 2**  
**SOCIO- DEMOGRAPHIC QUESTIONNAIRE**

Please write the answers to the questions or draw a circle where it applies to you. This is not an examination; it is only to find out about you and your health.

**SECTION I**

**Personal Information**

1. Age at last birth day:
2. Gender:
3. Religion
4. Highest level of education:
5. Specific area of specialization (if any)
6. No of years of experience as a teacher\_\_\_\_\_
7. No of years of experience as a special education teacher-----

## SECTION II

### Information about FBA and CB

8. Do you have any previous training in management of challenging behaviour or FA?

YES.....NO.....

9. Do you have any experience with children who have challenging behaviours?

YES.....NO.....

10. The frequency of such encounters....

Never.....Seldom.....Sometime.....Always

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**Appendix  
3**

**Teachers' Sense of Efficacy Scale<sup>1</sup> (long form)**

**Teacher Beliefs**

**How much can you do?**

Directions: This questionnaire is designed to help us gain a better understanding of the kinds of things that create difficulties for teachers in their school activities. Please indicate your opinion about each school activity below. Your answers are confidential.

Nothing      Very Little      Some Influence      Quite a Bit      A Great Deal

- |  |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1. How much can you do to get through to the most difficult students?                                | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 2. How much can you do to help your students think critically?                                       | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 3. How much can you do to control disruptive behavior in the classroom?                              | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 4. How much can you do to motivate students who show low interest in school work?                    | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 5. To what extent can you make your expectations clear about student behavior?                       | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 6. How much can you do to get students to believe they can do well in school work?                   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 7. How well can you respond to difficult questions from your students?                               | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 8. How well can you establish routines to keep activities running smoothly?                          | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 9. How much can you do to help your students value learning?   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 10. How much can you gauge student comprehension of what you have taught?                            | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 11. To what extent can you craft good questions for your students?                                   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 12. How much can you do to foster student creativity?  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 13. How much can you do to get children to follow classroom rules?                                   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 14. How much can you do to improve the understanding of a student who is failing?                    | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 15. How much can you do to calm a student who is disruptive or noisy?                                | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 16. How well can you establish a classroom management system with each group of students?            | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 17. How much can you do to adjust your lessons to the proper level for individual students?          | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 18. How much can you use a variety of assessment strategies?   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 19. How well can you keep a few problem students from ruining an entire lesson?                      | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| 20. To what extent can you provide an alternative explanation or example when students are confused? | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |

## Appendix 4

### MBI

	HOW OFTEN						0-6 Statements:
HOW	0	1	2	3	4	5	6
OFTEN:	Never	A few	once a	A few times	Once a	A few times	every
	Times	month or	a month	week	a week		day
	A year less						

1. \_\_\_\_\_ I feel emotionally drained from my work.
2. \_\_\_\_\_ I feel used up at the end of the workday.
3. \_\_\_\_\_ I feel fatigued when I get up in the morning and have to face another day on the job.
4. \_\_\_\_\_ I can easily understand how my recipients feel about things.
5. \_\_\_\_\_ I feel I treat some recipients as if they were impersonal objects.
6. \_\_\_\_\_ Working with people all day is really a strain for me.
7. \_\_\_\_\_ I deal very effectively with the problems of my recipients.
8. \_\_\_\_\_ I feel burned out from my work.
9. \_\_\_\_\_ I feel I'm positively influencing other people's lives through my work.

10. \_\_\_\_\_ I've become more callous toward people since I took this job.

11. \_\_\_\_\_ I worry that this job is hardening me emotionally.

---

12. \_\_\_\_\_ I feel very energetic.

13. \_\_\_\_\_ I feel frustrated by my job.

14. \_\_\_\_\_ I feel I'm working too hard on my job.

---

15. \_\_\_\_\_ I don't really care what happens to some recipients.

16. \_\_\_\_\_ Working with people directly puts too much stress on me.

17. \_\_\_\_\_ I can easily create a relaxed atmosphere with my recipients.

18. \_\_\_\_\_ I feel exhilarated after working closely with my recipients.

19. \_\_\_\_\_ I have accomplished many worthwhile things in this job.

20. \_\_\_\_\_ I feel like I'm at the end of my rope.

