

UNIVERSITY OF CAPE COAST

KNOWLEDGE AND PRACTICE OF BEHAVIOUR MODIFICATION
TECHNIQUES AMONG PRE-SERVICE TEACHERS OF COLLEGES OF
EDUCATION IN ASHANTI REGION, GHANA

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BY

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Thesis submitted to the Department of Guidance and Counselling of the
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of Cape Coast, in partial fulfilment of the requirements for award of Master of
Philosophy Degree in Guidance and Counselling

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DECLARATION

Candidates' Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature..... Date:

Name:

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature..... Date:

Name:

Co-Supervisor's Signature..... Date:

Name:

ABSTRACT

The study aimed at investigating knowledge and practice of behaviour modification techniques among pre-service teachers of Colleges of Education in Ashanti Region, Ghana. The study adopted a descriptive survey design. Purposive, proportionate and simple random sampling techniques were used to select 370 students who responded to a set of questionnaires. Two research questions were formulated to keep the study in focus. Five similar hypotheses were also tested. Behaviour Modification Questionnaire (BMQ) developed by the researcher served as the instrument for data collection. The study revealed that pre-service teachers demonstrated low level knowledge and practice of behaviour modification techniques in managing disruptive behaviour in classroom. There was mild significant positive relationship between the pre-service teachers' knowledge and practice of behaviour modification techniques in managing disruptive behaviour in the classrooms. It was recommended that counsellors and tutors in Colleges of Education should create the awareness of the importance of the use of proactive behaviour modification techniques instead of the use of punitive methods to correct behaviours. Additionally, pre-service teachers should be provided with meaningful field experiences where they can observe strategies for successfully instructing, engaging, and managing students' disruptive behaviours.

KEY WORDS

Behaviour Modification

Pre-service Teachers

Colleges of Education

Disruptive Behaviour

Pupils

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DEDICATION

This thesis is dedicated to my Husband, Dr. Anthony Yeboah and my children, Marian and Ella.

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CHAPTER ONE

INTRODUCTION

Background to the Study

The issue of discipline in the classroom is one of the most thought-provoking problems in education in recent times (Ingersoll & Smith, 2003). Teachers, administrators, parents, and students will take steps to remedy the problem if they acknowledge that lack of discipline is a serious concern that interferes with the teaching-learning process (Conte as cited in Brooke, James, Peter & Greg, 2013). Canter (as cited in Kakkad, 2012) stated that teachers cannot get their needs met in their classrooms unless there is an effective method of discipline which they thoroughly understand and effectively use.

School discipline is one of the most frequently occurring challenges that most teachers face throughout their teaching career. For many students, discipline means punishment, pain and fear, hence they deem it a negative word. Discipline has to do with correction of maladjusted or undesirable behaviour at home, in the school or at any place. The Cambridge Advanced Learners Dictionary defines discipline as training that makes people more willing to obey or helps them to control themselves (McIntosh, 2013). It is often in the form of rules and regulations which when broken or not adhered to, results in negative consequences in the form of punishment. Alhassan (2000) and Egwunyenga (as cited in Omoyemiju, Ojo & Olatomide, 2015) both explained the concept of discipline as training that ensures that an individual develops orderly conduct, self-control as well as self-direction. According to Were (2006) the word discipline, is an action taken by grown-ups to help a child amend his or her

behaviour. Discipline therefore forms part of moral education which is significant in the development of the child's character (Were, 2006).

There is evidence of indiscipline in schools all over the world. A study conducted by Curwin and Mendler (1988) in U.S. showed that, in general, 15% of students break classroom rules on a regular basis; if sufficient structures are not put in place, these students can disrupt other students' learning. An additional 5% of students are chronic rule-breakers. A survey of 479 preschools to grade eight teachers, established that 48% of respondents reported currently having three or more students in their classrooms who exhibited serious behaviour problems (Pro-Teacher, 2005). Also, a study by Shin and Koh (2008) in Korea and U.S. indicated that 32% of 116 public high school teachers described 25-50% of their students as behaviourally difficult to teach.

In the 1700s, teachers in U.S. were given the parental right to act as they would when dealing with disciplinary problems. Teachers who felt the need, would administer corporal punishment to students under the teachers' supervision (Kaliska, 2002). Kaliska further indicated that frameworks for encouraging and maintaining good behaviour overwhelmed the trend-setting halls of elementary schools across the countries in the world which led to works of behavioural theorists such as Kounin, Skinner, and Glasser. These theories were created to help teachers to make students exhibit behaviour conducive for learning. Kounin, Skinner, and Glasser also stressed positive relationships between students and teachers (Kaliska, 2002).

Again, in the US, although 28 states allowed corporal punishment in public schools, the modern approaches of classroom discipline aid to teach students to become more responsible for their own behaviour (Kaliska, 2002).

Some of the modern approaches include assertive discipline, discipline with dignity and student peer mediation (Kaliska, 2002). Bell (1995) highlighted numerous approaches of achieving school discipline. These comprised teacher effectiveness training, a positive approach using teacher-student mutual respect and bounds creation, suspension or temporary exclusion, detention, expulsion, deprivation of privileges, moral punishment, and rewards. Nakpodia (2010, 2012) listed techniques used in Nigerian schools for improving discipline as the use of the cane, spanking with the hand or slippers, slapping, knocking the head with the knuckle and causing students to kneel down on hard surfaces, all of which are acts of corporal punishment. In Ghana, the case is not different. The use of punishment as a technique of discipline or behaviour modification in Ghanaian schools takes the form of caning, kneeling down and sending students out of the classroom. Other forms of punishment used are weeding, suspension from school and among others. This ends up in making victims of these forms of punishments to lose instruction since they were not in the class when teaching and learning activities took place. This will go a long way to have a toll on their performance. Teachers now have some choices in finding a classroom correction plan to suit their needs (Amponsah-Amfo, 1997). The question is, which approach works best for handling today's classroom behaviour?

Today's classrooms are much complex than in years past. Discipline, now known as classroom management, has a broader meaning. Classroom management refers to actions taken to create and maintain a favourable learning environment to accomplish the goal of teaching by organising the physical environment of the classroom, instituting rules and procedures, maintaining

attention to lessons and engaging in academic activities (Marzano, Marzano & Pickering, 2003). New scopes to classroom management were born with the advent of inclusion, bilingual classes, and students with disabilities. A study of the past 50 years of educational research as noted by Conte (in Brooke et al., 2013) revealed that effective classroom management increases student participation, decreases disruptive behaviours, and makes good use of instructional time. The demands made on teachers have increased significantly in the past few years. This makes classroom management more challenging. According to Canter as cited in (Kakkad, 2012), in the later part of the 20th century, the reality was that:

- (a) Teachers do not gain the respect from parents that they once did,
- (b) More students come to school with behavioural difficulties than before,
- (c) Teachers are not sufficiently trained to handle today's behavioural problems,
- (d) The myth "good" teacher discourages teachers from asking for the support they need and
- (e) Relevant curriculum content is not always enough to motivate students to behave as expected of them.

These factors have combined to weaken a teacher's real or perceived ability to influence students' behaviour. Conte (as cited in Brooke et al., 2013) stressed that it is loss of influence that has made it more challenging for many teachers to effectively maintain discipline in the classroom.

Disruptive behaviour can be defined as excessive behaviour that can affect the general activities proceeding at the time (Chen & Ma, 2007). Applying this definition to classroom shows that students who are disruptive have the potential to impede not only their own educational achievement but

also their classmates' learning and teacher's ability to be effective. It is significant to note that deviant or disruptive behaviours observed among learners in societies have generated worries and uncondusive learning environment. The most disturbing aspect of it is that these disruptive or deviant behaviours are even seen among primary school pupils (Nwobi, 2008). Indeed, the single most common request for assistance from teachers is connected to behaviour and classroom management (Rose & Gallup, 2000). There is therefore the need to curb these excesses starting from primary school. Federal Republic of Nigeria (2004) described this level of education as the key to the success or failure of the whole system and therefore make modification of behaviour at this level very vital since all other levels are built upon it.

The effects of disruptive behaviours in schools are so serious that they must be truncated. Ikeotuonye (2006) specified that there is the need for a strong foundation of discipline in schools and that if the foundation is weak, improvement in classroom management becomes very problematic. For example, students who show disruptive behaviours can waste valuable instructional time, deter other students' ability to focus on academic material, threaten individuals' sense of safety, and increase teachers' levels of stress (Shin & Koh, 2008; Walker, Ramsey, & Gresham, 2003-2004; Walter, Gouze, & Lim, 2006). Again, frequent disruptive behaviours in classrooms have less academic engaged time, and students in disruptive classrooms tend to have lower grades (Temitayo, Nayaya & Lukman, 2013). Also, efforts to control such behaviours cost significant teacher time at the expense of academic instruction. School discipline matters such as disruptive behaviour and violence also have a significant influence on teacher stress and burnout (Smith & Smith, 2006). In

addition to students' classroom misconduct affecting teaching and learning, disruptive behaviour and violence are believed to be a precursor to later school dropout and similar negative social outcomes. Hence students' behavioural problems are alleged to be a leading cause of teacher stress and attrition

There is a significant body of research attesting to the fact that classroom organization and behaviour management competencies significantly influence the persistence of new teachers in their teaching careers (Ingersoll & Smith, 2003). New teachers typically express concerns about effective means to handle disruptive behaviour (Browsers & Tomic, 2000). Browsers and Tomic, (2000) indicated that teachers who have significant problems with behaviour management and classroom discipline frequently show high levels of stress and symptoms of burnout and are frequently ineffective in class.

Behaviour Management is distinct from the aforementioned research that explains why teachers require supplementary training. Tackling this issue early is very significant, thus pre-service teacher training programmes serve as a logical starting point. In fact, research has shown that investing in teacher training has a great influence on student outcomes (Rivkin, Hanushek & Kain 2005; Van Tartwijk & Hammerness, 2011). However, pre-service teachers, in-service teachers, school administrators and researchers constantly criticize the quality of classroom management training in pre-service teacher preparation programmes (Stough, 2006).

Similarly, pre-service teachers often report that they lack necessary skills to manage difficult classroom behaviours (Klopfer, 2014; Siebert, 2005). Classroom management has been described to be the ultimate concern for pre-service teachers (Pereira & Gates 2013; Stewart-Wells, 2000; Tulley & Chui,

1995). Atici, and Stephens and Tonnessen cited by Klopfer (2014) reported that pre-service teachers have difficulties with classroom management during teaching practice and this finding is consistent across the globe. Giallo and Little (2003) examined the perception of both pre-service teachers and teachers with less than three years of experience in relation to their preparation in classroom management. They stressed that the total sample in this study rated their training in classroom management as 'minimally sufficient' and 83.5% desired additional training in classroom management. Another study by Maskan (2007) found out that 81% of 117 pre-service teachers felt that their pre-service education was too theoretical.

Behaviour modification is a treatment approach, based on the principles of operant conditioning that substitutes undesirable behaviours with more desirable ones through positive or negative reinforcement (Miltenberger, 1997). Okeke (2014) defined behaviour modification as behaviour therapy. For effective teaching and learning, human behaviour at every level of education needs to be positively influenced. Such influence is obtained in many settings; formal education, child rearing in the military, prisons, police and other normal personal interactions.

Behaviour modification happens in a therapeutic manner where professionals like teachers, counsellors and psychologists employ acceptable therapies to bring about change in people's behaviours from undesirable to desirable behaviour which are acceptable in society. In the school system, behaviour modification should lead to effective and efficient practices that improve teaching and learning (Alhassan, 2013).

Many researchers have carried out studies in diverse areas geared towards influencing behaviour of people. Such studies include Anagbogu (2001) who studied counselling of anti-social behaviours for better adjustment of Nigerian adolescents. In this study, he found out that anti-social behaviours could be adjusted by various stakeholders. For instance, government could create enabling environment for the development of the youth. Teachers, school guidance coordinators and counsellors should apply both individual and group methods in schools to offer guidance programmes for students on the evils of anti-social behaviours. Oyinloye (2001) carried out studies on strategies for coping with disruptive behaviours in in-school adolescents. He found out that disruptive behaviours could be minimised by employing strategies such as painful ignoring, use of signals, proximity control, interest boosting, affection technique and grouping system.

Again, research shows that teachers can effectively reduce students' disruptive behaviours by implementing applied behaviour analysis (ABA) strategies (Randazzo, 2011). Despite these findings, many teachers still employ a wide variety of behaviour management strategies rather than focusing on evidence-based ABA techniques (Alhassan, 2013). Teachers have stated frequently using punitive approaches to discipline rather than positive approaches, even though there is extensive support in the literature indicating the benefits of positive behaviour interventions in schools (Alhassan, 2013).

Several teachers, particularly novice and pre-service teachers have specified that they do not feel sufficiently prepared to confront students' disruptive behaviours and that it is often difficult for them to link theoretical discourse with real-life situations when learning about behaviour management

strategies (Randazzo, 2011). According to Randazzo, many of these teachers have expressed feelings of decreased self-efficacy and willingness to implement certain behavioural strategies as a result of their lack of preparedness.

Statement of the Problem

A well-managed classroom can provide an exciting and dynamic learning experience for everyone involved. Unfortunately, there are a lot of disruptive behaviours in the classrooms in Ghana which hinder teaching and learning. Some of the disruptive behaviours which have been identified in the classrooms are noisemaking, sighing in class, loitering, shuffling, answering calls in class, indulging in conversation during teaching and learning and coming to class late (Ahiapko, 2016). According to Narebe (2013), all these disruptive behaviours cause problem in the classroom and if these behaviours are not properly handled, they can affect teaching and learning. It therefore important that teachers are equipped with behaviour modifications techniques to handle disruptive behaviours effectively in the classroom.

Behaviour modification techniques are powerful tools for bringing out positive change in human behaviour and facilitate good and conducive learning atmosphere in the school system (Ekennia, 2015). He further indicated that several behaviour modification techniques have been adopted with the aim of putting a stop to these disruptive behaviours yet students' manifest disruptive behaviours with increased frequency (Ekennia, 2015). A personal experience as a tutor during supervision of pre-service teacher internship revealed that many of them failed to adopt the appropriate behaviour modification strategies in the classroom. Although pre-service teachers have gone through courses in classroom management and are expected to put such knowledge into practice

most of them failed to do so. It is therefore unclear why pre-service teachers are unable to modify students' disruptive behaviours in class appropriately.

Although effective classroom management practices have been identified, there exists a significant gap between the effective classroom management knowledge base and requirements for teacher training. As a result, many pre-service teachers are not prepared to effectively manage students' behaviour upon completion of a teacher preparation programme due to lack of exposure to classroom management content (Shamina & Mumthas, 2018).

Literature reviewed so far seems to indicate that there is minimal literature on knowledge and practice of behaviour modification techniques by pre-service teachers in Ghana. For instance, a study by Aponsem (2015) on the relationship between behaviour modification practices of teachers and pupils' attendance in Eastern Region of Ghana revealed that there was mild statistically significant positive relationship between behaviour modification practices of teachers and pupils' attendance. In addition, Eshun (2011) investigated behaviour modification strategies adopted by teachers in some selected inclusive schools in Ashanti Region of Ghana which also indicated that out of the 250 respondents used for the study, 80% of the respondents have minimal knowledge in modern behaviour modification techniques that are used in correcting disruptive behaviour in the classroom while the 20% had no knowledge about it. In this study the researcher assessed the knowledge and practice of behaviour modification techniques of pre-service teachers of colleges of education (CoE) in Ashanti Region, Ghana.

Purpose of the Study

The main purpose of this study is to investigate knowledge and practice of behaviour modification techniques among pre-service teachers of colleges of education in Ashanti Region, Ghana. The study seeks to achieve the following specific objectives:

1. Assess the knowledge of pre-service teachers in Colleges of Education on behaviour modification techniques.
2. Examine the level of practice of pre-service teachers in Colleges of Education on behaviour modification techniques in managing classroom disruptive behaviours.
3. Determine the relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers in Colleges of Education.
4. Determine if differences exist in the knowledge of pre-service teachers in Colleges of Education on behaviour modification techniques in terms of gender.
5. Find out if there is a difference in the knowledge of pre-service teachers of behaviour modification techniques in terms of programme of study.
6. Find out if there is a difference in the practices of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of gender.
7. Find out if there is a difference in the practices of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of the programme of study.

Research Questions

The following research questions guided the study.

1. What knowledge do pre-service teachers in Colleges of Education have regarding behaviour modification techniques?
2. What is the level of practice of behaviour modification techniques among pre-service teachers in Colleges of Education?

Research Hypotheses

The following research hypotheses are tested in the study:

1. H_0 : There is no statistically significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers in Colleges of Education.
 H_1 : There is a statistically significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers in Colleges of Education.
2. H_0 : There is no statistically significant difference in the knowledge of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of gender.
 H_1 : There is a statistically significant difference in the knowledge of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of gender.
3. H_0 : There is no significant difference in the knowledge of pre-service teachers regarding behaviour modification techniques in terms of their programme of study.

H_1 : There is a significant difference in the knowledge of pre-service teachers regarding behaviour modification techniques in terms of their programme of study.

4. H_0 : There is no significant difference in the practices of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of gender.

H_1 : There is a significant difference in the practices of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of gender.

5. H_0 : There is no significant difference in the practices of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of programme of study.

H_1 : There is a significant difference in the practices of pre-service teachers in Colleges of Education regarding behaviour modification techniques in terms of programme of study.

Significance of the Study

This study seeks to find out the pre-service teachers' knowledge and practice of behaviour modification techniques. In the first place, the findings of this study if put to use will serve as a resource material to teachers, students and counsellors. Secondly, the study has the merit to expose teachers to knowledge on behaviour modification and the use of behaviour modification techniques if the study is accessed. Through this, the curriculum of the Colleges of Education (CoE) can be remodified to enlighten pre-service and colleges tutors on some of the disruptive behaviours to expect from students during teaching practice and how to handle such students. By keeping abreast of the events, and

developments in the field of behaviour modification techniques, counsellors if expose to the study will be able to ascertain which approaches are gaining currency and widely used, and those that are losing recognition and patronage.

Last but not least, the study can enrich the available literature on the variables being studied. This will enable future researchers to have reference material for research similar to this study.

Delimitations of the Study

The study aimed at assessing the knowledge and practice of pre-service teachers in Colleges of Education in the Ashanti Region of Ghana on behaviour modification practices and has the following delimitations. Participants of the study includes only third year students on teaching practice since they have the opportunity of practising the knowledge, they have acquired in behaviour modification This study does not include first and second year students since they have not experienced teaching practice and those in third year are “the yet to be teachers”.

Pre-service teachers are exposed to some competency areas in the training. These areas include, teaching skills, organisation of classroom, personal competencies such as confidence, self-esteem among others. The study was however delimited to only pre-service teachers’ knowledge of behaviour modification. It does not include other competency areas with respect to content.

Limitations of the Study

According to Best and Kahn (1998), limitations are conditions beyond the control of the researcher that may place restrictions on the conclusions of the study and their application to other situations. The instrument used for the

study was a self-report measure and for that matter, respondents may give responses that might not reflect the actual situation on the ground.

In addition, there were some significant problems that were encountered during this research which had the tendency of affecting the results of the study. They included unfavourable weather conditions and absenteeism on the part of some of the target group members that served as an obstacle to the smooth administration of the questionnaire.

Definition of the Terms

The following terms will be used in the study. These definitions are intended to avoid ambiguity of meaning and to ensure clarity of thought and understanding:

1. College of Education (CoE): Three-year educational institutions in Ghana that specialise in training teachers for basic schools.
2. Teacher education: Teacher education also known as teacher training refers to the policies, procedures, and provision designed to equip prospective teachers with the knowledge, attitudes, behaviours, and skills they require to perform their tasks effectively in the classroom, school, and wider community.
3. Pre-service teachers: They are those who are in a teacher-education programme in order to pursue teaching credentials in public and private schools.
4. Disruptive behaviour: This is any behaviour that interferes with the student or other students' ability to engage in learning and/or teacher's ability to provide instruction or service.

5. Behaviour management: This refers to the use of proactive and reactive strategies to alleviate off-task behaviour.
6. Classroom management: It refers to all the actions and interactions that occur in the classroom from the start to the finish of the lesson.
7. Behaviour modification: It is the systematic approach to change behaviour through the application of the principles of conditioning.