21. \_\_\_\_\_ In my work, I deal with emotional problems very calmly.

22. \_\_\_\_\_ I feel recipients blame me for some of their problems.

**Appendi  
x 5**

**Professional Quality of Life Scale (adapted for  
teachers)**

When you teach students you have direct contact with their lives. As you may have found, your compassion for those you teach can affect you in positive and negative ways. Below are some questions about your experiences, both positive and negative, as a teacher. Consider each of the following questions about you and your current work situation. Select the number that honestly reflects how frequently you experienced these things in the last 30 days.

1=Never      2=Rarely      3=Sometimes      4=Often      5=Very Often

1. I am happy.
2. I am preoccupied with more than one person I teach.
3. I get satisfaction from being able to teach people.
4. I feel connected to others.
5. I jump or am startled by unexpected sounds.
6. I feel invigorated after working with those I teach.
7. I find it difficult to separate my personal life from my life as a teacher.
8. I am not as productive at work because I am losing sleep over traumatic experiences of a person I teach.
9. I think that I might have been affected by the traumatic stress of those I teach.
10. I feel trapped by my job as a teacher.
11. Because of my helping, I have felt "on edge" about various things.
12. I like my work as a teacher.
13. I feel depressed because of the traumatic experiences of the people I teach.
14. I feel as though I am experiencing the trauma of someone I have helped.
15. I have beliefs that sustain me.
16. I am pleased with how I am able to keep up with teaching techniques and protocols.
17. I am the person I always wanted to be.
18. My work makes me feel satisfied.

19. I feel worn out because of my work as a teacher.
20. I have happy thoughts and feelings about those I teach and how I could help them.
21. I feel overwhelmed because my case [work] load seems endless.
22. I believe I can make a difference through my work.
23. I avoid certain activities or situations because they remind me of frightening experiences of the people I teach.
24. I am proud of what I can do to teach.
25. As a result of my [helping], I have intrusive, frightening thoughts.
26. I feel "bogged down" by the system.
27. I have thoughts that I am a "success" as a teacher.
28. I can't recall important parts of my work with trauma victims.
29. I am a very caring person.
30. I am happy that I chose to do this work.

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**APPENDIX**

**CLIENT SATISFACTION  
QUESTIONNAIRE**

1. How would you rate the quality of service you have received?

\_\_\_\_\_ 4 \_\_\_\_\_ 3 \_\_\_\_\_ 2 \_\_\_\_\_ 1

Excellent                      Good                      Fair                      Poor

2. Did you get the kind of service you wanted?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

No, definitely              No, not really              Yes, generally              Yes, definitely

3. To what extent has our program met your needs?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

Almost all of my              Most of my needs              Only a few of my              None of my  
needs have been met              have been met              needs have been met              have been  
met

4. If a friend were in need of similar help, would you recommend our program to him or her?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

No, definitely not      No, I don't think so      Yes, I think so              Yes, definitely

5. How satisfied are you with the amount of help you have received?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

Quite dissatisfied Indifferent or mildly Mostly satisfied Very  
satisfied dissatisfied

6. Have the services you received helped you to deal more effectively with your problems?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

Yes, they helped Yes, they helped No, they really didn't help No, they seemed to make  
a great deal things worse

7. In an overall, general sense, how satisfied are you with the service you have received?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

Very satisfied Mostly satisfied Indifferent or mildly Quite  
dissatisfied dissatisfied

8. If you were to seek help again, would you come back to our program?

\_\_\_\_\_ 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3  
4

No, definitely not No, I don't think so Yes, I think so Yes, definitely

## APPENDIX 7

### Basic FBA to BSP

Using FBA to Develop Function-Based Support for Students with Mild to Moderate Problem Behavior

Defining & Understanding Behavior

### Participant's Guidebook

- ★ Objectives
- 🕒 Review
- 👤 Activities
- ✓ Checks for Understanding
- 🔍 Comments/Questions
- 📋 Tasks
- ! Key Points

### ★ Module 1 Objectives

By the end of this module you should be able to:

1. Define observable behavior (What).
2. Identify events that predict When & Where the specific behavior occurs.
3. Identify Why a student engages in the specific behavior.
4. Construct hypothesis statements that summarize the What, When, Where, & Why of a student's behavior

### The A-B-C's of Understanding Behavior

A= Antecedent. Find out the events that occur right before the behavior. **When and Where?**

B= Behavior. Find out **What** is the observable problem behavior?