Organisation of the Study

The study is organised into five chapters. The first chapter deals with the introduction and background to the study, the statement of problem, purpose of the study, research questions, significance of the study, delimitation, limitation of the study, operational definition of terms and organisation of the study. The second chapter covers literature review in three perspectives, namely, theoretical, conceptual and empirical perspectives.

Chapter Three assesses the methodologies in terms of area of study, research design, population, sample and sampling procedure, research instrumentation, pilot testing, data collection procedure and data analysis procedure. The fourth chapter presents results and discussion of the findings and the final chapter looks at summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Related literature on the topic under consideration has been reviewed in three sections: theoretical review, conceptual issues and empirical review. The theoretical aspect of the review deals with some theories related to behaviour modification techniques. The second part explains some concepts of the study and the third section looks at some empirical studies thematically reviewed in relation to the research questions.

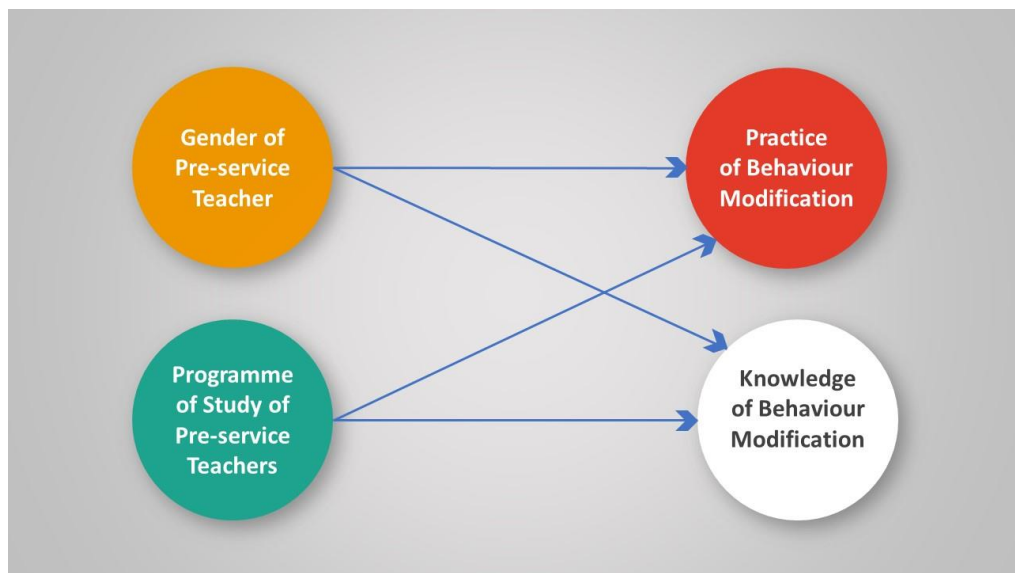


Figure 1: *Conceptual Framework*

The conceptual framework shows the relationship between the knowledge and practice of behaviour modification among pre-service teachers in Colleges of Education. The framework further represents the relationship that

gender and programme of study of the students have on knowledge and practice of behaviour modification in the Colleges of Education respectively.

Theoretical Review

Behaviour theorists such as Skinner, Pavlov and Glasser, in the 1930's have since described a number of frameworks for encouraging and maintaining good behaviour. These behaviour theories have influenced, and are still influencing classroom management. According to Emmer and Stough (2001), some studies have used student achievement or attitude as outcomes. But most classroom management in today research has been focused on determining how teachers bring about student engagement with one another and limit the disruptions in the classroom.

The following paragraphs present the work of some important behaviour theorists. These summaries will also identify the influences each has made on classroom behaviour and management.

Burrhus Frederick Skinner

Burrhus Frederick Skinner's philosophies can be applied to the issue of classroom management. As a renowned learning theorist in the 1930s and 1940s, Skinner (as cited in Sprinthall, 1981) stressed how the organism learns, regardless of its inherited potential, stage of physical or psychological development, and often regardless of its species. Otherwise stated, he saw learning as a result of associations weaved between stimuli and actions, or impulses to act. Simple associations would amass to larger groups of learned associations. Skinner posited that learning resulted from conditioning, similar to Pavlov's dogs' being conditioned to salivate at the sound of a specific tone.

With regard to the classroom, Skinner (as cited in Conte, 1994) established that by rewarding students for good behaviour and disregarding or punishing wrong behaviour, students would come to understand how to behave in a classroom environment. This reward system is believed to enlighten students to know which behaviours are acceptable and those to be disregarded as punitive attitudes so as to obtain well-behaved class. This gradual conditioning process helped Skinner develop and test his first “teaching machine” in the 1950s (Sprinthall, 1981). Skinner teaching machine was a form of programmed instruction. At the beginning, it was seen as a threat to teachers and their jobs. Skinner reassured educators by declaring that his programmed instructions was not intended to replace human teachers, but rather was a learning aid. He also assured educators that the children trained with the device would not become mechanized little robots, but would more likely be able to achieve their intellectual capacity.

Skinner’s research of bracing stimuli also led him to the development of behaviour-modification techniques in the classroom. Behaviour modification involved training teachers to wait for their students to emit appropriate responses and then to reinforce those responses quickly and consistently. Skinner’s idea of behaviour modification has revolutionized technology in education (Conte as cited in Brooke, James, Peter & Greg, 2013).

Skinner’s Operant conditioning Theory relation to behaviour modification emphasizes on relevance of shaping behaviour through systematic enforcement and punishment. Skinner contends that reinforcement and punishment have a great impact on the promotion of teaching and learning with the ultimate effect which is improvement of students’ educational outcomes

William Glasser

In the 1950s, Glasser's Reality Therapy of Emmer and Stough (2001) emphasized the use of choice as the cause of behaviour, good or bad, and thus instructed teachers to direct students towards making value judgments about their behaviour. By making these judgements, students would come to realize the importance of "good" choices in life and continue to make them again in the future. Therefore, students were taught the difference between a "good judgement", and a 'bad judgement". Glaser posited that students were taught "right" from "wrong" at a very young age and parents were to model good behaviour for their children to emulate on daily basis. This made children to make value judgements by making "good choices" and "bad choices". In today's classrooms, rewards are given for "good choices" and consequences are given for "bad choices". This process too, is to promote good behaviour and diminish bad behaviour in the classroom just as in Skinner's theory (Emmer & Stough, 2001).

William Glasser's Choice Theory emphasizes that human behavior is purposeful in creating awareness of responsibility which drives an individual to make decision about learning and behaviour in the classroom. The theory stresses that if students are helped to make choices in the curriculum as well as rules in the classroom, they will develop a sense of ownership of their learning, have pride in their participation, have higher self-esteem and exhibit greater levels of self-confidence and levels of cognition.

Jacob Kounin

Jacob Kounin and his colleagues engaged in an extraordinary classroom management research during the 1970s. Their work concentrated on

determining whether definite behaviour settings and environmental conditions influenced behaviour. Jacob Kounin and his colleagues also identified a set of teacher behaviours and lesson characteristics which were termed as withitness, smoothness, momentum, overlapping and group alerting (Nasey, 2012).

Withitness was Kounin's word to describe a teacher's ability to know what was going on at all times in his/her classroom. This can be as simple as making scanning looks around the room every once in a while. Kounin said that it was not necessary for the teacher to know what is going on. What is more important was for the students to perceive that the teacher knows.

Overlapping is the ability for a teacher to do multi-task. Being able to present a new topic while preventing misbehaviours is essential for an effective classroom management. The concept of overlapping ties well into the idea of withitness.

Momentum referred to the flow of a lesson. A teacher must be able to "roll-with-the-punches" in acknowledging that things might go wrong and be able to fluidly adapt and continue with distractions and disruptions. An example of this would be a student who is late for the class or technology that is being used goes wrong.

Smoothness is also highly related to momentum. Being able to stay on track without getting on tangents or being diverted by irrelevant questions or information is important to teachers. Many times, a teacher can get distracted and leave a topic open and not come back to it until later, which can be confusing to students. Another thing that can ruin smoothness is when a teacher does not have a plan or course of action, it can seem as though the teacher is jumping from one topic to the next.

The final aspect that results in Lesson Movement and effective teaching through integrating management and learning is group focus. Group focus is the ability of a teacher to engage the whole class using techniques such as building suspense or asking community questions. This can also look like asking random questions, or asking a student a question and then looking around at other students to see if they are thinking or ready to respond. These are the main theories and history of Jacob Kounin (Nasey, 2012).

The above characteristics define a teacher who knows what is going on at all times in the classroom and he or she is able to deal with more than one issue or problem at a time. Good classroom management would then promote student learning thereby letting teachers accomplish other important instructional duties. Kounin (as cited in Conte, 1994) asserted that teachers who could be that “aware” would be better managers of children in the classroom.

According to Emmer and Stough (2001), Kounin gained interest in a rather contemporary issue of the time. He raised questions on whether managerial behaviours that work for regular students have the same effects on students identified as emotionally disturbed in the same classrooms. His answer was “yes”. This research was an early signal that inclusion of children with disabilities within the classroom was the right approach. His work then focused on management research which shifts from reactive strategies to preventive strategies and from teacher personality to environmental and strategic components of management (Emmer & Stough, 2001). Again, Kounin’s work highlighted the influence of classroom activities as a source of important variations in student and teacher behaviour. With this wide range of theories,

Kounin's study of classroom management recognises many of the issues teachers are still facing in today's classrooms.

Jacob Kounin's Discipline and Group Management Theory emphasizes on lesson management as a means of modifying or managing behaviour. His theory pontificates that teachers need to focus their attention on entire classroom environment. In furtherance to Discipline and Group management theory, in relation to behaviour modification he contends that teacher should move around classrooms since this has the potential to influence students to pay attention more readily. He further indicated that teachers must equip students with non-verbal cues to alert them of appropriate behaviour that must be exhibited in the classroom. Also, lessons should be planned to ensure that the period is filled with learning activities. Kounin sums his theory by the assertion that teachers should have a knack of memorizing students' names as quickly as possible since it enhances class control and confidence of the teacher.

Conceptual Review

This section of the review provides some relevant concepts to address the problem of this study.

Concept of Behaviour

Onwuasoanya (2006), writes that behaviour refers to the peculiar way an individual behaves. This peculiar way could be good or bad. Behaviour is often looked at as being a result of one's biological component and the environment in which he/she grew up. Odoemelam and Ajoku (2010) likewise see behaviour as a way an individual behaves, thus, the real character of the person. This fact necessitates the other meaning of behaviour which is how we behave, act and conduct ourselves both at home and in public places.

Ukwueze, (2008) believes that behaviour is a way an individual function, in a particular situation, it is a learned experience acquired consciously or unconsciously. An individual's behaviour patterns are acquired experiences learned through exposure which gradually culminate into internalization of facts that become part and parcel of the individual. Makinde (2008) asserted that behaviours are both inborn and learned through interface with the environment. Thus, behaviour is adaptable and it can be determined by its frequencies and types or nature of reinforcement. Habits are things we learn through practice, and the more we practice them, the more we can repeat them efficiently.

Types of Behaviour

Behaviour is of two types, these are covert and overt behaviour. Covert behaviour is a behaviour that is exhibited when an individual is motivated to behave in a particular way without external reinforcement while overt behaviour is motivated by external factors, it could be teacher, peer groups, your environment, school or the type of home you come from. These things determine the type of behaviour a student will exhibit.

Disruptive student behaviour is detrimental to the academic community because it interferes with the learning process of other students, inhibits the ability of instructors to teach most effectively, diverts the schools' energy and resources from the educational mission, and may indicate a significant level of personal problems or distress on the part of the disrupter (Ekennia, 2015).

Onwuasoanya (2006) revealed that a bad behaviour could be seen as a deviation from acceptable, described and appropriate behaviour which interferes with the individual's growth and development and that of others

around him or her. All societies do seriously frown at and abhor bad behaviours because of the consequences. There is an Igbo adage which says “onye huru okuku ebe oji ukwu akpasa nsi chupu yan’ihi na amaghi onye ga ata okpa ya” which means that anybody who sees a fowl using its legs to scatter excreta should chase it away because nobody knows who will eat the legs.

Okorie (2005) viewed bad behaviour in schools to be as a result of lack of proper home training, which may result in dishonesty, drug abuse, truancy, cultism, sexual immorality, bullying, theft, alcoholism and noise making. Anagboso (2009) opined that cheating is an example of bad behaviour of students. Others are dishonest behaviours, examination malpractice, plagiarism, fraudulent admission acts, collaborating with peers to cheat in assignment fighting and using abusive language. All these are some of the bad behaviours found in the classroom. Truancy is common among children with bad behaviour who absent themselves from school without permission from parents or school authorities. Sometimes these children may leave home for school but divert to other activities or places, which may lead them into trouble. Such children may have difficulty in concentrating or attending to any meaningful activities for a reasonable period of time (Anagboso 2009).

Onwuasoanya (2008) also contended that good behaviour is the best because, it is acceptable worldwide. All ethnic groups accept good behaviour. Some factors that affect individuals’ behaviour in the society starts from the following places:

1. Home and family
2. Societal factor and
3. Psychological factor.

Odoemelam and Ajoku (2010) revealed that behaviour could be described in the following words as conduct, actions, bearing, carriage, comportment, demeanor, and manner. Behaviours are tested by observing behavioural characteristics. This will enable the counsellor or teacher ascertain students' personality, type and traits, whether he or she is moody, cheerful, sad, happy, aggressive, gentle, noisy or quiet. Once the problem is identified in the class then the teacher will now know the strategy to be used to modify that disruptive behaviour, to help the student become a better person.

According to Igbo (2005) deviance is one type of behaviour considered as a vagrant form of human activity which has somehow broken away from the more orderly currents of social life and which needs to be modified. These behaviours that need to be modified are disobedience, sex offences, assault and truancy, dishonesty and stealing. The existence of deviant behaviour among students in the secondary schools seems to affect classroom management. A lot of research has been carried out on student deviant behaviours to find out who is to blame for such behaviours among school children (Shin & Koh, 2008; Were, 2006; Mooketsi, 2014; Walter, Gouze, & Lim, 2006). Keasey in Igbo (2005) says it is the parents (home) that should be blamed for the situation. He reported that there are series of causes of deviant behaviour originating from the home. These include:

- a. some parents condone the gross misbehaviour of their children at home instead of condemning it and
- b. a break in the family such as separation, divorce or death, permissive and authoritarian parents, and parent's improper degree of security and affection produce deviant behaviours among secondary school students.

Some types of behaviour, at times depend on the family background while some are from their peer group. For teachers to handle deviant behaviour they should first know the root cause of child misbehaviour whether it is from home, peer or environment in order to know the types of techniques to apply in modifying that student. This is what this study tries to investigate. This will enable teachers to manage the students very well in the classroom.

Concept of Behaviour Modification

Behaviour Modification is a generic term given to any process derived from learning theory (Onwuasoanya, 2006). Onwuasoanya indicated that the goal is to change a person's behaviour or the way he/she interacts with the world. Skinner (1953) defined Behaviour Modification as the application of operant conditioning techniques to modify behaviour. Behaviour modification, behaviour therapy, and behaviour counselling are often used interchangeably in counselling profession.

To understand behaviour modification, we have to grasp the two main concepts that is based on classical and operant conditioning. Classical conditioning is credited to Ivan Pavlov. It is produced by persistently pairing of two stimuli, one of which evokes an automatic response (unconditioned response – UR) elicited by an unconditioned stimulus (US), comes to be elicited by a different and formerly neutral stimulus (NS) and becomes a conditioned stimulus (CS) (Akinade, 2005). Operant conditioning is the process by which an operant response is strengthened or weakened by the consequences that follow it.

Behaviour Modification is a behavioural science technique which involves the application of principles derived from research in experimental

psychology to alleviate human suffering and increase human functioning (Pear & Martin, 2015). Behaviour Modification, which is sometimes called behaviour therapy is the use of empirically demonstrated behaviour change techniques to improve one's behaviour such as altering an individual's behaviours and reactions to stimuli through positive and negative reinforcement of adaptive behaviour and reduction of maladaptive behaviour through punishment.

Pear and Martin, (2015) postulate that behaviour modification is mostly used in clinical and educational psychology, particularly in the case of people with learning difficulties. In the day-to-day life, it is mostly used in the classroom scenario, where the teacher uses some techniques to reform the behaviour of a child. Uba (2006) added that behaviour modification refers to the application of behaviour principles of human situation, including child rearing. Behaviour Modification has come to denote as mainly the techniques for increasing adaptive behaviour through reinforcement and decreasing maladaptive behaviour through punishment. Mahoney (1974) claims that behaviour therapy as any method, is set of clinical procedures whose description often rely on experimental findings of psychological research.

Onuwegbu and Enwuezor (1997) agreed that behaviour modification is a practical application of the principles of psychology, especially learning. It is a systematic and scientific way of changing an undesirable behaviour to a desirable one. Nowadays, behaviour modification has come to denote as mainly the techniques for increasing adaptive behaviour through reinforcement and decreasing maladaptive behaviour through punishment. Observable and measurable behaviours are good targets for change. All behaviours follow a set of consistent rules. Also, Sprinthall, Sprinthall and Oja (1998) claimed that

behaviour modification is a specific type of behaviour influence that explains the theories and principles of learning resulting from experimental psychology into an applied technique for behaviour change.

Techniques for Behaviour Modification

Techniques are those ways aimed at enforcing behaviour when they are appropriately done by an individual. According to Okeke (2002), a technique refers to the method of doing something in an expert manner in our various classes. Behaviour when reinforced in a positive way encourages the student to keep the behaviour up and make the bad behaviour to change to good. Technique for Behaviour Modification refers to method of establishing appropriate behaviour in individuals and discouraging those that are undesired. Research in the last decade has led to the formulation of certain techniques that are used for behaviour modification (Ekennia, 2015).

Behaviour modification techniques is the use of empirically demonstrated behaviour change techniques to improve behaviour, such as altering an individual's behaviours and reactions to stimuli through positive and negative reinforcement of adaptive behaviour and the reduction of maladaptive behaviour through punishment, (Pear & Martin, 2015). Technique is therefore a process of altering a person's reaction to stimuli. To change a person's behaviour therefore, it is important for a teacher to structure his/her student in classroom. Akinade (2005) posited that techniques are therefore important if a teacher is to bring out the desired behavioural change in a student. The techniques of behaviour modification in our schools are from various cultural settings. Some of these techniques are very similar from among the various cultures and are similar to some traditional way of modifying a child's

behaviour such as canning the child or kneeling down. To do this, Bukhari (2016) stipulated that there are definite steps to follow:

- a. Identification of the problem of the student
- b. Definition of the specific cause of the problem.
- c. Assessment and determination of the baseline data of the problem
- d. Determination of the best technique in solving the disruptive behaviour.
- e. Evaluation of the teacher outcome of the behaviour change, follow up.

Behaviour Modification Technique is effective if an appropriate behaviour is observed, identified, targeted and not stopped. Most of the techniques used in behaviour modification are based on such theories as the Classical Conditioning theory of Ivan Pavlov, and Operant Conditioning theory of Skinner.

Teaching Strategies

Appropriate behaviour can be taught and learned. Both regular students and those with disability might need more than oral directions in order to understand how teachers expect them to behave in their classroom. A teacher can teach appropriate behaviour through the following strategies by providing students with guidance and information to teach them the correct behaviour required and use of stories and role-play to teach actions such as asking permission to leave a seat, forming a line, walking to the lunchroom, sitting quietly and keeping hands to one's self.

Reinforcement Strategies

According to Okeke (2002), reinforcement-preamble is a common knowledge that learning is not the outcome of accidental contingencies. Educators and learning theorist have come to agree that certain variable

influence the rate at which learning takes place. Reinforcement is used to sustain desirable behaviour. It helps to create desirable consequences that will strengthen or facilitate certain behaviour. Shertzer and Stone as cited in Okeke (2006) stated that reinforcement is an event or action followed by a response such that it increases the probability that such a response will occur. Teachers should try and praise students by giving them both tangible and non-tangible reward for children to repeat their good behaviour (Okeke, 2006).