C= Consequence. Find out what happens after the behavior occurs? **WHY?**

### Always Start by Defining the Problem Behavior

```
graph LR; 2[2 Antecedent (Trigger)] --> 1[1 Behavior]; 1 --> 3[3 Consequence (Function)];
```

### Defining Observable Behaviors

- Definitions of behaviors need to be:
  - **Observable:** The behavior is an action that can be seen.
  - **Measurable:** The behavior can be counted or timed.
  - **Defined so clearly that a person unfamiliar with the student could recognize the behavior without any doubts!**



Observable/Measurable Outcomes	Non-observable/Non-measurable Outcomes
Tells what teacher is lecturing, calling out in a loud voice, singing	Disruptive behaviors
Shows pictures during group work time	Off-task behaviors
Throwing objects, kicking over chairs	Angry, hostile behaviors
Calls peers names	Inappropriate language
Tapping/drumming on desk, fidgeting around the classroom	Attention problems
Refusal to do work, failure to follow directions	Non-compliance
Says "No" or "You can't make me" when given direction	Defiant

- ### Are these observable, & measurable?
- Gets out of desk and hits other students
  - Has separation anxiety (from parent)
  - Spacey
  - Reads 120 wpm
  - Says she hears voices
  - Emotionally disturbed
  - Doesn't like classmates

### Defining Behavior: Tip #1:

Ask yourself, "What does the behavior look like?"

**Talking out:** Any verbalization made by the student that was not initiated by the teacher and/or distracts others from the assigned tasks in the classroom.

- ### Tip #2
- Provide Examples and Non-examples of the problem behavior
- Examples of Talking Out:**
- Answering a question directed to another student by the teacher.
  - Talking when the teacher is giving directions
  - Talking to peers during independent work time
- Non-examples of Talking Out:**
- Answering a question that the teacher directed to the child
  - Talking to another student during recess
  - Talking with a peer during group work

### Behavior = Talking out

**Definition:** Any verbalization made by the student that was not initiated by the teacher and/or distracts others from the assigned tasks in the classroom.

**Examples of Talking Out:**

- Answering a question directed to another student by the teacher
- Talking when the teacher is giving directions
- Talking to peers during independent work time

**Non-examples of Talking Out:**

- Answering a question that the teacher directed to the child
- Talking to another student during recess
- Talking with a peer during group work

### Activity 1

Using your guidebook (page 4) provide an **observable & measurable** definition for ONE of these behaviors:

- Jeff is always disruptive in class.
- Hailey is constantly off-task during math.
- Chris is defiant.
- Brandon is angry and hostile.
- Alexis uses inappropriate language.

Is your definition so clear that a person unfamiliar with the student could recognize the behavior without any doubts?

**Once you have defined the problem behavior...**

**THEN: Where & When** does the behavior occur?

- Routines
- Triggering Antecedents

**WHERE and WHEN Does the Problem Behavior Occur?**

**WHERE** = Routines where the problem behavior is most likely

- Examples: During math class, gym class, lunch, recess

**WHEN** = Specific events (or antecedents) within a routine that "trigger" the problem behavior

- Examples: When given double-digit addition, given directions

**Identifying Antecedent "Triggers"**

Identify the event, action, or object that occurs right before the problem behavior (When...)

- Signals the behavior
- "Sets it off" (trigger)

- Identify the **ANTECEDENT** in these examples:
  - At the lunch table, when told to shut up by a peer, Ben hits the student
  - In language arts class, when asked to read aloud in class, Nancy gets up and tells jokes
  - During circle time, when praised Jessie starts crying

**Activity 2 (page 5):**  
**Identify the behavior, routine, & antecedent in the following scenarios**  
 Frame them in the blanks/boxes with the following statements:

Routine: "During \_\_\_\_\_"

**Scenario #1**

During passing period in the hallway before recess, when peers tease him about his walk, A.J. calls them names and hits them.

Routine: "During Passing Period before Recess..."