Another side of the coin is negative reinforcement. It is used to encourage the occurrence of desirable behaviour by removing obstacles against recurrence (UNESCO, 2001). When a student acts the same after deploying preventative, teaching and positive reinforcement strategies, negative reinforcement strategies might be required. Examples of negative reinforcement strategies include a time out, sitting away from the rest of the class, removal of playtime privileges, referral to the principal, a note to parents or an oral reprimand. For example, a child who plays a lot in class with a particular child who comes from the same area as him or her can be helped to stop playing in the class by removing his friend to another class. In this way the obstacle, that is, his friend has been removed and the likelihood of the child not playing in class at least for some time is high.

Punishment

In punishment, aversion stimulus is applied to correct undesirable behaviour. Punishment is the behaviour modification technique that has been over used in this way leading to stigmatization on the mind of students.

Were (2006) pointed out that the effect of punishment is to suppress the repeat of that behaviour on which punishment was administered. For many

years, punishment has been used as disciplinary measure in African countries especially (Amponsah-Amfo, 1997).

However, there are two approaches to punishment in schools today. These are the traditional approach to punishment and the modern or humanistic approach to punishment (Were, 2006). The traditional approach seems to have been based on the idea that the child is naturally bad, and that his/her badness must be controlled and dealt with. Some people even view the child's nature as being evil and this evil must be dealt with ruthlessly.

Consequently, in the early days of education and schooling, punishment was considered as the only disciplinary measure to be used on wrong doers. Punishment was then based on three major aims which are: punishment as revenge, punishment as a deterrent which was used to scare other children and therefore to minimize a possible increase in the same crime, and punishment as a means of reform (Simatwa, 2012).

Extinction

Extinction can be defined as the selective withholding of students' anticipated rewards for a specific behaviour (Amponsah-Amfo, 1997). This procedure is based on the assumption that behaviour is maintained by its supportive consequences. So, if the consequences of behaviour are withheld, that behaviour should be expected to be reduced or; eliminated. This is a type of technique commonly used in homes, schools and offices. The use of extinction to decrease undesirable behaviour is gradual and tends to get worse initially before it begins to improve. Okeke (2002) stated that extinction is initially used to decrease undesirable behaviour that can be tolerated temporarily. In using extinction to eliminate undesirable behaviour, there is the

need to ensure that what is reinforcing particular undesirable behaviour can be withheld. Students who scarcely keep the rules and regulation of the school and who insult teachers can be said to have undesirable behaviour. This behaviour can be sustained by the reinforcement he gets in form of cheers from the peers. Extinction should be combined with other techniques for more effective teaching so that transfer of learning will take place (Amponsah-Amfo, 1997).

Token Economy

Onwuasoanya (2006) agreed that teachers give token economy as symbolic reinforcer to students when they exhibit desirable behaviour. The symbolic reinforcers are given to children and later exchanged for genuine reinforcers (Prizes and award). A token economy is a form of operant conditioning that is used in the behaviour modification management that involves rewarding desirable behaviours with token which can be exchanged for items or privileges and punishing undesirable behaviour by taking away tokens. Okeke (2002) believed that token economics help in schools. This is where teachers give gold stars to student who demonstrate desirable behaviour while those who exhibit undesirable behaviour are given black stars. In this regard every student makes efforts to get gold star instead of black one. The gold stars at the end of the school year is translated into prizes. So token economics help pupils/students to make effort to avoid any undesirable behaviour because they do not want to be associated with black star. This is an interesting effort from the teachers to encourage desirable behaviours on or of pupils/student since they are the future hope of every county. Teachers should therefore ensure that they apply these techniques in the classroom to help the

student to change from undesirable behaviour to a desired behaviour (Amponsah-Amfo, 1997).

Shaping

Shaping is the process of teaching a new behaviour through selective reinforcement of progressive approximations of the target behaviour. It is a control procedure in teaching both academic and social behaviours because some difficult behaviours cannot always be achieved in a single effort; thus, there is the need to progress from simple to complex elements of such behaviours (Amponsah-Amfo-1997).

The technique of shaping is another behaviour modification strategy. Teachers must remember that, if they wait for students to perfect behaviours before offering rewards, students may never attain the target behaviours. Counsellors should be sensitive and skillful in determining the intermediate steps to be used in the procedure. Shaping as technique for modifying undesirable behaviour, requires reinforcing of behaviours already in the repertoire of the individual, which resemble the terminal response, or behaviour in view. Consequences are arranged to develop desirable behaviour so that students will benefit from it. For shaping to be effective, skills used must consist of selecting the right responses to reinforce and knowing how long to reinforce each approximation before moving to the next step (Ekennia, 2015).

Stimulus Control

Stimulus control is a technique derived from Pavlov's classical condition theory. Pavlov is one of the stimulus response theorists. A stimulus is any observable, identifiable event or situation that is used to correct behaviour. Stimulus control is a process by which environment contingencies

are altered in order to reduce the probability of particular behaviour occurring. This technique is used to improve self-control such as the urge to eliminate urine carelessly. According to Okeke (2006) a stimulus most of the time leads to a response. For example, when one is given a slap by another (that slap is a stimulus) the tempting response, which could be considered appropriate, is to slap back. But one can disregard the urge to slap back and go away. The determination not to slap back is known as control. Teacher must put this type of technique into practice so that student would be able to control themselves.

Behaviour Management Training in Teacher Preparation Programmes

Although support staff (i.e. school psychologists and social workers) is sometimes called upon to deliver school-based mental health services, such as the management of disruptive behaviour problems, training teachers to employ behavioural interventions competently is critical (Walter, Gouze & Lim, 2006). Walter et al. (2006) indicated that professionals who design behaviour intervention plans, such as school psychologists, are not readily available to assist teachers on a daily basis; therefore, teachers hold much of the responsibilities to choose and implement the appropriate techniques in correcting students behaviour.

Both general and also special education teachers require increased training during their preparation programmes to manage the behaviours of today's diverse student body (Oliver & Reschly, 2007). General education teachers, in particular, need to be trained in behaviour management because of their augmented role in the education of students with disabilities. In 1999, the U.S. Department of Education reported that 80% of special education students spend most of their time in general education classrooms. Such high numbers

of disabled students who are being educated in the general education classroom indicates that general education teachers need to be able to confront a wider variety of behaviour problems (Katsiyannis, Ellenburg & Acton 2000).

Despite the existence of legal mandates that support behaviour intervention training for teachers as well as many teachers-in-training vocalize the need to improve upon behaviour management skills which many teacher training programmes do not focus on. Although some pre-service and beginning teachers believe that behaviour management classes are essential, such courses are often not required or are removed from condensed teacher education programmes (Landau, 2001). Several educators believe that if teacher education programmes placed more of an emphasis on classroom and behaviour management skills, student discipline issues would improve significantly (Public Agenda, 2004).

Both teachers and administrators report that there is the need for improvement in educators' behaviour management training. Levine (2006) conducted case studies of 28 schools and departments of education and asked school principals, along with the faculty, deans, and alumni of teacher preparation programmes, to rate how well pre-service teacher education programmes prepared their graduates in various areas. A total of 62% of alumni indicated that schools of education do not prepare their graduates appropriately to manage classroom realities. When asked to rate how well schools of education prepare teachers to maintain order and discipline in the classroom, only 33% of principals answered *very well* or *moderately well*. When deans were asked if education schools are the most appropriate place to teach skills such as maintaining order and discipline, 81% answered *yes*. These percentages

indicate that while most deans of pre-service education programmes feel that their colleges and universities are where teachers should be learning how to confront discipline problems, the majority of teachers and principals surveyed reported that teachers are not receiving adequate training and preparation in this area.

Many teachers who have reported that their pre-service training lacked sufficient behaviour management education have instead learned about behavioural interventions once they entered the profession. Merrett and Wheldall (1991) assessed secondary teachers' perceptions about how their initial training prepared them for the problems they confront in their classrooms. A total of 72% of 123 teachers indicated that they were not satisfied with their preparation in classroom behaviour management. When asked where they learned their classroom behaviour management skills, only 18% of 126 teachers felt that they learned these skills during their initial training, while 82% indicated that they learned these skills 'on the job'.

Some researchers have indicated that teacher preparation programmes need to offer more courses that specifically focus on managing student behaviour. Blum (1994) surveyed colleges and universities in the United States accredited by the National Council for Accreditation of Teacher Education (NCATE), to seek further information about behaviour management courses being offered. Blum found that approximately half of all pre-service teachers were not offered any specific class management courses in their programmes. Most of the participants indicated that they received some class management education through other courses; however, management was not the topic of focus. A total of 86% of the programmes surveyed indicated that they dedicated

anywhere from less than one week to six weeks on the topic of class management. Thus, the results of the study indicated that teachers may not be adequately learning about class management during their pre-service training to effectively employ these skills in their profession.

Similar to Blum's (1994) other studies have found that management techniques are often integrated into other courses, such as those focusing on curriculum design or child development. As a result, behaviour management principles and procedures are given minimal attention; it is difficult for professors in teacher education programmes to spend adequate time covering management techniques in such content-laden courses. Integrating behaviour management into other courses probably occurs because instructors are often better trained to teach the major topic of the course rather than management techniques. Very few programmes seek out or possess instructors who have expertise in management strategies (Landau, 2001).

When specific class management courses are offered by teacher education programmes, they are not always required. Of the teacher preparation programmes in Blum's study (1994) that offered a specific course in class management, 8% did not require students to take such a course. Programmes that did offer a specific management course indicated that classroom discipline was a major component of the class; 75% of these programmes indicated that classroom discipline was the emphasis of their management course for an entire semester.

Blum (1994) again found in his study that when pre-service teachers were educated about class management, behavioural approaches were taught more frequently than other management techniques; almost all the schools

surveyed reported that they teach their students about behavioural interventions. The most popular management programmes taught were behaviour modification and assertive discipline.

Classroom Management

Classroom is a place where a group of students are taught together. Classroom management is the process of creating a favourable learning atmosphere in the classroom, to achieve proper teaching and learning atmosphere. According to Biehler and Showman (2007) the ability to maintain harmony and order in the classroom, shows how you can prevent misbehaviour, by carefully organizing the classroom environment, establishing clear rules, procedures and delivering effective instruction. According to Barbetta, Norona and Bicard (2005), classroom management is the managing of learners' behaviour within the classroom and outside the classroom. Classroom management describe the process of ensuring that classroom lessons run smoothly despite disruptive behaviour by students. It therefore aims at establishing student self-control through a process of promoting positive student achievement and behaviour. Thus, academic achievement, teacher efficacy, and teacher and student behaviour are directly linked with the concept of classroom management (Ritu, 2015).

The greatest challenge of an educator is to maintain order in the classroom so as to achieve academic objectives thus creating an optimal work environment (Shechtman & Leichtentritt, 2004). Discipline is of great importance in schools today and requires attention and therefore classroom management becomes an effective tool to use to achieve this goal. According to Evertson and Weinstein (as cited Ritu, 2015), classroom management has two

distinct purposes: “It not only seeks to establish and sustain an orderly environment so students can engage in meaningful academic learning, it also aims to enhance student social and moral growth”. Proper Classroom management leads to class control and conducive teaching learning environment.

According to Biehler and Showman (2007), there are various strategies for managing a classroom, some of which are as follows:

Chalk board arrangement

- a. Class control
- b. Time management
- c. Sustenance of students’ interest
- d. Effective communication
- e. Teacher personality
- f. Parent contact.

According to Dillon (2010) classroom management will help the teacher to know how to ask good questions because good questions are very important for good teaching, and it is impossible to conceive teaching without questions. Teachers must make use of questions as a teaching technique in classroom. Hence the ability of the teacher to ask thought provoking questions is one of the keys to successful teaching (Dillon, 2010).

However, Ifeluni and Obidoa (2010) asserted that assertiveness provides the right balance between submission and aggressiveness in classroom. Assertiveness is an aspect of one’s personality and also critical to self-esteem. Assertiveness consists of a number of behaviour modification skills aimed at helping individuals protect their personal integrity without abusing the rights

of others. The youths are prone to unassertive behaviour, some of the youths are weak and may not say “no” to their friends. This has made them to join unacceptable groups in the society. Assertive behaviour is the ability of the youth to define his or her right without being hostile, aggressive or destructive, in the classroom. This strategy involves organizational change in the school system. But there are some stressful events over which individual teachers have little or no control. These include: overcrowded classroom; violence or social disruptive behaviour in school; and lack of adequate infrastructural facilities or financial resources. These problems require complex educational attention.

Elobuike (2000) agreed that classroom management should involve teacher- student relationship as strategies and the teacher as a guidance counsellor. In counselling or guiding you have to strive to learn the student leads. When dealing with human being, it is essential to understand his/her needs, it will help him/her to understand his environment fast. Maslow (2000) also says that individual needs are divided into two broad categories: the deficit needs which must be fulfilled for health sake: and growth needs, these needs must be fulfilled for the person to experience self-actualization.

In the same vein Santrock (2007) avers that your personality plays a great deal or role in effective classroom management. When a teacher recognizes a student pressing needs which in turn may be the cause of the student’s misbehaviour, and tries to help the student it will enable him to love and respect the teachers. The recognition of a student’s needs in classroom, and showing sincere appreciation of those needs will enhance

teacher/student relationship. Teacher – student relationship is very important (Oliver & Reschly, 2007).

Critical Examination of the Curriculum of the Colleges of Education in Ghana

Teaching is a profession that is influenced by various components of teacher competencies and quality. Therefore, it requires a more integrated and dynamic approach in designing its curriculum for training. The quality of teacher education has been critically examined by stakeholders in recent times ranging from the quality of teacher education programmes to the problems encountered by teaching and teacher education in many countries (Anane, 2014). It is therefore important that stakeholders acknowledge these problems as an important starting point both for reviewing the emerging agenda for change and for considering alternative prospects (Sykes, Bird, & Kennedy, 2010).

The pre-service teacher training for basic education in Ghana before the current educational reforms was of three years duration, of which the first two years are spent at the college, and in the third year, pre-service teachers are attached to a community school for teaching practice. The colleges run a six-semester Diploma in Basic Education (DBE) programmes, dubbed, IN-IN-OUT programme. This involves pre-service teachers studying at least eight content related subjects and eight methodology subjects in first and second years on the programme.

A review of the training programmes over the years indicates that College of Education courses and curricula have been ad hoc and are usually implemented based on the growing demand for teachers (Anane, 2014). A

critical look at the curricula for teacher training indicates that pre-service teachers are not given enough knowledge and skills at the college to meet the exigencies in the classroom (Lewin, 2005). Currently, all pre-service teachers, irrespective of their areas of specialism, study core subjects relevant to the basic school curriculum. These are as follows;

- First Year Semester 1: Principles and practice of education, English language studies, Mathematics (numbers & basic algebra), Ghanaian language and culture teaching 1, Science 1, General introduction to religious and moral education, Agriculture, Vocational skills (art related), Environmental and social studies 1.
- First Year Semester 2: Child and adolescent development and learning, English language 1 (With Elements of Literature), Mathematics (Geometry & Trigonometry), Science 2, Environmental and social studies 2, HIV/AIDS education, Principles and methods of teaching in Basic Schools, English language (Methodology), Mathematics (Statistics and Probability).
- Second Year Semester 1: Environmental and social studies, Introduction to information and communication technology, Methods of teaching issues in HIV/AIDS, Methods of teaching science, Methods of teaching primary school mathematics
- Second Year Semester 2: Educating the individual with Special Needs, Assessment and research methods in education, English language studies 2, Mathematics (Methods of teaching JHS mathematics), Introduction to information and communication Technology (ICT),

Science 3, Mathematics (Further Algebra), Environmental and social studies 3.

- Third Year Semesters 1 and 2: Off campus teaching practice, Introduction to guidance and counselling, Trends in education and school, project work

A critical assessment of the programme indicated that students do not do much in areas related to classroom management and behaviour modification. This observation was also noted by Brempong (2014). Brempong (2014) in his research indicated that pre-service teachers are not given adequate information on classroom management and behaviour modification during their training.

Disruptive Behaviours in Schools

Disruptive behaviour can be defined as “excessive behaviour that can interfere with the general activities proceeding at the time” (Chen & Ma, 2007, pp. 380-81). Applying this definition to classrooms indicates that students who are disruptive have the potential to hinder not only their own educational success but also their classmates’ learning and teacher’s ability to be effective. More specifically, students who display disruptive behaviours can squander valuable instructional time, deter students’ ability to focus on academic material, threaten individuals’ sense of safety, and increase teachers’ levels of stress (Shin & Koh, 2008; Walker, Ramsey, & Gresham, 2003-2004; Walter, Gouze, & Lim, 2006).

Educating disruptive students is a problem many teachers have to manage, regardless of the type of population they instruct. Walter, Gouze & Lim (2006) surveyed 119 elementary teachers and found that 48% of disruptive classroom behaviour as the most significant mental health problem in their

school; these behaviours included getting out of one's seat, talking out of turn, arguing, and failing to follow rules and demands.

As a result of the multiple disruptive students found within many classrooms, several teachers have indicated that they spend a significant portion of their time on discipline. One survey reported that 34% of 479 pre-school to eighth grade teachers either agreed or strongly agreed that they spend too much time on class discipline (ProTeacher, 2005). Similarly, 38% of 176 secondary teachers indicated that they spend too much time managing their classroom (Merrett & Wheldall, 1993). In a survey by the American Federation of Teachers, 17% of educators reported losing four or more hours of teaching time per week due to disruptive student behaviour, while an additional 19% indicated losing two to three hours per week (Walker et al., 2003-2004). Furthermore, Curwin and Mendler (1988) estimated that students' off-task behaviour can contribute to an average loss of 15-25% of instructional time.

Some studies that have focused on teachers' perceptions about managing disruptive behaviours have also examined how teacher characteristics, such as one's gender and years of teaching experience, influence their beliefs about discipline. Merrett and Wheldall (1993) found that teachers who have for many years were the least likely to admit to spending an increased amount of time on discipline. In addition, men were much less likely than women to report that they experience problems with maintaining order and control in their classroom. Thus, gender and years of teaching experience might affect teachers' perceptions about discipline problems.

Examples of disruptive behaviours that teachers might confront on a regular basis in their classrooms include: a) gross motor activities, such as

getting out of one's seat, standing up, and walking around; b) noise making, such as tapping one's feet or other objects, kicking a desk/chair, clapping, and tearing papers; c) verbalization, such as conversing with other students, calling out, whistling, singing, laughing, and coughing; d) orienting, such as turning one's body around while remaining seated; and e) aggression, such as hitting, pushing, grabbing another's belonging, destruction of property, and throwing objects (Thomas, Becker & Armstrong, 1968). These behaviours may evolve into more serious forms of antisocial behaviour if appropriate strategies are not implemented effectively and early on, such as in preschool and/or elementary school (Walker et al., 2003-2004). Research has indicated that aggression and other disruptive behaviours demonstrated by first graders predicted school dropout as well as an increased risk of being severely aggressive and disruptive in middle school (Ensminger & Slusarcick, 1992; Kellam, Ling, Merisca, Brown & Ialongo, 1998). This risk of aggression and disruption in middle school was further increased when aggressive first graders were educated in a classroom with higher levels of disruptive behaviour (Kellam et al., 1998). Therefore, an individual's disruptive behaviours can be further exacerbated by his or her peers' negative behaviours and a lack of structure/interventions in the classroom.

Students who display disruptive behaviours may also be at risk for developing diagnosable psychological problems later in life. Petras (2008) found that students' aggressive and disruptive behaviours in response to classroom demands can play an etiological role in the development of Antisocial Personality Disorder and violent and criminal behaviour. Such maladaptive responses can be genetic and/or learned and may be influenced by teachers'

ability to effectively manage the behaviour of their students. Therefore, it is critical that teachers do not only model appropriate ways for students to respond to classroom demands but also demonstrate effectual behaviour management strategies. Teachers have the ability to modify disruptive behaviours by controlling their own responses to these behaviours (Thomas et al., 1968).

Due to the extent of disruptive behaviours teachers see every day, many educators report that they are apprehensive about discipline problems and the impact these behaviours can have on their profession. Veenman (1987) reviewed 95 studies that examined problems reported by beginning teachers and found classroom discipline to be the highest ranked concern. Percentages of beginning teachers who reported discipline problems ranged from 12% to 83%. Curwin and Mendler (as cited in Shin & Koh, 2008) indicated that discipline problems were the predominant reason why approximately 40% of teachers left their job during the first year. A review of a national random sample survey administered to 725 middle and high school teachers found that more than one in three teachers seriously contemplated leaving their profession, or knew a colleague who had quit, as a result of discipline issues. Additionally, 85% of these teachers felt that beginning teachers are especially unprepared for managing students' negative behaviours in the classroom (Public Agenda, 2004). The results of similar study indicated that teachers did not feel confident in their ability to manage mental health problems in their classrooms, including disruptive behaviours; when 119 elementary teachers were asked to rate their self-efficacy when confronting various mental health problems, the overall mean score was 1.82 on a 3-point scale (Walter et al., 2006).

Educators' concerns about discipline often begin during their pre-service training. Madsen and Kaiser (1999) found that prior to beginning their student teaching, each of the 115 pre-service teachers who were surveyed identified discipline and classroom management as their greatest worry. Gee (2001) surveyed 24 undergraduate pre-service teachers and 36 graduate students with some teaching experience and found that both groups mentioned discipline as one of their predominant concerns. In a study that assessed student teachers' anxieties, Hart (1987) found that about 39% of 64 student teachers reported that they experience anxiety related to classroom control and discipline. In addition, overall anxiety and class control anxiety were positively correlated with student disruption levels. Therefore, an increase in students' disruptive behaviours was related to an increase in student teachers' overall anxiety level as well as their anxiety specific to managing the class. The results of these studies indicate that many teachers enter their first jobs with trepidation about problem behaviours they might encounter in the classroom and also how to control potential disruption.

The general public has also expressed concerns about student discipline problems throughout the past years (Shin & Koh, 2008). According to the Phi Delta Kappa/Gallup poll, which assesses the public's attitude toward public schools, lack of discipline was consistently listed as one of Americans' top three concerns from 1969 to 2008 (Bushaw & Gallup, 2008; Rose & Gallup, 2000; Rose & Gallup, 2006). On one of Phi Delta Kappa/Gallup poll, 84% of Americans reported that lack of discipline contributed either a great deal or a fair amount to learning failures in public schools (Rose & Gallup, 2000). Another Phi Delta Kappa/Gallup poll documented that 76% of Americans

perceived discipline to be a very or fairly serious problem (Rose & Gallup, 2006). As a result of these consistent concerns over the past few decades about the impact of students' negative behaviours, it is critical for schools to implement strategies that are proven to successfully mitigate disruptive behaviours.

Effective Ways to Manage Disruptive Behaviour in the Classroom

Educators and parents agree that schools need positive behaviour strategies and high-quality discipline in order to prosper. Students should not only be required to complete the academic curriculum, but they also need to comply with school rules and demands to become productive members of society (Public Agenda, 2004). While students' negative behaviours can be impacted by family-, school-, and community-related factors, schools possess the ability to employ a wide variety of behaviour management strategies to modify/reduce these behaviours, enhance prosocial skills, and prevent future problems from occurring (American Federation of Teachers, 2007). The significant amount of time students spend in school provides teachers with ample opportunities to model appropriate behaviours, provide feedback, and create a safe environment for students to practice positive behaviours (Fantuzzo & Atkins, 1992; Sugai et al., 2000). Teachers are the “chief contingency managers of their classrooms” and are in a position to significantly change their students' behaviours (Fantuzzo & Atkins, 1992).

In an effort to modify students' behaviours, teachers around the world have successfully implemented behavioural interventions and reinforcement systems in classroom settings for many years. During the early 1800s, Joseph Lancaster established an educational system in England called the monitorial

system. His system emphasized positive reinforcement, using tokens as reinforcers. Students who performed well in school were promoted to a monitor position and were permitted to assist the teacher with various tasks. Students also earned rewards and merits for answering correctly, attending to instruction, assisting their peers, and helping to monitor others' misbehaviour. Punishment was only used when students disrupted the class, and consequences were implemented for repeated misbehaviours. Lancaster's monitorial system quickly gained popularity and was implemented in several countries, including the United States (Kazdin, 1978).

Another example of an early classroom behaviour modification system that emphasized positive reinforcement was the Excelsior School System (Kazdin, 1978). In 1885, thousands of teachers in the United States began implementing the Excelsior School System. Students earned merits for engaging in appropriate behaviours, such as being organized, studying, and arriving to class on time. They also worked to receive tokens for their academic performance each day. The tokens and merits that students earned could then be exchanged for larger rewards. A unique aspect of the Excelsior School System was that parents were encouraged to become involved and were provided with feedback about their child's performance and merits/rewards earned. This system was successful for almost 10 years (Kazdin, 1978).

As seen in Lancaster's monitorial system and in the Excelsior School System, positive reinforcement was often emphasized in earlier school behaviour modification programmes, although punishment and consequences were sometimes utilized when necessary. Many of the early behaviour modification programmes such as Lancaster's and the Excelsior systems were

primarily based on principles of what was later termed applied behaviour analysis (ABA) strategies. ABA principles include positive reinforcement (i.e. food, privileges, feedback, praise, tokens), punishment (i.e. time-out, response cost, overcorrection), and extinction. Often, ABA programmes combine these techniques, depending on the participants, setting, and person managing the environment.

The goals of many ABA programmes are to increase students' attentive behaviour and compliance with directions and rules and to decrease disruptive behaviour. Over the years, programmes which utilize ABA techniques have been successfully established in classrooms consisting of a variety of populations (general and special education) and educational levels (preschool, elementary, high school, and college) within a multitude of settings (public schools, psychiatric institutions, private schools for the disabled, etc.). Such programmes have been found to be very effective in terms of improving classroom conduct (Kazdin, 1978). A meta-analysis of 106 single-subject studies from the *Journal of Applied Behaviour Analysis*, all of which attempted to reduce disruptive behaviours, indicated that ABA strategies involving differential reinforcement and a token economy system were highly effective in the elimination of disruptive behaviours (Chen & Ma, 2007). Another meta-analysis of 99 studies that employed interventions to decrease classroom disruptive behaviour in public education settings found that the three most effective interventions, on average, included group contingencies, self-management, and differential reinforcement, all of which are based on ABA principles. These behavioural interventions resulted in the lessening disruptive

classroom behaviour for approximately 85% of the students exposed (Stage & Quiroz, 1997).

Positive approaches to discipline are often emphasized in schools because such approaches can be utilized to modify a wide variety of disruptive student behaviours (American Federation of Teachers, 2007). Researchers have found that positive behavioural strategies are often adequate to teach many students appropriate behaviours; although, students who exhibit more challenging behaviours may require negative consequences in addition to positive reinforcement (Walker et al., 2003-2004). An example of a positive approach to discipline that is derived from ABA principles and that can be implemented with individual students, within classrooms, and/or within entire school systems is positive behaviour support (PBS). PBS includes the “application of positive behavioural interventions and systems to achieve socially important behaviour change” (Sugai et al., 2000).

The focus of PBS is to enhance a school’s environment by making students’ negative behaviours less effective and positive behaviours more purposeful. PBS includes three tiers of supports: 1) universal behavioural supports which includes positive reinforcement for all students, effective academic support, social skills instruction, establishing school-wide behaviour expectations, and consistent classroom discipline/management; 2) targeted group interventions, such as self-management programmes, enhanced academic support, adult mentors, and intensive social skills instruction; and 3) intensive individual supports, including concentrated academic assistance and individual behaviour plans (Trussell, 2008). When students do not respond to universal supports, more intensive supports can be considered and attempted (Sugai,

2007). Therefore, students who need any type of behavioural support can benefit from the three tiers of PBS.

Many studies have confirmed the effectiveness of PBS in schools. Luiselli, Putnam, Handler, and Feinberg (2005) found that when PBS was implemented in an urban mid-western elementary school over a span of three years, student discipline problems such as fighting, classroom disruption, and defiance decreased. McCurdy, Mannella, and Eldridge (2003) discovered that when PBS was employed in a diverse, urban elementary school over two years, there was 46% decrease in disruptive behaviours, including calling out, noncompliance, and leaving one's seat. There was also 37% decrease in office discipline referrals following PBS interventions. Scott and Barrett (2004) found that in another urban elementary school where PBS was implemented for multiple years, the number of office discipline referrals decreased from 608 during the baseline year to 46 in the second year of implementation. Suspensions were reduced from 77 during the baseline year to 22 in the second year. In addition, student instructional minutes which were previously lost due to office discipline referrals lowered from 12,160 during the baseline year to 920 in the second year. Therefore, PBS has been shown to dramatically decrease students' disruptive and aggressive behaviours and increase the amount of potential instructional time in the classroom.

The RTI model is designed to be utilized when implementing both academic and also behavioural interventions. According to the 2004 Learning Disabilities Roundtable report, the RTI process should include: "high quality, research-based instruction and *behavioural supports* in general education" (Learning Disabilities Roundtable, 2005). The RTI model therefore supports the

notion that many academic and behavioural problems, including disruptive behaviours, can be prevented if evidence-based interventions, such as those incorporating ABA and PBS, are consistently utilized in schools.

Some of the classroom behaviour management strategies noted in the literature that 1) aim to prevent disruptive behaviour, 2) are supported by PBS and RTI models, and 3) can feasibly be implemented by teachers include: consistently implementing school and classroom rules, involving students in the development of rules (and ensuring their understanding of these rules), maintaining student engagement, and creating a structured school and classroom environment (Lewis & Sugai, 1999; Smith & Rivera, 1995). The literature also recommends the implementation the following positive reinforcement strategies to increase students' positive behaviours: catching students demonstrate positive behaviours and reward them, praising desirable behaviours (both verbally and nonverbally), modeling appropriate behaviours, and teaching cues that signal the approach of an expected behaviour (McDaniel, 1987; Smith & Rivera, 1995). Finally, other behavioural interventions noted within the literature that are reported to be effective include: ignoring, group contingency programmes, correcting students when they make social/behavioural mistakes or violate class rules, using negative reinforcement for unacceptable behaviours, and teaching students to self-monitor their behaviours (Lewis & Sugai, 1999; McDaniel, 1987; Smith & Rivera, 1995).

Empirical Review

This section of the review covers the thematic areas the study seeks to address. They are presented in line with the research questions.

Knowledge of Pre-service Teachers of Behaviour Modification

Techniques

Emile Durkheim (1973) have opined that you cannot give what you do not have and therefore teachers cannot exhibit effective behaviour modification techniques when they have little or weak knowledge in the concept. Merrett and Wheldall (1993) in their study assessed secondary teachers' perceptions about how their initial training prepared them for the problems they confront in their classrooms. A total of 72% of 123 teachers indicated that they were not satisfied with their preparation in classroom behaviour management. When they were asked about where they learned their classroom behaviour management skills, only 18% of 126 teachers felt that they learned these skills during their initial training, while 82% indicated that they learned these skills 'on the job'. A study conducted by Michener (2015) in Cologne, Germany on the teacher preparation on classroom management revealed that student teachers were better placed to manage classroom behaviours. The aggregated mean of his study stood at 4.03 surpassing the midpoint mean of 3. He had a sample of 155 students. Michener backed his findings with the view that the curriculum was structured and it has a number of psychology courses that equip students with some strategies to manage their classes effectively.

Uzoechina, Oguegbu, Akachukwu, Orizu and Nwasor (2015) conducted a study on teachers' awareness and usage of non- violent strategies for the maintenance of discipline in Nigeria secondary schools. Through the descriptive survey, he selected 200 teachers from 8 single-sex schools and 12 co-education using the stratified sampling technique. The study found that the teachers were

highly aware ($M = 26.67$; $SD = 4.80$) of the non-violent discipline control strategies using a cut-off mean of 26.00.

A study by Randazzo (2011) on the elementary teachers' knowledge and implementation of applied behaviour analysis techniques revealed that most of the respondents perceived themselves to be the most knowledgeable about a number of applied behaviour analysis techniques. The study found that (100%) of the respondents have knowledge on social positive reinforcement. Also, (99.1%) indicated that they are very knowledgeable in modelling behaviour. Another 98.1% indicated they were knowledgeable in using a preferred activity as positive reinforcement. Again, another 87.8% had knowledge in using a token economy as positive reinforcement. This study was confirmed by a statistically significant positive correlation between the perceived knowledge of the respondents on behaviour management strategies and their total frequency scores.

Some studies conducted in Ghana indicated that the knowledge of pre-service teachers and teachers in general in managing disruptive behaviours in the classroom was weak. Brempong (2014) pointed out that students of the Berekum College of Education exhibited weak knowledge on how to manage disruptive behaviours in the classroom. He further stressed that out of the 265 students he studied, 193 representing 72.83% exhibited weak knowledge. He attributed it to the fact that behaviour modification was not taught in the colleges as a course of study. Again, Ackah (2016) in his study indicated that teachers in the Amenfi West District in the Western Region of Ghana have very little knowledge in classroom management practices. He stressed that out of the 185 teachers he studied, 133 representing 71.89% had an average mean less than the

2.5 which set the cut-off point to determine good knowledge. Based on his findings, it could be deduced that these teachers were not taken through effective behaviour modification techniques in handling disruptive behaviour in class.

Practice of Behaviour Modification Techniques in Managing Classroom Disruptive Behaviour Uzoehina et al., (2015, p.148) found that teachers highly ($M = 26.20$; $SD = 5.25$) practice non-violent discipline control strategies in the selected secondary schools. A study by Randazzo (2011) also revealed that most of the respondents employed a number of applied behaviour analysis techniques. For instance, the finding indicated that majority of the respondents indicated that they adopt positive reinforcement (98.2%), modelling behaviour (88.8%), prompting/fading (53.3%), reinforcement of an incompatible behaviour (48.6%) and a preferred activity as positive reinforcement (40.2%).

Levesque (2015) found that among College of Education students in the St. Patrick College of Education in Saskatoon in Canada who were on practice indicated that they take away some privilege from disruptive students. These pre-service teachers expressed that they adopted these strategies to curb undesirable behaviours among students. Levesque further stressed that out of 170 students who took part in the study, 158 (93%) indicated that taking away some privilege from disruptive students was a strategy they often used. In addition, Kalagho (2014) conducted a study in Dodoma in Tanzania on the behaviour modification strategies that were used by final year Education students of University of Dodoma. His study revealed that 78% out of the 250 students who took part in the study stated that they ignore disruptive behaviours of students. Some of the reasons they gave was that pupils put up disruptive

behaviour to attract attention. When they get the attention, there is the likelihood that the behaviour will be repeated but if they fail to get the attention the behaviour is weakened.

Furthermore, Idil (2013) reported that teachers at Merca in Somalia indicated that the predominant behaviour modification technique they use is that they send disruptive students out of the classroom. In Idil's qualitative study of 15 respondents, some of the narratives the respondents gave were that disruptive behaviour waste instructional time and therefore to save the instructional time, they send these students away. Others also explained that to stop other students from replicating such disruptive behaviours they send the students out to serve as deterrent to the rest of the students.

The study conducted by Khalil and Mohamed (2015) on training teachers on practicing behaviour modification strategies for children with special needs at Tanta intellectual school used convenient sampling to select 30 teachers. They found that regarding positive reinforcement, more than one half (60%) of teachers used in the study have poor level of practice with statistically significant relation at level of 0.001. With respect to shaping, response cost and time out behaviour modification strategies, they indicated that majority of the teachers had 100.0%, 93.4% and 90.0% respectively poor level of practice with statistically significant relations at level of 0.001.

Relationship between Teachers' Knowledge and Practice of Behaviour Modification Strategies

Khalil and Mohamed (2015) found that there was moderate statistically significant positive relationship between teachers' knowledge and practice of behaviour modification techniques ($r = 0.402$; $p = 0.014$).

Difference in the Knowledge of Pre-service Teachers of Behaviour

Modification Techniques in Terms of Gender

Some studies that have focused on teachers' sensitivities about managing disruptive behaviours have also examined how teacher characteristics, such as gender, influence their beliefs about discipline. Merrett and Wheldall (1993) found that men were much less likely than women to report that they experience problems with maintaining order and control in their classroom. Thus, gender might affect teachers' sensitivities about discipline problems.

Similarly, Okoh (2016) found that there was no significant difference between males and females in their level of behaviour modification techniques ($df = 134, t = 3.571, p = 0.081$). She indicated that even though the difference between them was not significant in the College of Education students in Ilorin, Kwara in Nigeria, the females were slightly ahead of the male counterparts in terms of knowledge in behaviour modification strategies. Also, Osipow (2014) showed that female education students of Benin State University in Nigeria had better knowledge than their male mates. The study reported that there was significant difference between male and female students in terms of the knowledge level in behaviour modification techniques ($df = 158, t = 1.241, p = 0.001$). Again, a study conducted by Otieno (2015) pointed out that that women are better managers of the classroom than men. He stems his argument from non-scientific basis that women conceive their kids for nine months and they begin to interact with them even in the womb and hence know how to deal with kids in managing their behaviour.

Andreichyn (2015) revealed significant difference between males and female teachers in their level of knowledge in terms of behaviour modification ($df = 123, t = -2.631, p = 0.041$). He however indicated that males had superior knowledge in behaviour modification than females ($df = 176, t = 1.284, p = 0.028$). This came to light in a study he conducted in Dnipro in Ukraine on second-cycle teachers' knowledge on behaviour modification techniques. In furtherance to the above, Mooketsi (2014) findings showed that among teacher trainees in Maun in Botswana, there was no significant difference between male and female in terms of their level of knowledge in behaviour modification ($df = 223, t = 4.296, p = 0.612$). He indicated that both males and females sat in the same class and received the same tutelage from the same lecturers and hence did not expect any differences in terms of their knowledge levels.

Randazzo (2011, p. 60) posited that there is difference between male and female participants mean total knowledge and total frequency scores. Using independent samples t-test, the study revealed that there is statistically significant difference between males' and females' mean total knowledge scores, $t(105) = -2.23, p = .022$. Females had significantly higher knowledge scores than males. Inversely, there was no statistically significant difference between males' and females' total frequency scores, $t(105) = -0.60, p = .522$.

Difference in the Knowledge of Pre-service Teachers of Behaviour Modification Techniques in Terms of their Programme of Study

In relation to knowledge of pre-service teachers of behaviour modification techniques in terms of their programme of study, Brown (2014) contended that there was no significant difference among education students' area of specialty and their knowledge of managing disruptive behaviours in

school. A study by Brown (2014) in Kaikoura University in New Zealand found that students who were specializing in Early Childhood Education were ahead of their compatriots reading Technical Education and Science ($df = 298$, $F = .649$, $p = .094$). Again, Yameogo (2015) in a study in Bobo Dioulasso in Burkina Faso on the academic course's teachers teach and their knowledge in classroom management found that teachers who teach the Arts were more knowledgeable in behaviour modification. He further expressed that the difference among these second cycle teachers' knowledge in terms of the courses they teach were not significant ($df = 178$, $f = .397$, $p = .083$).

Randazzo (2011) assessed the difference between pre-service teachers' knowledge scores and programme of study. Using independent samples t-test, the result indicated a significant difference between general and special educators' (programme of study) mean total knowledge scores, $t(97) = -2.49$, $p = .015$. The study reported that the special educators were significantly more knowledgeable about applied behaviour analysis techniques than the general education students.

Difference in the Practices of Pre-service Teachers of Behaviour

Modification Techniques in Terms of Gender

Okafor (2015) focussed on the practice of behaviour modification in terms of gender and revealed that there was no significant difference ($df = 208$, $t = 1.571$, $p = .073$). This study was carried out in Jos Plateau in Nigeria. This study further asserted that although males' practice the knowledge of behaviour modification, they have acquired better than the females, the difference was not significant. Again, Bukhari (2016) showed that in Hyderabad in Pakistan, there

was no significant difference in the teachers practice of behaviour modification strategies in terms of their gender ($df = 153$, $t = 1.219$, $p = .194$).

Difference in the Practices of Pre-service Teachers of Behaviour Modification Techniques in Terms of the Programme of Study

Lastly, with respect to practices of pre-service teachers of behaviour modification techniques in terms of the programme of study, Brace's (2017) confirmed that there was no significant difference in how students of colleges of education apply the knowledge of behaviour modification in terms of their programme of study ($df = 238$, $t = 1.25$, $p = 0.031$). From the study it really shown that there is no significant difference between student's behaviour modification in terms of their programme of study ($t = 1.25$). This was revealed in a cross-cultural study he conducted in Wesley College of Education, Kumasi-Ghana and St. Hubert College of Education in Oklahoma, USA. On the other hand, a study done by Muller (2015) showed that there was no significant difference in the use of behaviour modification strategies in terms of the programme of study of education students. This was conducted on final year education students in the University of Cologne, Germany.