**Scenario #2**

In math class, Bea stares off into space and does not respond to teacher directions when she is given a difficult math problem.

Routine: "During Math Class"	
Antecedent/Trigger: When... GIVEN A DIFFICULT MATH PROBLEM	Behavior: The student... STARES & DOES NOT RESPOND TO DIRECTIONS

Once you have defined the behavior (the **What**) & know **Where & When** the behavior occurs...

Then: **WHY** does the behavior continue to occur (what happens right afterwards)? **Step #1:** What is the **CONSEQUENCE?** **Step #2:** What is the **PAWOFF?**

2 Antecedent/Trigger/ Setting/Context: When... happens	1 Behavior: The student does... what	3 Consequence/Outcome: and as a result...
---	--	---

**Step #1: Determine What Happens Right After the Behavior (the Consequence or Outcome).**

It may help to think: "and as a result \_\_\_\_\_"

- **Example (Antecedent → Behavior → Consequence)**
  - During recess, when peers tease him, Ben hits his peers and they leave him alone.
  - During reading, when asked to read aloud Tracy tells jokes the other students laugh, and she is sent to the office (missing the assignment).
  - During circle time, when praised Jessie starts crying, the teacher stops circle time and comforts her.

**Activity 3 (pages 6 & 7):**  
Identify the behavior, routine, antecedent and consequence in the scenarios

Frame them in the blanks/boxes with the following statements:

Routine: "During _____"		
Antecedent/Trigger: When _____	Behavior: The student does _____	Consequence/Outcome: ...and as a result _____

**Scenario #1**

Joe throws his pencil and rips his paper during math whenever he is given double-digit math problems. This results in him getting sent to the office.

Routine: "During Math class"		
Antecedent/Trigger: When... Given double digit math problems	Behavior: Student does... Throws pencil & rips paper	Consequence/Outcome: and as a result... Sent to the office

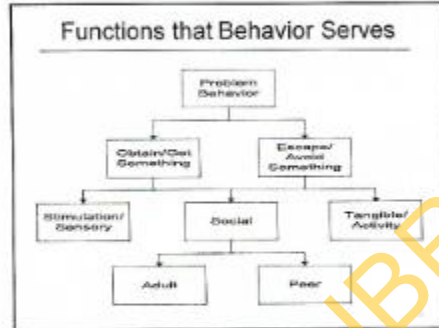
**Scenario #2**

Nancy cries during reading time when she is asked to work by herself. This results in the teacher sitting and reading with her.

Routine: "During Reading"		
Antecedent/Trigger: When... Asked to work by herself	Behavior: Student does... Cries	Consequence/Outcome: and as a result... The teacher sits & reads with her

### Step #2: Understanding WHY the Behavior Occurs

- When understanding behavior, we want to learn what **FUNCTION** (or purpose) the behavior is serving for the student (what is the **pay-off** for the student?)
- You need to understand from the **student's perspective**
  - What are they getting (or trying to get) from engaging in this behavior
  - What is the most important thing that the student wants to gain (or avoid) by using this behavior



### Most Common Functions of Behavior

<p><b>To Obtain/Get:</b></p> <ul style="list-style-type: none"> <li>Peer attention</li> <li>Adult attention</li> <li>Desired activity</li> <li>Desired object/items</li> <li>Sensory stimulation: auditory, tactile, etc.</li> </ul>	<p><b>To Avoid/Escape:</b></p> <ul style="list-style-type: none"> <li>Difficult task</li> <li>Boring Task</li> <li>Easy task</li> <li>Physical demand</li> <li>Non-specified activity</li> <li>Fear</li> <li>Staff</li> <li>Reprimands</li> </ul>
--	---

### Examples of Function in School

- Obtain/Get Reinforcers**
  - I yell and others look at me
  - I fight and others listen to me
  - Teacher and people talk to me
  - Hit in order to get toys from other kids.
- Escape/Avoid Aversives**
  - Cry when work gets hard and someone will help me
  - Throw a book during math class and the teacher will remove me from class
  - I stand out of the way during PE and the other game participants will avoid throwing me the ball.