Summary of Related Literature Reviews

Literature review focuses on three sections with each section basically enlightening the general overview of the study's focus. This comprises theoretical review, conceptual issues and empirical review.

Theoretical review emphasizes on some theories related to behaviour modification techniques. Conceptual issues and empirical reviews, give a picturesque on the empirical studies. Theoretical review section on the literature review highlights behaviour theories which lay emphasis on the classroom

management and maintenance of good behaviour. Behaviour theorists such as Frederick Skinner, William Glasser, Jacob Kounin and Abraham Maslow contribute significantly to classroom behaviour, management and its influence.

Conceptual issues form part of the three distinct sections of the literature review which focuses on addressing and explaining some concepts of the study which are geared towards establishing a conceptual framework of the whole study. The conceptual issues capture the sub-headings: concept behaviour, types of behaviour concept of behaviour modification, teaching strategies, reinforcement strategies, punishment, token, economy, shaping, stimulus control, barriers to implementing behaviour management strategies, etc.

Each sub-heading of the conceptual issues on literature review basically focuses on the study of behaviour modification. It is in the light of these conceptual issues and for that matter, the problems associated with behaviour modification techniques that the researcher considers very prudent to carry out to the highest academic environment. This is to test the knowledge based and application skills of the pre-service teachers of colleges of education in Ashanti Region.

The last section of the literature review which is empirical review discusses the research questions based on the study. Emphasis is laid on the behaviour modification techniques among pre-service teachers of colleges of education in Ashanti Region. The focus of the last section of the Literature Review which is the Empirical Review, highlights the behaviour modification techniques that pre-service teachers fail to exhibit in classroom management. The study reviews some studies which have focused on the knowledge of both pre-service teachers and teachers in practice in behaviour modification and

effective ways of managing disruptive behaviour in the classroom. The empirical review captures some percentages allotted to some colleges of education in Ghana for their weak knowledge exhibited on how to manage disruptive behaviour in the classroom.

From the review, the present study contends that behaviour modification was not taught in the college as a course of study. The Empirical Review on Related Literature Review seeks to highlight the sub-headings: Knowledge of Pre-Service Teachers of Colleges of Education of Behaviour Modification Techniques, Practice of Behaviour Modification Techniques in managing classroom Disruptive Behaviour, Relationship between Teachers' Knowledge and Practice of Behaviour Modification Strategies, Difference in the Knowledge of Pre-Service of behaviour modification techniques in terms of their programme of study, difference in the practices of pre-service teachers of Colleges of Education of Behaviour modification techniques in terms of gender etc.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter discusses the general methods and procedures that the researcher adopted for the study. The sub-headings deal with the design, population of the study, sample and sampling technique, the instrument for data collection, validation of the instrument, reliability of the instrument, method of data collection, method of data analysis and ethical consideration.

Research Design

Research design is seen as the blue print which specifies how data relating to a given problem should be collected and analyzed. It provides the procedural outcome for the conduct of any investigation. Gay (1992), stated that research design entails the structure of a study, the nature of the hypotheses and the variables involved in the study. The research design adopted for this study was the descriptive survey design. According to Gay, Mills and Airasian (2006), survey research involves collecting data to test hypotheses or answer research questions about people's opinions on some topic or issue. Additionally, survey research involves collecting data in order to test hypotheses or answer specific questions concerning the current status of the subject of the study. It determines and reports the way things are in their natural settings (Gay, Bruening & Bruce, 2000). At the heart of descriptive survey research is the desire to obtain answers from a large group of people or elements to a set of carefully designed and administered questions (Frankel & Wallen, 2003).

This study aims at investigating knowledge and practice of behaviour modification techniques among pre-service teachers of colleges of education in Ashanti Region, Ghana. Data on the research questions and hypotheses were collected by asking students to respond to some specific questions concerning each area, obviously making it more survey type than any other type.

The advantages of this design are that the subject is observed in a complete natural and unchanged environment. Descriptive research is often used as a pre-cursor to more quantitative research designs, the general overview give some valuable pointers as what variables are worth testing quantitatively. The use of descriptive designs allows variables and procedures to be described as accurately and completely as possible so that other researchers can replicate the study. The survey method was facilitated by making inferences from the data beyond the sample observed. Again, many items can be asked about a given topic thus enhancing the reliability of the results (Gay et al., 2000).

Descriptive survey also has some disadvantages. For instance, Seifert and Hoffnung (2000) maintained that there is the difficulty of ensuring that the questions to be answered using the descriptive survey design are clear and not misleading because survey results can vary significantly depending on the exact wording of questions. It may also produce untrustworthy results because they may delve into private matters that people may not be completely truthful about. They further maintained that surveys often make use of questionnaires which require respondents who can articulate their thoughts well and sometimes even put such thoughts in writing. These disadvantages were carefully considered and care was taken to ensure that they did not affect the validity and reliability of the results of the data collected for the study.

Population

Ashanti Region of Ghana was chosen for the study. The region has nine (9) Colleges of Education, one of the highest in Ghana.

Table 1: *Enrolment of total student and Final year students in CoE*

N/s	Name of College (CoE)	Total enrolment CoE			Enrolment Final Year Students
		Male	Female	Total	
1	Agogo Presbyterian CoE		1212	1212	392
2	Agona CoE	283	269	552	142
3	Akrokerri CoE	724	656	1380	433
4	Christ the Teacher CoE	51	45	96	30
5	Mampong Tech. CoE	1018		1018	440
6	St. Monicas		1510	1510	456
7	St. Louis		1261	1261	427
8	Wesley	714	554	1268	412
9	Offinso	697	505	1202	493
TOTAL		3,487	6,012	9499	3,225

Source: Field Survey, Yeboah (2019)

Although all the colleges could have been used for the study, the Ashanti Region was chosen since it has both single sex and mixed Colleges which was needed in the study. All the nine colleges of education were used for the study. The targeted population was the total population of students in the nine (9) Colleges of Education and it comprised 9,499. The nine colleges of education comprise eight public institutions and one private institution. For each of the Colleges of Education the third years (final year students) were used for the study. This is because they had gone through all the courses to be studied and have been posted to undertake teaching practice/internship at various schools in the Ashanti Region of Ghana. The accessible population of the study comprised 3,225 pre-service teachers on teaching practice. The enrolments of final year students in each of the nine Colleges of Education are indicated in Table 1:

Sample and Sampling Procedures

The sample size used for this study comprised 370 final year students. This was determined using Krejcie and Morgan (1970) table for determination of sample size. From the table the sample size was supposed to be 356. However, the researcher increased the number to 370 to cater for attrition rate. A multi-stage sampling technique was used with details indicated in Table 3. The purposive sampling technique was used to select all the colleges of education in the region because they are the appropriate population that the researcher accessed the information of study. The number of respondents to be sampled from each of the nine Colleges of Education was obtained by simple proportion.

This is because proportionate random sampling technique ensures greater representation of the sample relative to the population and guarantees

the minority constituents of the population are represented in the sample (Nworgu, 2006). The mathematical formula used to obtain the sample size for each of the nine colleges of education is as shown as follows:

$$\text{Sample size for each College of Education (CoE)} \\ = \frac{\text{Total number of final year students in each CoE}}{\text{Total number students in all the CoE in Ashanti Region}} \times \text{Sample size}$$

Calculating the sample size of each College of Education

Sample size for Agogo College of Education =

$$\frac{392}{3,225} \times 370 = 45$$

Sample size for Agona College of Education =

$$\frac{142}{3,225} \times 370 = 17$$

Sample size for Akrokerri College of Education =

$$\frac{433}{3,225} \times 370 = 50$$

Sample size for Christ the Teacher College of Education =

$$\frac{30}{3,225} \times 370 = 3$$

Sample size for Mampong Technical College of Education =

$$\frac{440}{3,225} \times 370 = 50$$

Sample size for St Monica's College of Education =

$$\frac{456}{3,225} \times 370 = 52$$

Sample size for St Louis College of Education =

$$\frac{427}{3,225} \times 370 = 49$$

Sample size for Wesley College of Education =

$$\frac{412}{3,225} \times 370 = 47$$

Sample size for Offinso College of Education =

$$\frac{393}{3,225} \times 370 = 57$$

After the researcher had gotten the sample size that was taken from each of the nine Colleges of Education, the simple random sampling technique was used to obtain the respondents through computerized table of random method. This is where the researcher assigned numbers to the individual students' index numbers to various colleges under study. The total number of final year pre-service teachers from each college was fed in the computer to generate the appropriate number of participants for the study. This approach ensured that all the participant had equal chance of being selected to be involved in the study, in order to avoid bias.

In relation to gender population, stratified and computerized table of random method were used to select the respondents for the study. The stratified technique was used because the number of females dominates the male population in the study area.

The distribution of the sample with respect to final year pre-service teachers in the nine Colleges of Education in Ashanti Region is shown in Table 2.

Table 2: *Distribution of Final year Pre-service Teachers in the Nine Colleges of Education in Ashanti Region*

Name of CoE	Enrolment of final year students	Sample size
Agogo	392	45
Agona	142	17
Akrokerri	433	50
Christ The Teacher	30	3
Mampong Tech	440	50
St. Monica's	456	52
St. Louis	427	49
Wesley	412	47
Offinso	493	57
Total	3,225	370

Source: Field Survey, Yeboah (2019)

Table 3: *Summary of the Multi-Stage Sampling Process*

Stages	Sampling techniques	Sample
1	Purposive	All the 9 colleges of education
2	Simple random	370 pre-service teachers
3	Proportionate random sampling	Males145(40.3) Female215(59.7)

Source: Field Survey, Yeboah (2019)

Research Instrument

The instrument for the data collection was Behaviour Modification questionnaire (BMQ) developed by the researcher. This was developed based on theories of Skinner and Glasser. Ogah (2013) described questionnaire as a very strong instrument for eliciting information because of the relative ease in responding to them. Additionally, it is most appropriate when dealing with a data to be collected from a large sample. The questionnaire was in three (3) sections and made up of 46 items. The items consisted of both closed-ended and open-end questions. The questionnaire was used to elicit data on the respondents' knowledge and practice of behaviour modification techniques.

The section A of the questionnaire consisted of 6 items which elicited information on the demographic data of the respondents. It included the sex, age, name of institution, programme of study, marital status and class they teach. In section B, a 5-point Likert-type scale questionnaire was used to elicit information from the respondents on their knowledge of behaviour modification techniques. This information was meant to address the first research question.

The five- point Likert scale was anchored on the responses: Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) to No Idea (NI). Additionally, this part of the questionnaire consisted of 25 items. Some of the items were: “Reinforcement is the best technique for correcting disruptive behavior”, “Shaping is a strategy for correcting disruptive behavior”, “Corporal punishment is not the best way to correct disruptive behavior”, “Positive reinforcement encourages students to behave well”, “Systematic desensitization can be used to extinguish anxiety in pupils”, “Token economy can help to solve the problem of disruptive behaviour among male students”, “Kneeling down is the best techniques for handle female students’ disruptive behavior” and “Ignoring a student can help decrease a disruptive behaviour”.

Lastly, section C of the questionnaire consisted of a 3-point Likert-type scale. The 3- point Likert -type scale was anchored on the following responses: Most of the time (MT), Sometimes (SA) and Never (N). This part of the questionnaire was used to elicit information from the respondents on their practice of behaviour modification techniques in the classroom. This section of the questionnaire consisted of 16 items. Some of the items were: “I don’t punish students for their negative behaviours”, “I motivate my students when I want to strengthen a behaviour”, “I overlook all forms of disruptive behaviours because I don’t want to be reported to my mentor”, “I don’t punish students for disruptive behaviour to encourage them to be punctual”, “I use a lot of reinforcement strategies so that students will enjoy my lessons”, “I cane students for disruptive behaviours. It is the best form of behaviour modification”, “I commend students for putting up good behaviour”, “I do not

cane students. I employ other forms of behaviour modification.” and “I reward good behaviour with praise”.

Validity and Reliability of the Instrument

Gall, Borg and Gall (1996) indicated that an instrument can be validated through expert judgment. Nyarko-Sampson, Omotosho and Yahaya, (2013) defined reliability of a measured instrument as the extent to which the results are free from random error, thus measuring consistency of variables of interests over time.

To check the content validity of the instrument, the questionnaire was designed and given to experts in Guidance and Counselling and Psychology in the Faculty of Educational Foundations, University of Cape Coast for assistance to read through and shape the questionnaire. The experts’ comments and suggestions were incorporated in the corrections for the final instrument. That is, ambiguous, biased and deficient items were reframed while irrelevant items were duly deleted.

With respect to reliability, a pre-test was conducted to determine the reliability of the instrument. The questionnaire was administered to 50 students from St Joseph College of Education, Bechem in the Brong Ahafo region of Ghana. Fifty (50) students were used to determine the reliability of the instrument. The selection of the respondents for the sample is based on Hertzog (2008) assertion that 10 to 40 sample range is precise for pilot studies. This helped the researcher to revise the instruments for actual data collection.

The reliability (internal consistency) of the questionnaire for the pre-test and the main study were estimated using Cronbach’s co-efficient alpha. According to Ebel & Frisbie (as cited in Adusei, 2017), co-efficient alpha can

provide an internal reliability estimate for a measure composed of items of varying point values such as essays or attitude scales. The Cronbach's coefficient alpha estimates are presented on Tables 3 and 4.

Table 4: *Reliability estimates for the Pre-test*

Section	No. of items	No. of Respondents	Cronbach alpha
Knowledge of behaviour modification techniques	25	51	.782
Practice of behaviour modification techniques	16	51	.727
All sections	47	51	.759

Source: Field Survey, Yeboah (2019)

Table 5: *Reliability estimates for the main study*

Section	No. of items	No. of Respondents	Cronbach alpha
Knowledge of behaviour modification techniques	25	360	.743
Practice of behaviour modification techniques	16	360	.653
All sections	47	360	.703

Source: Field Survey, Yeboah (2019)

Data Collection Procedure

I employed four research assistants who were trained for the exercise. I acquainted the assistants with the purpose of the study, how they should guide the respondents to answer the items on the questionnaire and how to administer and collect the questionnaire. On the spot method of questionnaire administration and retrieval was used to improve the return rate.

Letter of introduction was taken from the Department of Guidance and Counselling of the University of Cape Coast to the authorities of the selected institutions for the data collection exercise. This was after the instrument and other research protocols have been approved by the University of Cape Coast Institutional Review Board.

Data Management Issues

In order to execute good data management practices, I solely handled the filled inventories to ensure that information given out by respondents did not ended up in wrong hands due to the sensitive nature of the data. After the data were collected, they were securely stored in a locked cabinet to prevent other people from having access to it. After the data were entered in the computer they were protected with a password. Respondents were required not to write their names on the instrument so as to provide anonymity to help ensure protection of respondents. Code numbers that were assigned were used to identify respondents. To maintain the integrity of this study and the University of Cape Coast, I ensured that accurate data were used so that results will be verified and data will be reused in future.

Data Processing and Analysis

The data collected in this study was checked, edited and coded. The data gathered were statistically analysed using frequencies and percentages, means and standard deviation as well as Pearson's Product Moment Correlation, independent samples t-tests and one-way ANOVA with the version 25 of the Statistical Package for Service Solutions (SPSS) software. The sections below show how the data pertaining to the two research questions and five research hypotheses were analysed.

Research Question One

What knowledge of behaviour modification techniques do pre-service teachers of colleges of education have?

The responses of the items on the questionnaire to this research question were analysed using means and standard deviations of the responses to the 25 items which consist of the disruptive behaviours exhibited by pupils in the classroom relating to this research question. The mean and standard deviation values of each of items were determined.

Since the scale was a five-point Likert-type format, three (3.0), being the mid-value was used as the cut-off point. Based on the cut-off point, the 25 statements were put into two groups. Statements with mean values above 3.0 were considered as high knowledge in disruptive behaviour while those whose mean were below were considered as weak knowledge.

Research Question Two

What is the level of practice of pre-service teachers of colleges of education of behaviour modification techniques?

The responses of the items on the questionnaire to this research question were analysed using means and standard deviations of the responses to the 16 items which consist of the various strategies the teachers use to manage the disruptive behaviours exhibited by pupils in the classroom relating to this research question. The mean and standard deviation values of each item was determined.

Since the scale was a three-point Likert-type format, two (2.0), being the mid-value will be used as the cut-off point. Based on the cut-off point, the 16 statements were put into two groups. Statements with mean values above 2.0 were considered as high level of practice of the behaviour modification strategies while those whose mean were below was considered as weak level of practice.

Research Hypothesis One

H₀: There is no statistically significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers of colleges of education.

The Pearson's product moment correlation coefficient (r) was used for this hypothesis. This enabled me to describe the linear relationships that exist within the two continuous variables.

Research Hypothesis Two

H₀: There is no statistically significant difference in the knowledge of pre-service teachers regarding behaviour modification techniques in terms of the gender.

The t-test statistic was used in testing this hypothesis at (.05) level of significance. An independent sample t-test is used when a researcher wants to

compare the mean scores for two different groups (Agyenim-Boateng, Ayebi-Arthur, Buabeng & Ntow, 2010). Independent samples t-test is used on two different groups of participants to determine the mean values or scores (Pallant, 2010). The strength of this tool is that, it goes one step beyond merely observing variables and looking for relationships.

Research Hypothesis Three

H₀: There is no statistically significant difference in the knowledge of pre-service teachers regarding behaviour modification techniques in terms of their programme of study.

With respect to the third hypothesis, data was tested with a one-way analysis of variance (ANOVA). It was used to determine whether there was any statistically significant difference between the mean of three or more independent (unrelated) groups.

Research Hypothesis Four

H₀: There is no statistically significant difference in the practices of pre-service teachers of colleges of education regarding behaviour modification techniques in terms of the gender.

The procedure used in testing the research hypothesis four was independent t-test statistics. The t-test was used in testing this hypothesis at (.05) level of significance.

Research Hypothesis Five

H₀: There is no statistically significant difference in the practices of pre-service teachers of colleges of education regarding behaviour modification techniques in terms of the programme of study.

The procedure used in testing the fifth research hypothesis was one-way analysis of variance (ANOVA). It was used to determine whether there was any statistically significant difference between the mean of three or more independent (unrelated) groups.

Ethical Consideration

Ethical issues which were considered in this study included issues of informed consent, invasion of privacy anonymity of respondents, voluntarism and plagiarism. I submitted a research proposal that set out in detail the procedure to be followed during the data collection to the Institutional Review Board of the University of Cape Coast. The proposal highlighted the research design, methodology, written consent forms for students as well as explanatory literature in the procedures for ensuring confidentiality, voluntary participation, and anonymity. Introductory letter was sent to the management of all the 9 colleges of education and their approval received before the research commenced. The researcher sought the consent of all participants in the research before the conduct of the study (informed consent). The researcher made telephone calls and prior visits to management of the colleges of education in order to pre-arrange data gathering periods. This was to prevent unnecessary interruption in their work schedules thereby invading their privacy. Neither names nor any identifiable information from respondents was taken as a way of ensuring the ethical principle anonymity in social research.

This was to prevent possible victimization of respondents in cases where certain responses may be viewed as injurious to management. While distributing the questionnaire, the researcher verbally informed all respondents who agreed to answer questionnaires that their participation was voluntary. They could,

therefore opt out at any stage of the research process. They could also skip questions they did not know the answers otherwise any guess they made would be taken as a correct answer for analysis of the data. This was just to ensure that the researcher did not breach the ethical principle of voluntarism to participate in social research. Pieces of information cited from earlier studies to investigate knowledge and practice of behaviour modification techniques of pre-service teachers to support analysis of the study were duly acknowledged through both in-text referencing and a bibliography. This was meant to avoid academic dishonesty or plagiarism. Findings cited in the literature review of this study were also duly acknowledged in line with the academic property law.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

Introduction

This chapter presents and discusses the result/s based on the data gathered from three hundred and sixty (360) respondents. In analysing the data to answer the two research questions and five research hypotheses, frequencies and their corresponding percentages, means and standard deviations, Pearson's Product Moment correlation, independent samples t-test as well as one-way ANOVA conducted. The background information of participants was also presented before the results regarding the research questions. The presentation is divided into four sections (1-4). The first section presents the background information of respondents. The second section focuses on the results for the research questions. Again, the third section focuses on the results for the research hypotheses. Finally, the fourth section focuses on the discussions of the results.