### Understanding FUNCTION: WHY? What is the Payoff?

Use information about the routine, antecedent, behavior, & consequence to determine that the function of the behavior is either to:

Get or Avoid something in the environment

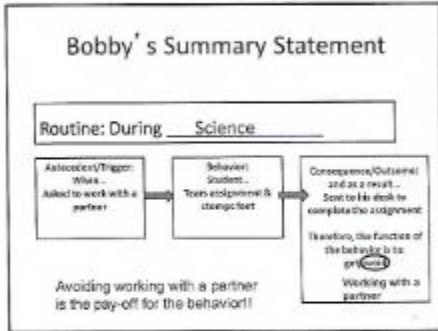
```

graph LR
    R[Routine: During] --> A[Antecedent/Trigger: When]
    A --> B[Behavior: Student does]
    B --> C[Consequence/Effect: Caretaker and/or a result...]
    C --- F[Therefore, the function of the behavior is to: get/avoid]
  
```

### What is the Function of/ Pay-off for Bobby's Behavior?

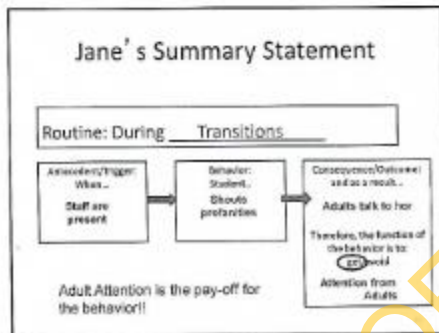
When asked to work with a partner in science, Bobby tears up his assignment and stomps his feet. The teacher then has Bobby sit down at his desk to complete the same assignment, while the rest of the class works together with their partners.

Get?? Avoid??  
What? An Activity? Peers? Teacher?



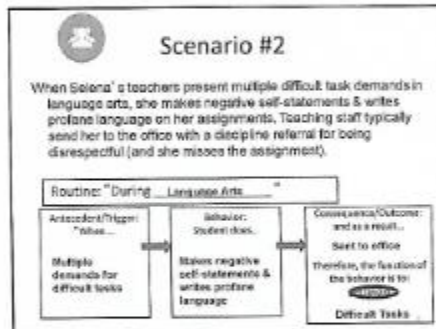
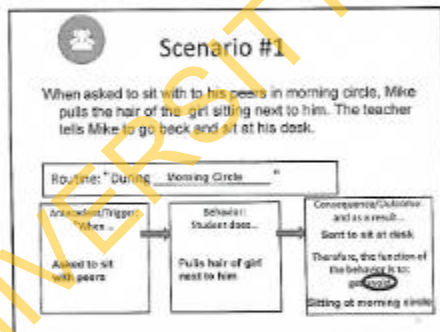
### What is the Function of/Pay-off for Jane's Behavior?

Jane, a fifth grade student, was referred for disruptive behavior to the student support team by her teacher, Mrs. O'Neil. After interviewing Mrs. O'Neil and conducting several observations of Jane in the classroom, the team determined that during transitions (from lunch, recess, dismissal) in the hallway when staff are present, she shouts profanities. Then, adults spend time talking with her about her behavior.



### Activity 4

- Using the scenarios on pages 8 and 9, please identify the problem behavior, routine, antecedent, and consequence
- Use this information to determine the most likely **FUNCTION** of the problem behavior



### Scenario #3

After interviewing Johnny's teacher and conducting several observations, Johnny's team determined that when seated next to peers during less structured class time (free time, cooperative group art projects, etc.), Johnny tears up his paper and stomps his feet. After Johnny engages in this behavior his peers laugh at him.

Routine: "During Less structured class time"

<b>Antecedent/Trigger:</b> "When... Seated next to peers"	<b>Behavior:</b> Student does... Tears up paper & stomps feet"	<b>Consequences/Culture:</b> and as a result... Peers laugh Therefore, the function of the behavior is to: <u>Peer Attention</u>
---	--	--

After we defined the behavior (the **What**) & know **Where & When & Why** the behavior occurs...

Then: We ask: Are there any events that happen outside of the routine that **"SET UP"** the behavior (make it more likely to occur)?

### Setting Events

- Infrequent events that temporarily impact the antecedent to increase or decrease the value of the behavioral outcome.
- Either increase or decrease the likelihood that a behavior will occur

Setting Events → Antecedents → Behavior → Consequence

### Antecedents vs. Setting Events

- Antecedents** - occur immediately before and act as **"triggers"** for problem behavior
- Setting Events** - indirectly **"set-up"** the problem behavior by temporarily altering the value of maintaining consequences.