Section 1: Demographic Data of Respondents

This section presents results of the demographic characteristics of the sample used for the study.

Distribution of Sex of Respondents

Item 1 of the questionnaire requested respondents to indicate their sex. Table 6 shows the distribution of respondents by sex.

Table 6: *Sex of the Respondents*

Sex	Frequency	Percent
Male	145	40.3
Female	215	59.7
Total	360	100.0

Source: Field Survey, Yeboah (2019)

Table 6 shows the sex of the respondents used in the study. Three hundred and sixty respondents answered the data collection instrument. Out of this 145 (40.3%) were males and 215(59.7%) were females. The result on the Table shows that females dominate the males’ student population in the various colleges of education used in the study.

Distribution of Respondents by their Marital Status

Item 2 of the questionnaire requested respondents to indicate their marital status. Table 7 shows the distribution of respondents by marital status.

Table 7: *Marital Status of the Respondents*

Marital status	Frequency	Percent
Married	19	5.3
Single	341	94.7
Total	360	100.0

Source: Field Survey, Yeboah (2019)

Table 7 shows the distribution of the respondents by marital status. The respondents were asked to indicate their marital status, out of the 360, those single constituted 341 (94.7%) while 19 (5.3%) indicated they were married. The results from the Table imply that most of the pre-service teachers were single.

Distribution of Respondents by Programme of Study

Item 3 of the questionnaire requested respondents' to indicate their programmes of study. Table 8 shows the distribution of respondents by their programmes of study.

Table 8: *Programme of Study of Respondents*

Programme	Frequency	Percent
Maths and Science	27	7.5
Technical	14	3.9
Early Childhood	17	4.7
General Education	290	80.6
French	12	3.3
Total	360	100.0

Source: Field Survey, Yeboah (2019)

Table 8 shows the result of the distribution of the respondents by their programme of study. From the Table, it was revealed that the respondents were reading one of the five programmes of study offered at the colleges of education. Those reading General Education were the highest in terms of frequency 290(80.6%). Twenty-seven of them representing 7.5% were reading Maths and Science, 14(3.9%) for Technical 17(4.7%) for Early Childhood while 12(3.3%) were reading French. The result from Table 8 implies that most of the respondents used in the study offered General Education while the least number of respondents were students of French.

Section 2: Analysis of the Research Questions

Research Question 1: What knowledge do pre-service teachers in Colleges of Education have regarding behaviour modification techniques?

This research question was to ascertain the level of knowledge the respondents had gained on behaviour modification techniques. Before analysing the data on this research question, items 3 and 17 on the section B of the questionnaire were reversed since they are negative statements. Means and standard deviations were used to answer these research questions. This was done by looking at the aggregated means of the respondents on each of the research questions.

In terms of research question one, the respondents were to give their answers on a 5-point Likert-type scale weighed as Strongly Agreed = 5, Agreed = 4, Disagree = 3, strongly disagree = 2, No idea = 1. A midpoint of this was used to determine whether the respondents had strong or weak knowledge. Thus, $(5+4+3+2+1 = 15; 15 \div 5 = 3)$ if the mean of means falls above 3 then it is interpreted as strong knowledge while if it below then it is weak knowledge. Table 9 shows the means and standard deviations of the knowledge of the respondents on behaviour modification techniques.

Table 9: *Pre-service Teachers Knowledge on Behaviour Modification Techniques*

Items	Mean	Std. Dev.
Ignoring a student decrease a disruptive behaviour	3.04	1.11
Flooding is appropriate when dealing with fear in pupils	3.03	1.23
Time-out immediately after bullying can alter such behaviour.	2.94	1.25
Token economy can solve disruptive behaviour	2.93	1.24
Stimulus satiation is not a behaviour modification technique	2.89	1.28
Kneeling down is the best techniques for handling disruptive behaviour.	2.88	.98
Aversion training can be applied to eliminate negative behaviour	2.86	1.33
Rewards decrease student's intrinsic motivation to work	2.72	1.10
Systematic desensitization could be used to extinguish anxiety in pupils	2.71	1.31
It is inappropriate to provide rewards for good behaviour	2.67	1.16
Bio-feedback can decrease undesirable behaviour	2.66	1.27
Detention strategy could get students perform their tasks	2.53	1.26
Overcorrection is effective in strengthening a desirable behaviour.	2.48	1.04
Making a child to do what he/she dislike in order to be given the opportunity do his/her favourite activity improve desirable behaviour	2.46	1.12
Behaviour contracting is useful in firming-up a behaviour a teacher wishes a student to repeat	2.41	1.21
Corporal punishment is not the best way to correct disruptive behaviour	2.39	1.16
Punishment is the most effective tool to change a negative behaviour	2.38	1.10
Prompting and fading is an effective technique to stamp out disruptive behaviour in the classroom.	2.38	1.19
Relaxation techniques can be used to reduce anxiety in pupils	2.30	1.14
A good way to get students seated is to reinforce them whenever they are seated	2.27	1.02
Shaping is a strategy for correcting disruptive behaviour	1.96	.91
Reinforcement is the best technique for correcting disruptive behaviour	1.90	.93
It is better to identify the cause of misbehaviour in order to know the appropriate intervention.	1.89	1.10
Positive reinforcement encourages students to behave well	1.64	.96
Praising students is an effective way to encourage students to behave appropriately.	1.63	.88
Mean of Means	2.48	1.13

Source: Field Survey, Yeboah (2019)

N = 360

Table 9 shows the knowledge of the pre-service teachers in behaviour modification techniques. The respondents agreed that ignoring a student can help decrease a disruptive behaviour by a mean of 3.04 and a standard deviation of 1.11. Again, they strongly agreed that flooding is appropriate when you are dealing with fear in pupils by a mean of 3.03 and a standard deviation of 1.23.

Nevertheless, the respondents disagreed that reinforcement is the best technique for correcting disruptive behaviour by a mean of 1.9 and a standard deviation of .93. Also, the respondents disagreed that shaping is a strategy for correcting disruptive behaviour by a mean of 1.96 and a standard deviation of .91. The respondents disagreed about the fact that positive reinforcement encourages students to behave well by a mean of 1.64 and a standard deviation of .96. It is better to identify the cause of misbehaviour to know which intervention would be appropriate by showing a mean of 1.89 and a standard deviation of 1.1. With respect to the use of praise to encourage students to behave appropriately the respondents strongly disagreed by a mean of 1.663 and a standard deviation of .88.

The results on the Table revealed that most of the pre-service teachers have low knowledge in behaviour modification techniques by an overall mean of 2.48 and a standard deviation of 1.13. Using the mean cut-off point of 3.0, the pre-service teachers' responses were high for only two items and low for the remaining 23 items.

Research Question 2: What is the level of practice of behaviour modification techniques among pre-service teachers in Colleges of Education?

This research question was aimed at identifying the extent to which the respondents employ behaviour modification techniques in managing disruptive behaviour in their classrooms. Before analysing the data on this research question, items 1 and 8 on the section C of the questionnaire were reversed since they are negative statements. Means and standard deviations were used to answer this research question. This was done by looking at the aggregated means of the respondents on each of the research questions.

With respect to the research question two, the respondents were to rate their responses for the items with “Most of the time”, “some of the time” and “never”. A midpoint of this was used to determine whether the respondents had good knowledge or not. Thus, $(3+2+1 = 6; 6 \div 3 = 2)$ if the mean of means falls above 2 then it is interpreted as a high extent of practice while if below it is low extent of practice. Table 10 shows the means and standard deviations of the extent of practice of behaviour modification techniques by the pre-service teachers in their classrooms.

The Table 10 shows the extent to which the pre-service teachers practice the behaviour modification techniques. The respondents indicated that they motivate their students when they want to strengthen behaviour with a mean of 1.31 and a standard deviation of 1.52. Again, they made it clear that they use a lot of reinforcement strategies so that students will enjoy their lessons by a mean of 1.54 and a standard deviation of .70.

Also, the respondents agreed that they commend students for putting up good behaviour with a mean of 1.44 and a standard deviation of 1.25. The respondents indicated that they do not cane students but employ other forms of behaviour modification with a mean of 1.62 and a standard deviation of .64. The respondents' agreed that they demonstrate the positive behaviour they want students to practice with a mean of 1.36 and a standard deviation of .57.

Table 10: *Practice of behaviour Modification Techniques by Pre-service Teachers*

Item	Mean	Std. Dev.
I send disruptive student's out of the classroom	2.43	.76
I overlook all forms of disruptive behaviour because I don't want to be reported to my mentor	2.31	.81
I don't punish students for disruptive behaviour to encourage them to be punctual to school	2.21	.75
I use time out for disruptive students	2.21	.73
I take away some privilege for disruptive behaviour	2.19	.73
I cane students for disruptive behaviour. It is the best form of behaviour modification.	2.17	.75
I don't punish students for their negative behaviour	2.02	.72
I verbally reprimand students for inappropriate behaviour	1.99	.73
I give special privileges to student for good behaviour	1.72	.69
I reward good behaviour with tangible items	1.66	.65
I do not cane students; I employ other forms of behaviour modification.	1.62	.64
I use a lot of reinforcement strategies so that students will enjoy my lessons	1.54	.70
I commend students for putting up good behaviour	1.44	1.25
I reward good behaviour with praise	1.39	.58
I demonstrate the positive behaviour that I want students to practice	1.36	.57
I motivate my students when I want to strengthen a behaviour	1.31	1.52
Mean of Means	1.85	.79
Source: Field Survey, Yeboah (2019)	N = 360	

The results on the Table imply that the level to which the pre-service teachers practice the behaviour modification techniques is low with an overall mean of 1.85 and a standard deviation of .79. Using the mean cut-off point of 2.0, the pre-service teachers' responses were high for seven of the items and low for the remaining nine items.

Section 3: Analysis of the Research Hypotheses

Results for hypotheses 1, 2, 3, 4 and 5 are presented in Tables 10, 11, 12, 13 and 14 respectively.

1.*H₀*: There is no statistically significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers in the Colleges of Education.

H₁: There is statistically significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers in the Colleges of Education.

In an attempt to answer this research hypothesis, the Pearson's Product Moment Correlation Coefficient was used to test if there is a statistically significant relationship between the pre-service teachers' knowledge and practice of behaviour modification techniques. The result is presented on Table 10.

Table 11: *Relationship between Pre-Service Teachers’ Knowledge and Practice of Behaviour Modification Techniques*

		Knowledge	Practice
Knowledge	Pearson Correlation	1	.401**
	Sig. (2-tailed)		.000
	N	360	360
Practice	Pearson Correlation	.401**	1
	Sig. (2-tailed)	.000	
	N	360	360

**Significant $p < .05$ (2-tailed). $R^2 = .16$ (16%). Source: Field Survey, Yeboah (2019)

As shown in Table 11, the Pearson’s Product Moment Correlation Coefficient statistical procedure was run to determine the relationship between the pre-service teachers’ knowledge and practice of behaviour modification techniques. The results show a mild statistically significant positive relationship between pre-service teachers’ knowledge and practice of behaviour modification techniques ($r = 0.401$; $n = 360$; $p < 0.00$). The coefficient of determination (r^2) is 0.16. This means that their knowledge on behaviour modification strategies explains 16% of variation in their practice of the strategies in classrooms. This implies that knowledge of behaviour modification significantly relates with its practice.

2. H_0 : There is no statistically significant difference in the knowledge of pre-service teachers of colleges of education of behaviour modification techniques in terms of gender.

H_1 : There is statistically significant difference in the knowledge of pre-service teachers of colleges of education of behaviour modification techniques in terms of gender.

The independent samples t-test was used to test if there is statistically significant mean difference between the gender of pre-service teachers and their knowledge in behaviour modification techniques. The result is presented on Table 12.

Table 12: *A Comparison of Pre-service Teachers' and their Knowledge on Behaviour Modification Techniques in terms of Gender*

Gender	N	Mean	SD	t	Df	P
Male	145	59.82	10.47			
				-3.13	358	.002
Female	215	63.35	10.53			

*significant, $p > .05$; Source: Field Survey, Yeboah (2019)

An independent samples t-test was conducted to compare the gender of the pre-service teachers with respect to their knowledge on behaviour modification techniques. There was a statistically significant difference ($t(358) = -3.13, p = .002$) between the gender of respondents and their knowledge on behaviour modification techniques. The null hypothesis (H_0) was rejected. Therefore, the results show that there is mean difference in the male pre-service teachers ($M = 59.82, SD = 10.47$) and the female pre-service teachers ($M = 63.35, SD = 10.53$) regarding their knowledge on behaviour modification techniques. The results indicated that females had more knowledge in behaviour modification techniques than their male counterparts.

3. H_0 : There is statistically significant difference in the knowledge of pre-service teachers of behaviour modification techniques in terms of their programme of study.

H_1 : There is statistically significant difference in the knowledge of pre-service teachers of behaviour modification techniques in terms of their programme of study.

The one-way Analysis of Variance (ANOVA) was used to test if there is statistically significant mean difference among the programmes offered by pre-service teachers and their knowledge in behaviour modification techniques. Before the main test, the necessary assumptions were tested to confirm if there is no violation. The summary of the result is presented in Table 13.

From the descriptive Table (*Appendix D*), the respondents had a mean of 59.41 and a standard deviation of 9.76 in Maths and science. Also, they had a mean of 62.79 and a standard deviation of 11.33 in Technical skills. In addition, they had a mean of 61.47 and a standard deviation of 8.46 in Early Childhood. Again, they had a mean of 62.20 and a standard deviation of 10.78 in General Education. Finally, they had a mean of 60.75 and a standard deviation of 11.55 in French.

From summary of Tests of Normality Table (*Appendix D*), it can be seen that for the “Maths and Science, Technical skills, Early Childhood, General Education and French”, “Knowledge of pre-service teachers in behaviour modification techniques” were normally distributed. This is because almost all the pre-services teachers offering the above listed programmes had Sig. values of the Kolmogorov-Sminov^a test greater than the alpha value of 0.05 ($p > 0.05$). For instance, the pre-service teachers had a sig. value of .20 in Maths and

Science, Technical skills and Early Childhood. Also, they had a sig. value of .10 in French. Nevertheless, they had a sig. value of .03 which is less than the Alpha value of 0.05.

To confirm the normality assumption, the Normal Q-Q Plots (Appendix D) for the pre-service teachers offering the above listed programmes, it can be said that the charts for the pre-service teachers offering Maths and Science, Technical skills, Early Childhood and General Education are normally distributed since almost all the plots are very close to the diagonal while the plots for the one for those offering French are stray from the line and it is therefore not normally distributed.

From the Test of Homogeneity of Variances table (*Appendix D*), the Levene statistics clearly indicates a sig. value of .715 which is greater than the alpha value 0.05 ($p > 0.05$). This shows that equality of variance is assumed.

Table 13, the one-way Analysis of Variance (ANOVA) shows the mean difference among pre-service teachers offering the various programmes and their knowledge of behaviour modification techniques. The result from the Table shows a statistically non-significant mean difference $F(4, 355) = .492, p = .742$ among the pre-service teachers offering the various programmes. In conclusion, the results of the one-way ANOVA supported the hypothesis that there are no differences in the mean scores of the knowledge of the pre-service teachers offering the various programmes on behaviour modification techniques.

Table 13: A Comparison of pre-service teachers’ knowledge on behaviour modification techniques based on programmes

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	223.503	4	55.876	.492	.742
Within Groups	40355.761	355	113.678		
Total	40579.264	359			

4. H_0 : There is no statistically significant difference among pre-service teachers of colleges of education in their practice of behaviour modification techniques in terms of gender.

H_1 : There is statistically significant difference among pre-service teachers of colleges of education in their practice of behaviour modification techniques in terms of gender.

Table 14: A Comparison of Pre-service Teachers’ Practice of Behaviour Modification Techniques Based on Gender

Gender	N	Mean	SD	t	Df	<u>P</u>
Male	145	29.12	4.69			
				-1.68	358	.094
Female	215	29.88	3.80			

p > .05 significant level

Source: Field Survey, Yeboah (2019)

Again, the independent samples t-test was used to test if there is statistically significant mean difference between the gender of pre-service

teachers and their practice of the behaviour modification techniques. Table 14 shows the results for the fourth research hypothesis.

An independent samples t-test was conducted to compare of pre-service teachers' practice of behaviour modification techniques based on gender. There was a statistically significant difference ($df = (358)$, $t = -1.68$, $p = .094$) between the gender of respondents and their practice of behaviour modification techniques. Fail to reject the null hypothesis (H_0). Therefore, the results show that there is no mean difference in the male pre-service teachers ($M = 29.12$, $SD = 4.69$) and the female pre-service teachers ($M = 29.88$, $SD = 3.80$) regarding their practice of behaviour modification techniques.

5. H_0 : There is no statistically significant difference among of pre-service teachers of colleges of education in their practice of behaviour modification techniques in terms of the programme of study.

H_1 : There is statistically significant difference among of pre-service teachers of colleges of education in their practice of behaviour modification techniques in terms of the programme of study.

One-way Analysis of Variance (ANOVA) was used to test if there is statistically significant mean difference among the programmes offered by pre-service teachers and their practice of behaviour modification techniques. Before conducting the main test, the necessary assumptions were tested. Table 14 show the summary of the results for this research hypothesis.

From the descriptive Table (*Appendix D*), the respondents had a mean of 28.33 and a standard deviation of 5.36 in Maths and science. Also, they had a mean of 29.64 and a standard deviation of 7.26 in Technical skills. In addition, they had a mean of 28.94 and a standard deviation of 3.61 in Early Childhood.

Again, they had a mean of 29.67 and a standard deviation of 3.75 in General Education. Finally, they had a mean of 30.83 and a standard deviation of 6.91 in French.

From summary of Tests of Normality Table (*Appendix D*), it can be seen that for the “Early Childhood and French”, “the pre-service teachers’ practice of behaviour modification techniques” were normally distributed. This is because two of the pre-service teachers offering the above listed programmes had Sig. values of the Kolmogorov-Sminov^a test greater than the alpha value of 0.05 ($p > 0.05$). For instance, the pre-service teachers had a sig. value of .10 in Early Childhood and a sig. value of .149 in French. Notwithstanding, they had a sig. value of .037 in Maths and Science, .007 in Technical skills and .00 in General Education which are less than the Alpha value of 0.05.

The Normal Q-Q Plots (*Appendix D*) was considered to confirm the results from the Kolmogorov-Sminov^a test. The charts for the pre-service teachers offering Maths and Science, Technical skills, Early Childhood and General Education are normally distributed since all the plots are very close to the diagonal line.

From the Test of Homogeneity of Variances table (*Appendix D*), the Levene statistics clearly indicates a sig. value of .002 which is less than the alpha value 0.05 ($p < 0.05$). This shows that equality of variance is not assumed.

The Robust Tests of Equality of Means table (*Appendix D*) was therefore considered. The Welch statistics on the table clearly indicates a sig. value of .664 which is greater than the alpha value 0.05 ($p > 0.05$). This shows that equality of means is assumed.

Table 15: *A Comparison of Pre-service Teachers' Practice of Behaviour Modification Techniques Based on Programme*

	Sum Squares	ofDf	Mean Square	F	Sig.
Between Groups	70.274	4	17.568	1.000	.408
Within Groups	6239.701	355	17.577		
Total	6309.975	359			

Table 15, the one-way Analysis of Variance (ANOVA), shows the mean difference among pre-service teachers offering the various programmes on their practice of behaviour modification techniques. The result from the Table shows a statistically non-significant mean difference $F(4, 355) = 1.00, p = .408$ among the pre-service teachers offering the various programmes. In conclusion, the results of the one-way ANOVA supported the hypothesis that there are no differences in the mean scores of the knowledge of the pre-service teachers offering the various programmes on behaviour modification techniques.

Discussion of Research Findings

In this section, the findings are discussed in relation to the:

1. Knowledge of behaviour modification techniques among pre-service teachers of the colleges of education.
2. Level of practice of behaviour modification techniques among pre-service teachers of colleges of education.
3. The significant relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers of colleges of education.

4. Difference in the knowledge of behaviour modification techniques among pre-service teachers of colleges of education in terms of their gender.
5. Difference in the knowledge of behaviour modification techniques among pre-service teachers of colleges of education in terms of programme of study.
6. Difference in the practices of behaviour modification techniques among pre-service teachers of colleges of education in terms of their gender.
7. Difference in the practices of behaviour modification techniques among pre-service teachers of colleges of education in terms of the programme of study.

Knowledge of Behaviour Modification Techniques among Pre-service Teachers of Colleges of Education

The findings of the current study imply that colleges of education in Ghana lack much content on behaviour modification and therefore, pre-service teachers are not abreast with knowledge on how to manage pupils who distract their colleagues from concentrating during instructional hours. The lessons pre-service teachers go through have the capacity to inform the kind of knowledge they will exhibit. The case of pre-service teachers is much more of a concern in the fact that they will become teachers eventually. The teachers are then given the responsibility to teach and mould the behaviour of pupils. Emile Durkheim is found to have indicated that you cannot give what you don't have. These teachers cannot exhibit effective behaviour modification techniques since they have little or weak knowledge in the concept. The literature reviewed makes it clear that the situation in the western countries is different and therefore the

curriculum for the colleges of education must be improved to enhance the teachers' knowledge on how to manage disruptive behaviours.

The findings of the study revealed that the respondents have weak knowledge on behaviour modification techniques since the overall mean was 2.48 which was less than the cut-off mean of 3.0. This corroborates Brempong (2014) which found that students of the Berekum College of Education exhibited weak knowledge on how to manage disruptive behaviours in the classroom. Out of the 265 students he studies, 193 representing 72.83% exhibited weak knowledge. He explained that the reason could be ascribed to the fact that behaviour modification was not taught in the colleges as a course of study. Another study in the Amenfi West district in the Western region of Ghana by Ackah (2016) also confirmed that teachers have very little knowledge in classroom management practices specifically disruptive behaviour.

The current finding is in disagreement with Michener (2015) which focussed on the teacher preparation on classroom management in Cologne, Germany found that student teachers were better placed to manage classroom behaviours. The aggregated mean of his stood at 4.03 surpassing the midpoint mean of 3 from 155 students. He added that he was not surprised by his finding in that a check of the Germany curriculum for pre-service teachers had college teachers teaching much content on classroom management. Michener espoused that the curriculum is structured to have a number of psychology courses that led students through some strategies to manage their classes effectively. Similarly, Merrett and Wheldall's (1993) study which assessed secondary school teachers' perceptions about how their initial training prepared them for

the problems they confront in their classrooms like disruptive behaviour is in divergence with the current finding.

They found that only 18% of 126 teachers perceived to have learnt and therefore have the skills and knowledge in behaviour modification during their initial training as the remaining 82% indicated, though, they are knowledgeable and skilled about behaviour modification strategies, they acquired it on the job. In addition, there is disagreement between the current finding and Uzoechina et al., (2015) study conducted on teachers' awareness and usage of non-violent strategies for the maintenance of discipline in Nigeria secondary schools found that the teachers were highly aware. They had a mean of 26.67 and a standard deviation of 4.80 of the non-violent discipline control strategies which is above the mean cut-off of 26.00. Still in disagreement is a study by Randazzo (2011) on the elementary teachers' knowledge and implementation of applied behaviour analysis techniques revealed that most of the respondents perceived themselves to be the most knowledgeable about a number of applied behaviour analysis techniques. Predominant among them representing (100.0%) being very knowledgeable about social positive reinforcement. Also, the majority (99.1%) of respondents indicated that they are very knowledgeable in modelling behaviour. Another 98.1% indicated they were knowledgeable in using a preferred activity as positive reinforcement. Again, another 87.8% of respondents were knowledgeable in using a token economy as positive reinforcement. This study was confirmed by a statistically significant positive correlation between the perceived knowledge of the respondents on behaviour management strategies and their total frequency scores.

Level of Practice of Behaviour Modification Techniques among Pre-service teachers of Colleges of Education

The results from the present and previous studies imply that teachers adopt no or few of these behaviour modification strategies in managing disruptive behaviour in their classrooms. If this is the case then, I think teaching and learning activities are likely to be affected.

The results of this study clearly indicate that the respondents have low level of practice of behaviour modification techniques since the overall mean was 1.85 which was less than the cut-off mean of 2.0. The current finding is in agreement with Khalil and Mohamed (2015) study of training teachers on practicing behaviour modification strategies for children with special needs at Tanta intellectual school which found that regarding positive reinforcement, shaping, response cost and time out behaviour modification strategies, more than half of teachers used in the study have poor level of practice with statistically significant relation at level of 0.001. They indicated that majority of the teachers representing (60%, 100.0%, 93.4% and 90.0%) respectively had poor level of practice with a statistically significant relations at level of 0.001.

Nevertheless, Uzoehina et al., (2015, p.148) study is in disagreement with the current study. He found that teachers highly ($M = 2.620$; $SD = 5.25$) adopted non-violent discipline control strategies in the selected secondary schools. Still in disagreement is a study by Randazzo (2011, p. 58) which revealed that most of the respondents employ a number of applied behaviour analysis techniques. For instance, the finding revealed that the majority of the respondents indicated adopting positive reinforcement (98.2%), modelling behaviour (88.8%), prompting/fading (53.3%), reinforcement of an

incompatible behaviour (48.6%) and a preferred activity as positive reinforcement (40.2%). Again, in disagreement is a study by Levesque (2015) which further stressed that out of 170 students who took part in his study, 158 (93%) indicated that taking away some privilege from disruptive students was a strategy they often used which is in disagreement with the current finding. In Tanzania, Kalagho (2014) conducted a study on the behaviour modification strategies that were used by final year Education students of University of Dodoma. His finding did not support the current finding. His study revealed that 78% out of the 250 students who took part in the study stated that they ignore disruptive behaviours of students. Some of the reasons they gave were that pupils put up disruptive behaviour to attract attention. When they get the attention, there is the likelihood that the behaviour will be repeated but if they fail to get the attention the behaviour is weakened.

Idil's (2013) study still disagrees with the current finding. His finding brought to light that teachers at Merca in Somalia indicated that the predominant behaviour modification technique they use is that they send disruptive students out of the classroom. In Idil's qualitative study of 15 respondents, some of the narratives the respondents gave was that disruptive behaviour waste instructional time and therefore to save the instructional time, they send these students away. Others also explained that to stop other students from replicating such disruptive behaviours they send the students out to serve as deterrent to the rest of the students.

Relationship between the knowledge and practice of behaviour modification techniques among pre-service teachers

The results of the study show a mild positive significant relationship between the pre-service teachers' knowledge and practice of behaviour modification strategies. The positive correlation coefficient of .401 between the pre-service teachers' knowledge and practice of behaviour modification strategies in managing classroom disruptive behaviour and the significant value of p being less than 0.01 ($p < 0.01$) indicates that the relationship between the two variables is statistically significant. This result is not consistent with the hypothesis (H_0) leading to the rejection of the hypothesis that there is no statistically significant relationship between the pre-service teachers' knowledge and practice of behaviour modification strategies in managing classroom disruptive behaviour. This implies that the pre-service teachers' knowledge of behaviour modification significantly relates to their practice of behaviour modification in their classrooms. The positive correlation of $r=0.401$ shows that any increase in their knowledge of behaviour modification strategies may lead to an increase in their practice of the strategies in their classrooms and vice versa.

This finding supports Khalil and Mohamed (2015) finding that there was moderate statistically significant positive relationship between teachers' knowledge and practice of behaviour modification techniques (Pearson correlation .402; p -value .014). The findings of the current and previous studies make it clear that the poor knowledge of teachers on behaviour modification strategies have a direct bearing on their practice, hence the need to broaden their knowledge on how to manage disruptive behaviour in classroom with the

behaviour modification strategies to motivate them to practice and therefore promote effective teaching and learning.

Difference in the knowledge of behaviour modification techniques among pre-service teachers in terms of gender

The finding of the study revealed that there is significant difference in the knowledge of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of the gender ($df = 358, t = -3.13, p = .002$). The finding is consistent with the finding of the Osipow (2014) who found that female education students of Benin State University in Nigeria had better knowledge than their male mates. He indicated that there was significant difference between male and female students in terms of the knowledge level in behaviour modification techniques ($df = 158, t = 1.241, p = 0.001$). Andreichyn (2015) also found significant difference between males and female teachers in their level of knowledge in terms of behaviour modification ($df = 123, t = -2.631, p = 0.041$). He however found that male had superior knowledge in behaviour modification than females ($df = 176, t = 1.284, p = 0.028$). This came to light in a study he conducted in Dnipro in Ukraine on second cycle teachers on behaviour modification techniques. Still in support is a study by Randazzo (2011, p. 60) who found the difference between male and female participants mean total knowledge and total frequency scores. Using independent samples t-test, the study revealed that there is statistically significant difference between males' and females' mean total knowledge scores, $t(105) = -2.23, p = .022$. Females had significantly higher total knowledge scores than males. Inversely, there was no statistically significant difference between males' and females' total frequency scores, $t(105) = -0.60, p = .522$.

The current finding is also inconsistent with the finding of Okoh (2016) who found no significant difference between males and females in their level of behaviour modification techniques ($df = 134, t = 3.571, p = 0.081$). She indicated that even though the difference between them was not significant the College of Education students in Ilorin, Kwara in Nigeria the females were slightly ahead of the male counterparts in terms of knowledge in behaviour modification strategies. Mooketsi's (2014) finding does not support the finding of the current study when he found among teacher trainees in Maun in Botswana that there was no significant difference between male and female in terms of their level of knowledge in behaviour modification ($df = 223, t = 4.296, p = 0.612$). He indicated that both males and females sat in the same class and received the tutelage from the same lecturers and hence did not expect any differences in terms of their knowledge levels. Otieno (2015) argues that women are better managers of the classroom than men. He stems his argument from non-scientific basis that women conceive their kids for nine months and they begin to interact with them even in the womb and hence know how to deal with kids in managing their behaviour. I cannot align myself to the argument of Otieno in that dealing with a child as a parent is quite different from dealing with that child as a teacher. Teachers go through the same training be it male or female and are expected to exhibit such knowledge gained in much the same way. There is the reason to belief that the difference could be as a result of the fact that women are naturally people who want to run away from trouble. The trouble may include failing an exam. To avert this, women are more likely to put in much effort to learn what they have been taken through and hence show more knowledge than their male counterparts.

Difference in the knowledge of behaviour modification techniques among pre-service teachers in terms of programme of study

The finding showed that there is no significant difference in the knowledge of pre-service teachers of behaviour modification techniques in terms of their programme of study ($df = 4, 355, f = .492, p = .742$). I expected no significant difference in their knowledge as the study has revealed. The reason is that all students at the Colleges of Education are taught the same core courses which include behaviour management strategies in the classroom. Although the students are from different backgrounds in terms of whether they read Arts or Science they have been together for a year or two under the tutelage of the same lecturers using the same curriculum.

Yameogo (2015) in a study in Bobo Dioulasso in Burkina Faso on the courses teachers teach and their knowledge in classroom management found that teachers who teach the Arts were more knowledgeable in behaviour modification. He however found that the difference among these second cycle teachers' knowledge in terms of the courses they teach were not significant ($df = 178, f = .397, p = .083$). This finding was therefore in agreement with the current finding. Still in agreement is Brown's (2014) study which also found no significant difference among education students' area of specialty and their knowledge of managing disruptive behaviours in school. In Kaikoura University in New Zealand, Brown found that students who were specializing in Early Childhood Education were ahead of their compatriots reading Technical Education and Science ($df = 298, f = .649, p = .094$).

Randazzo's (2011, p. 60) finding was inconsistent with the current finding. The study assessed the difference between the teachers' total

knowledge scores and programme of study. Using independent samples t-test, the result indicated a significant difference between general and special educators' (programme of study) mean total knowledge scores, $t(97) = -2.49, p = .015$. The study reported that the special educators were significantly more knowledgeable about applied behaviour analysis techniques than the general education students.

Difference in the practices of behaviour modification techniques among pre-service teachers in terms of gender

The finding of the study revealed that no significant difference existed in the practices of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of the gender ($df = 358, t = -1.68, p = .094$). This finding is quite surprising to me because I feel there should be some concordance between knowledge and practice. Once there was a difference in their knowledge level there should as well be a difference in their practice of the knowledge. The finding did not show such a pattern. I think we practice the knowledge we have acquired. It is also true that we can have the knowledge but fail to practice it.

The finding is consistent with the finding of Okafor (2015) who found no significant difference in the practice of behaviour modification in terms of gender ($df = 208, t = 1.571, p = .073$). Okafor carried out his study in Jos Plateau in Nigeria and indicated that although males' practice well the knowledge of behaviour modification they have acquired than the females the difference was not significant.

Bukhari (2016) found in Hyderabad in Pakistan that there was no significant difference in the teachers practice of behaviour modification

strategies in terms of their gender ($df = 153, t = 1.219, p = .194$). The reason for Okafor and Bukhari finding could be as a result of the state and national policies well established in these countries. It can also be due to the fact that male and female teachers were given the same kind of training.

Following from these studies it seems that the finding of the current study supports literature. Further investigations in this area will serve as an impetus for the training of teachers, counsellors and school psychologists with a focus on gender and practice of behaviour modification.

Difference in the practices of behaviour modification techniques among pre-service teachers in terms of programme of study

The finding of the study revealed that there is no significant difference in the practices of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of the programme of study ($df = 4, 355, f = 1.0, p = .408$). The findings of Brace (2017) support the finding of the current study. He found that there were no significant differences in how students in Colleges of Education apply the knowledge of behaviour modification in terms of their programme of study ($df = 238, t = 1.25, p = 0.031$). This was revealed in a cross-cultural study he conducted in Wesley Colleges of Education, Kumasi, Ghana and St. Hubert College of Education in Oklahoma, USA.

The finding of the study is consistent with the finding of Muller (2015) who found no significant difference in a study he conducted on final year education students in the University of Cologne, Germany. His study revealed no significant differences in the use of behaviour modification strategies in terms of the programme of study of education students.

Summary

This chapter dealt with results and discussions of the study. The chapter was categorized into four sections. The first section revealed the demographic details of the respondent. The second section focused on the analyses of the research questions. Here, there was a clear indication that the pre-service teacher respondents had limited knowledge on behaviour modification strategies and hence, affected their level of practice of the strategies. The third section presented results on the hypothesis formulated in the study. Finally, the discussion of the results in comparison with previous findings closed the chapter.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this chapter, a summary of the findings of the study is presented conclusions drawn, counselling implications and recommendations made are all presented under this section.

Summary of the Study

The study investigated the knowledge and practice of behaviour modification techniques among pre-service teachers of Colleges of Education in Ashanti region, Ghana. Efforts were also made to find out whether there is a relationship between the pre-service teachers' knowledge and practice of behaviour management techniques. Again, hypotheses were tested to find out if there are differences in the gender and programmes of study in the knowledge and practice of behaviour modification techniques by the pre-service teachers in managing disruptive behaviour in their classrooms.

The descriptive survey was conducted in the Ashanti Region of Ghana using a sample size of 360. The population for the study was pre-service teachers from nine Colleges of Education in the Ashanti Region of Ghana. A multi-stage sampling technique was used in selecting the Colleges of Education and the respondents for the study. I designed a close-ended questionnaire to elicit data to answer the research questions and hypotheses. Statistical procedures used in the data analysis were frequencies and percentages, means and standard deviations, Pearson's Product Moment correlation, Independent samples t-test as well as one-way Analysis of Variance.

Key Findings

Based on the research questions and the hypotheses for this study, the findings were as follows:

Pre-service teachers of Colleges of Education have weak level of knowledge of behaviour modification techniques. They however exhibited strong knowledge on items such as “Ignoring a student can help decrease a disruptive behaviour” and “Flooding is appropriate when you are dealing with fear in pupils”.

The pre-service teachers demonstrated low level of practice of behaviour modification techniques in managing disruptive behaviour in their classrooms.

There is mild significant positive relationship between the pre-service teachers’ knowledge and practice of behaviour modification techniques in managing disruptive behaviour in the classrooms.

There is significant difference in the knowledge of pre-service teachers of Colleges of Education of behaviour modification techniques in terms of the gender.

There is no significant difference in the knowledge of pre-service teachers of behaviour modification techniques in terms of their programme of study.

There is no significant difference existed in the practices of pre-service teachers of Colleges of Education of behaviour modification techniques in terms of the gender.

There is no significant difference in the practices of pre-service teachers of Colleges of Education of behaviour modification techniques in terms of the programme of study.

Conclusions

This research aimed at determining pre-service teachers' knowledge and practice of behaviour modification in the Colleges of education. The results of the study indicate that generally the participants have weak level of knowledge of behaviour modification techniques even though they exhibited strong knowledge in some few items. This goes to confirm the perceptions of many as the literature revealed.

The finding indicated that there was significant difference in the knowledge of pre-service teachers in Colleges of Education of behaviour modification techniques in terms of the gender was ground breaking. I thought our cultural background in terms of the way we are brought up makes men and women different in many respects. It is quit intriguing that the finding turned out this way.

The study has made greater gains in terms of providing facts as to how knowledgeable pre-service teachers on behaviour modification strategies. The study also provides an understanding to how pre-service teachers put to practice the knowledge they have in behaviour modification strategies.

Implications for Counselling

A major implication of the results is that since pre-service teachers may eventually become class teachers and therefore act as "lay counsellors" they may have to receive more training and practice in using behaviour modification techniques so as to influence their control of student behaviour in classroom and the school at large.

Recommendations

Recommendations for Counsellor Education

Based on the findings and conclusions of the study, the following recommendations are hereby made:

1. Counsellors and tutors in the Colleges of Education should create the awareness of the importance of the use of proactive behaviour modification techniques instead of the use of punitive methods to correct behaviours.
2. Counselling centres in the Colleges of Education should collaborate with educational studies departments in:
 - a. Writing books on behaviour modification techniques to enable pre-service teachers to become self-regulatory learners.
 - b. Organising workshops on behaviour modification techniques for tutors to be equipped with it so they can use them to modify students' behaviour/ since students become aware and experience them, they would also replicate them when they get the opportunity to correct a behaviour.

Recommendations for Policy and Practice

Based on the findings of the study, the following recommendations are made to inform policy and practice.

The findings of the study clearly show that pre-service teachers' knowledge in behaviour modification techniques is weak. To address this, it is important that required courses in classroom management and behaviour modification be taught in teacher education programmes.

Also, it is important that courses that allow students to practice the skills they are taught in class be introduced in the teacher education programme to equip pre-service teachers so that they would have confidence in using them during teaching practice and eventually use them when they are out of school.

Additionally, pre-service teachers should be provided with meaningful field experience where they observe strategies for successfully instructing, engaging, and managing students' disruptive behaviour.

The findings indicate that the introduction of Behaviour Modification course in the Colleges of Education curriculum would increase pre-service teachers' positive emotions and reactions towards children with learning and behavioural difficulties. This will go a long way to decrease their use of reactive and ineffective strategies in specific classroom situations. This study therefore illustrates the importance of including courses that emphasize proactive teaching approaches, teach specific and practical classroom management strategies and provide students with the opportunity to practice, review and receive feedback on use of these strategies in teachers' college.

Suggestions for Further Studies

Due to the scope of this study, the researcher was unable to address various important issues. From the research findings and conclusions drawn, further investigations could be done in the following areas:

This study was only done in Ashanti Region. A similar study could be done in other parts of Ghana for comparison. To further extend the literature on knowledge and practice of pre-service teachers of colleges of education of behaviour modification in modifying behaviour of pupils, more in-depth research should be done to examine pre-service teachers' emotions and

reactions towards children with varying difficulties through the use of interviewing and observational measures. In addition, future research should continue to examine best practices for teaching pre-service teachers to adopt more positive behaviour modification techniques towards children.

Future research should continue to investigate how educators can best help student teachers become more aware of the attitudes and behaviours they hold towards children. Increasing student teachers' knowledge about children with behavioural problems as well as providing them with the tools to manage difficult classroom situations is crucial. The aforementioned suggestions may help inform teacher education and policy.

The current study employed a descriptive design to explore the current state of knowledge and practices on behaviour modification among pre-service teachers. It will therefore be interesting to see the impact of behaviour modification practices on students who exhibit problem behaviours in the classroom through an experimental study.