\*Setting events can help us **PREDICT** that the problem behavior will occur.

### Common Setting Events: "Set ups"

- Lack of sleep or food
- Having a fight on the way to school
- Bad grade on a test / reprimands
- Forgetting to take medication
- Substitute teacher / changes in routine

**Non-examples:**

- Diagnosis of autism or ADHD
- "Bad" home life

\* Note: Setting events can be difficult to identify, are often unknown.

### Setting Events: Example

When peers approach Victor in the hallway and say, "Hello", he yells "Leave me alone!" and "Go away!" Peers say he is weird and walk away. This is most likely to happen on days that Victor has an argument with his sibling before school.

What is the triggering antecedent?

- Peers approach and say "hello"

What is the setting event?

- Argument with sibling before school

### Summary Statement with Setting Event

In Social Studies, when asked to read independently, Ben (a strong reader) often gets out of his seat, walks around the room, and jokes with peers. Ben's peers laugh and talk to him as he walks by. This behavior is most likely to happen on days when Ben's parents bring him to school (i.e., he doesn't ride the bus with friends).

**Routine:** During Social Studies

Setting/Event	Antecedent	Behavior	Consequence
Ben's great show today when Ben brought to school by parents	Asked to read independently	Out of seat, walks around room, jokes with peers	Peers laugh and talk to Ben Teacher: "Ben... answer your question"

### Activity 5

- Using the information presented in the scenarios on pages 10 and 11, please identify:
  - The triggering antecedent
  - The most likely FUNCTION of the problem behavior
  - The setting event

### Scenario #1

When Jason is asked to outline a book chapter in Language Arts, he often argues, refuses to work and uses profanity which results in being sent to the office for "disrespect". This behavior is more likely if Jason has an altercation with a peer on the bus on the way to school.

**Routine:** Language Arts

Setting/Event	Antecedent	Behavior	Consequence
Peer altercation on bus on the way to school	Asked to outline chapter	Arguing with teacher, refusing to work, profanity	Teacher sends him to the office Function: <u>Escape Task</u>

### Scenario #2

During story time when the teacher asks other students questions, Michelle blurts out responses or begins crying if she is not called on. When this happens, the educational assistant moves in closely and talks privately to Michelle in an effort to calm her. This is most likely to happen on days when Michelle has not had her medication.

**Routine:** Story time

Setting/Event	Antecedent	Behavior	Consequence
Michelle does not take medication	Other students asked to answer questions	Blurts out responses, cries	EA talks privately with the student Function: <u>Adult Attention</u>

### Sample Summary Statement

**BRENDA HITS OTHER STUDENTS - WHY WOULD SHE DO THIS?**

Antecedents	Behavior	Consequences
Susan calls Brenda a name	Brenda punches Susan on the nose	Susan stops laughing and

**Summary Statement**

**WHY? OTHER STUDENTS CALL HER NAMES OR TEASE HER (BRENDA HITS THEM BECAUSE THEY GO AWAY from Her)**

Brenda spells a word incorrectly during an oral review and the child behind her laughs	Brenda pulls the child's hair	Brenda is sent to the office
Brenda is playing blocks with Ben. Ben takes a block from Brenda	Brenda hits Ben over the head with another block	Ben puts the block down and runs away

### ABC Tracker

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Goal: \_\_\_\_\_

Teacher: \_\_\_\_\_

Observer: \_\_\_\_\_

Time	Setting/Event	Antecedent	Behavior	Consequence
11:00	Class			
11:15	Class			
11:30	Class			
11:45	Class			
12:00	Class			
12:15	Class			
12:30	Class			
12:45	Class			
1:00	Class			
1:15	Class			
1:30	Class			
1:45	Class			
2:00	Class			
2:15	Class			
2:30	Class			
2:45	Class			
3:00	Class			

Observer's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Teacher's Signature: \_\_\_\_\_ Date: \_\_\_\_\_





**✓ Check #3**

Please use the boxes on page 12 to help you construct a hypothetical problem statement.

- Make sure you include:
  - Observable, measurable definition of problem behavior
  - Triggering antecedent
  - Consequence
  - Probable Function
  - Setting event

**📄 Task**

- Over the next weeks...
  1. Select a student in your school who has persistent problem behavior that is not dangerous. Identify:
    - Complete the ABC Tracker for that student
    - Whenever you see an occurrence of the problem behavior each day, write down the A-B-C on the tracker form
    - At the end of the week, or after seeing 5-6 occurrences of the behavior, form a Summary Statement at the bottom of the page
  2. Remember to use A-B-C to inform "Possible Motivation" when completing referral forms

**ABC Tracker**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Identify a specific behavior to track in a specific setting. The behavior is what you will track every time it occurs. Write the name of the behavior in the box below. Use the ABC Tracker to track the behavior.

Date	Time	Antecedent	Behavior	Consequence
10/1/11	10:00			
10/1/11	10:30			
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10/1/11	11:30			
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APPENDIX 8



MINISTRY OF EDUCATION, OSOGBO  
SCHOOLS AND SPECIAL EDUCATION DEPARTMENT,

Your Ref. No. ....

*All communication should be addressed to the  
Office of the Permanent Secretary, quoting  
Ministry of Education, Science & Technology*

Our Ref: S/ADM/358/Vol.II

24<sup>th</sup> February, 2017.


Dr. Olarenwaju Ibigbami,  
Mental Health Clinic,  
State Specialist Hospital,  
Asubiaro, Osogbo.

RE-REQUEST FOR PERMISSION TO TRAIN SPECIAL NEEDS  
TEACHERS ON THE USE OF FUNCTIONAL ANALYSIS IN THE  
TEACHING OF THEIR STUDENTS WITH CHALLENGING  
BEHAVIOURS

I am directed to acknowledge the receipt of your letter on the above named subject and inform you that you have been granted permission to train the selected teachers of Children with Special Needs.

2. Consequently, upon completion of the program, you are required to furnish the Ministry with a comprehensive report that will enable us to transfer the acquired knowledge to other teachers.

3. Thank you.

  
O.O. Adeyeye  
For: Permanent Secretary.

## APPENDIX 9



**Specialist Hospital Osogbo Health Research Ethics Committee (SHOHREC)**

Promoting Highest Ethical and Scientific Standards for Health Research



Our Ref: HREC/27/04/2015/SSHO/030 Your Ref: ..... Date: 24/02/2017

### NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

RE: EFFECT OF FUNCTIONAL ANALYSIS BASED TRAINING ON SELF EFFICACY TOWARDS MANAGING STUDENT CHALLENGING BEHAVIOUR AMONG SPECIAL EDUCATION NEEDS TEACHERS

Health Research Committee assigned number: HREC/27/04/2015/SSHO/030

Name of Principal Investigator: IBIGBAMI OLANREWaju IBIKUNLE

Address of Principal Investigator: MENTAL HEALTH CLINIC, STATE SPECIALIST HOSPITAL ASUBIARO, OSOGBO.

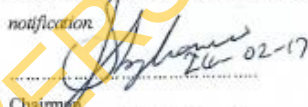
Date of receipt of valid application: 19th of February, 2017.

Date of meeting when final determination of research was made: 23rd of February, 2017.

This is to inform you that the research described in the submitted protocol, the consent forms, advertisements and other participant information materials have been reviewed and given full approval by the Health Research Ethics Committee.

This approval dates from 23/02/2017 to 22/05/2017. If there is delay in starting the research, please inform the HREC so that the dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the HREC assigned number and duration of HREC approval of the study. In multiyear research, endeavor to submit your annual report to the HREC early in order to obtain renewal of your approval and avoid disruption of your research.

The National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the HREC. No changes are permitted in the research without prior approval by the HREC except in circumstances outlined in the Code. The HREC reserves the right to conduct compliance visit your research site without previous notification.

  
.....  
Chairman,  
Health Research Ethics Committee  
State Specialist Hospital  
Osogbo, Osun State,  
Nigeria.

C/O The Secretary, Administrative Department,  
State Specialist Hospital, Asubiaro, Osogbo,  
Osun State, Nigeria.

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+2348059547323, +2348030652116