It is also suggested that future researchers should conduct a comparative study to ascertain the differences in knowledge and practices among in-service and pre-service teachers.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

FACULTY OF EDUCATIONAL FOUNDATIONS

DEPARTMENT OF GUIDANCE AND COUNSELLING

Behaviour Modification Questionnaire (BMQ) for Pre-service Students

Dear Student,

There are several techniques that could be employed to reduce if not eradicate disruptive behaviour in classrooms. This questionnaire is designed to find out what behaviour modification methods you use as a pre-service teacher.

Please answer the questions as frankly as you can. The information you give will be treated as confidential. Thank you in advance for your cooperation.

SECTION A: DEMOGRAPHIC DATA

Please write or tick (✓) to indicate your response

Sex: Male [] Female []

Age: 17-21 years [] 22-26 years [] Above 26 years []

Name of your institution:

Programme of study Maths and Science []

Technical []

Early Childhood []

General Education []

French []

Marital Status: Married [] Single []

Class you teach:

Section B: Knowledge of Pre-service Teachers on Behaviour Modification

Instruction: Please indicate your opinion of behaviour modification by ticking (√) using the following key:

Strongly Agreed = SA, Agreed = A, Disagree = SD, Strongly disagree =SD

No idea = NI

SN	Item	SA	A	D	SD	NI
1	Reinforcement is the best technique for correcting disruptive behaviour					
2	Shaping is a strategy for correcting disruptive behaviour					
3	Corporal punishment is not the best way to correct disruptive behaviour					
4	Positive reinforcement encourages students to behave well					
5	Systematic desensitization can be used to extinguish anxiety in pupils					
6	Token economy can help to solve the problem of disruptive behaviour among male students.					
7	Kneeling down is the best techniques for handle female students' disruptive behaviour.					
8	Ignoring a student can help decrease a disruptive behaviour					
9	Time-out immediately after bullying a classmate can alter such behaviour.					
10	Making a child to do what he/she doesn't like so that he/she gets the opportunity to engage in his favourite activity can help improve desirable behaviour					
11	Flooding is appropriate when you are dealing with fear in pupils					
12	Aversion training can be applied to eliminate negative behaviour					

13	Bio-feedback can be used to decrease undesirable behaviour					
14	Relaxation techniques can be used to reduce anxiety in pupils					
15	Prompting and fading is an effective technique to stamp out disruptive behaviours in the classroom.					
16	Overcorrection is effective in strengthening a desirable behaviour in pupils.					
17	Stimulus satiation is not a behaviour modification technique and should not be applied in the classroom					
18	Behaviour contracting is useful in firming-up a behaviour a teacher wishes a student to repeat					
19	It is better to identify the cause of misbehaviour to know which intervention would be appropriate					
20	It is inappropriate to provide rewards for good behaviour because of the attention the students receive					
21	If students are constantly out of their seat, a good way to get them to sit down is to reinforce them whenever they are seated					
22	Giving students rewards when they complete assignments is bad since it decreases their intrinsic motivation to do the work					
23	Detention strategy could be used to get students perform their tasks					
24	Punishment is the most effective tool to use to change a negative behaviour					
25	Praising students who are behaving appropriately is an effective way to encourage students to behave appropriately more often					

Section C: Practice of Behaviour Modification Techniques

Instruction: Indicate your preferred actions by ticking (√) using the following key.

Strongly Agree (Most of the time) = SA

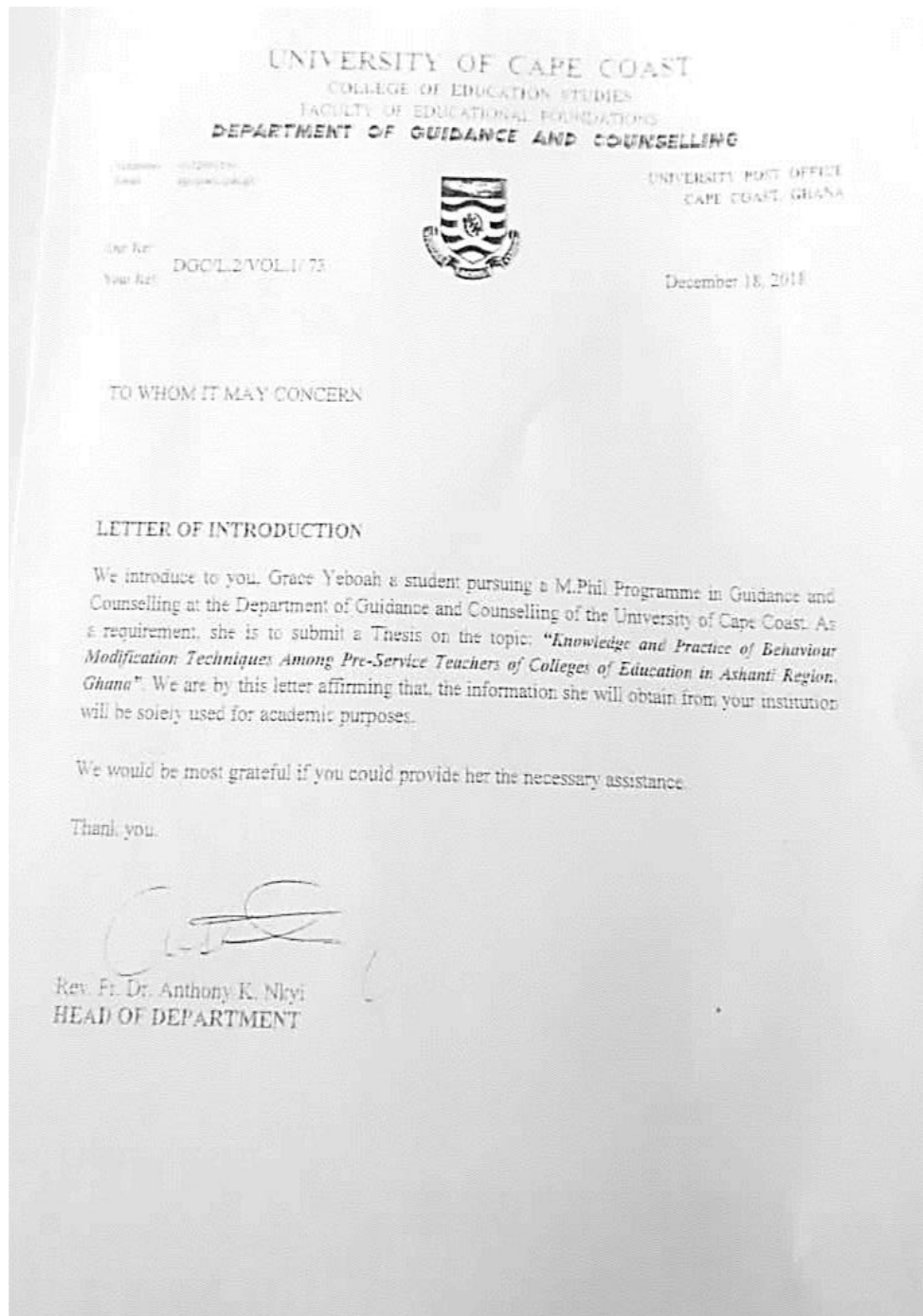
Agree (Some of the time) = A

Strongly disagree (Never) = SD

S/N	Item	Most of the time = SA	Some of the time = A	Never = SD
1.	I don't punish students for their negative behaviours			
2.	I motivate my students when I want to strengthen a behaviour			
3.	I overlook all forms of disruptive behaviours because I don't want to be reported to my mentor			
4.	I don't punish students for disruptive behaviour to encourage them to be punctual to school			
5.	I use a lot of reinforcement strategies so that students will enjoy my lessons			
6.	I cane students for disruptive behaviours. It is the best form of behaviour modification.			
7.	I commend students for putting up good behaviour			
8.	I do not cane students. I employ other forms of behaviour modification.			
9.	I demonstrate the positive behaviours that I want students to practice			
10.	I reward good behaviour with tangible items			
11.	I reward good behaviour with praise			
12.	I give special privileges to student for good behaviour			
13.	I send disruptive student's out of the classroom			
14.	I take away some privilege for disruptive behaviour			
15.	I use time out for disruptive students			
16.	I verbally reprimand students for inappropriate behaviour			

APPENDIX B

LETTER OF INTRODUCTION




APPENDIX C

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: CES-ERB/UCC.edu/13/19-30  Date: March 4, 2019
Your Ref:

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY


The bearer, Geac Yeboah, Reg. No. EF/6CP/17/0011 is an M.Phil. ~~Ph.D.~~ student in the Department of Guidance and Counselling in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. ~~He~~ / She wishes to undertake a research study on the topic:

Knowledge and practice of Behaviour Modification Techniques of pre-service teachers of Colleges of Education in The Ashanti Region, Ghana

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed ~~his~~ her proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence ~~his~~ her study. The ERB would be grateful if you would give ~~him~~ her the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,


Prof. Linda Dzama Forde
(Secretary, CES-ERB)

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

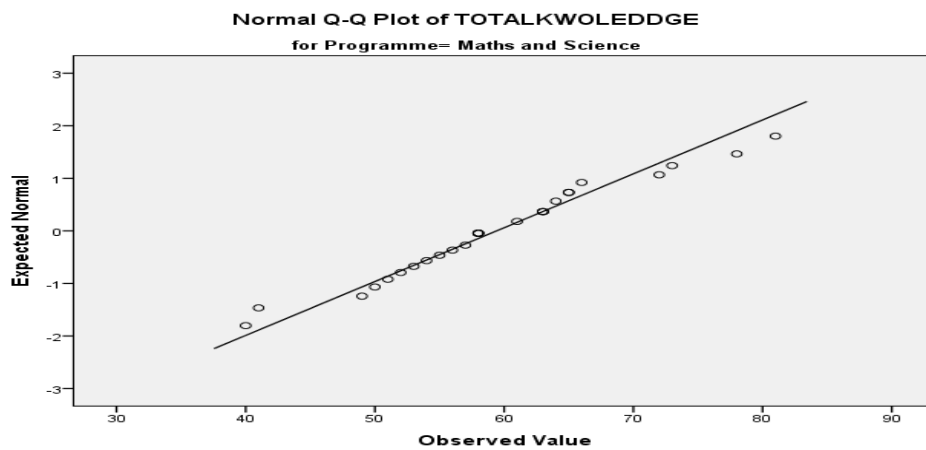
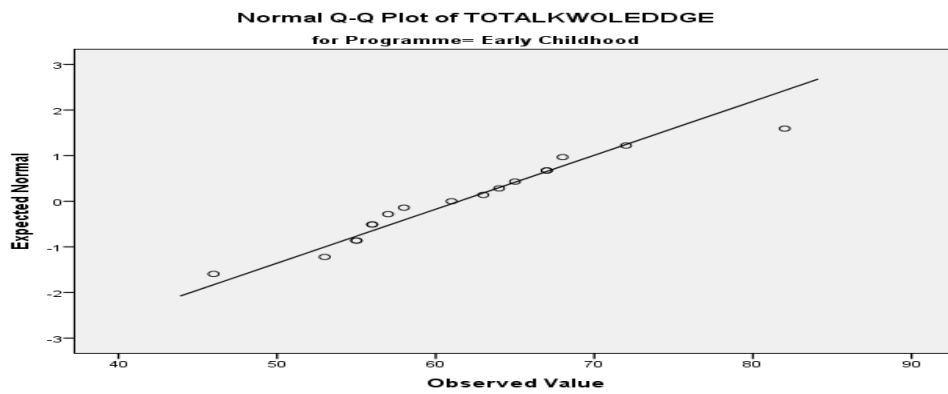
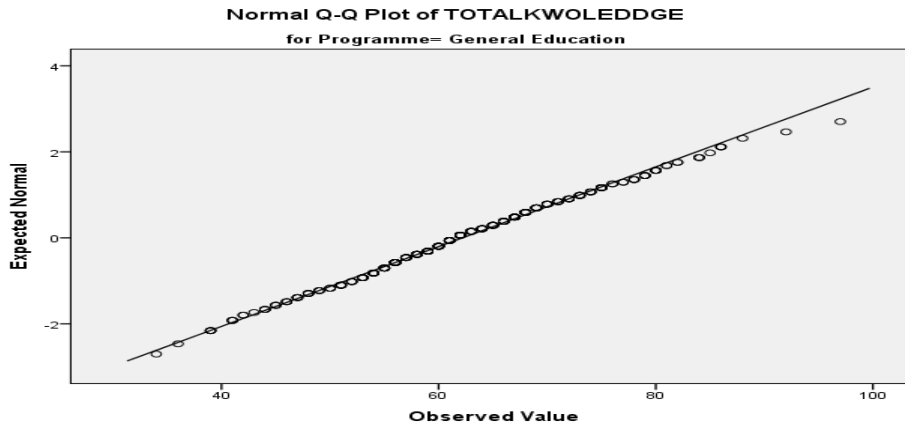
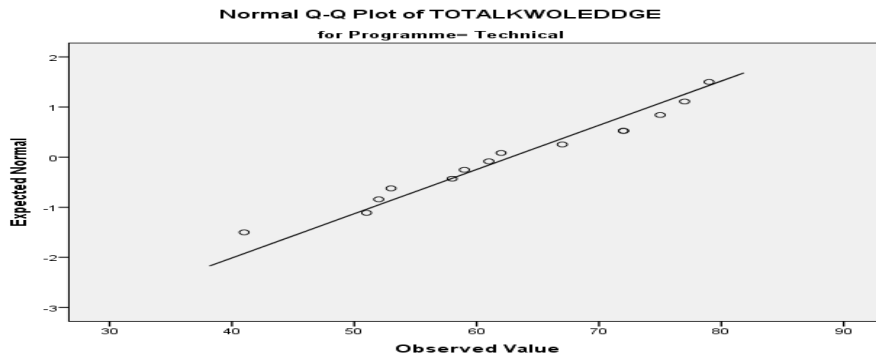
APPENDIX D

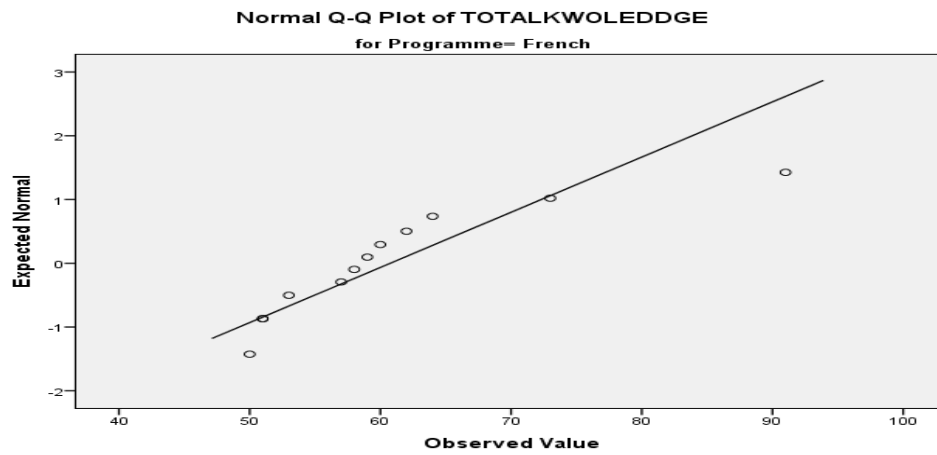
Descriptive

Programme	N	Mean	Std. Deviation
Maths and Science	27	59.4074	9.75965
Technical	14	62.7857	11.32851
Early Childhood	17	61.4706	8.45664
General Education	290	62.2000	10.78227
French	12	60.7500	11.55324
Total	360	61.9306	10.63175

Tests of Normality

Programme	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Maths and Science	.113	27	.200*	.975	27	.741
Technical	.149	14	.200*	.959	14	.709
Knowledge Early Childhood	.130	17	.200*	.961	17	.643
General Education	.056	290	.030	.995	290	.532
French	.223	12	.103	.813	12	.013





Test of Homogeneity of Variances

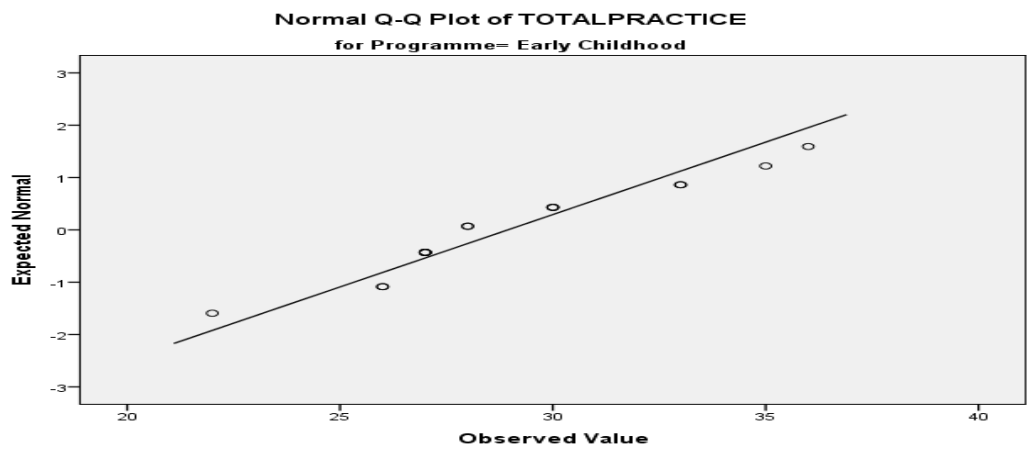
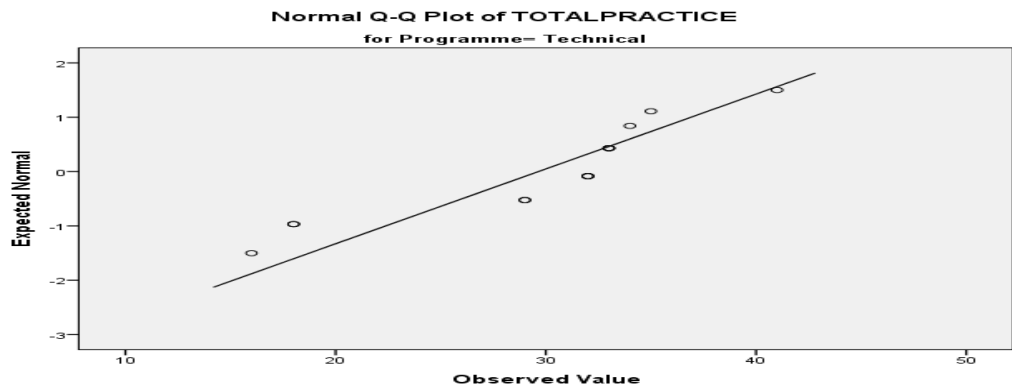
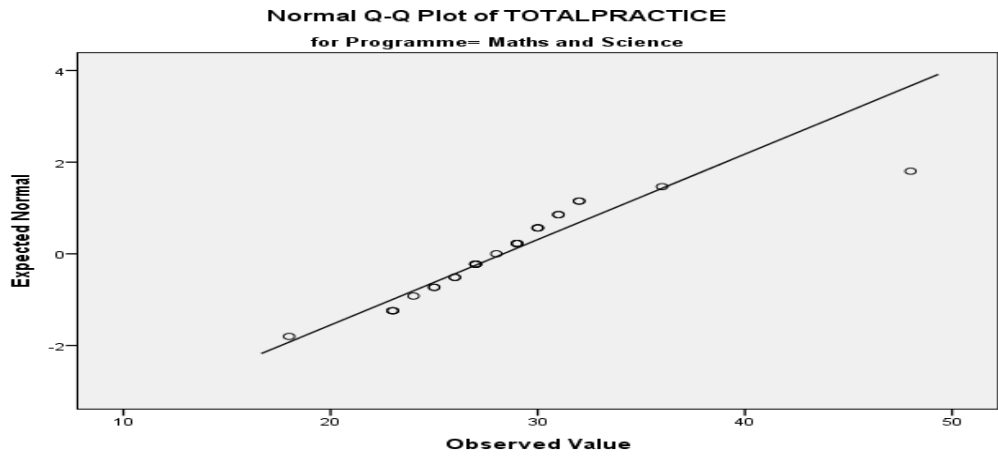
Levene Statistic	df1	df2	Sig.
.528	4	355	.715

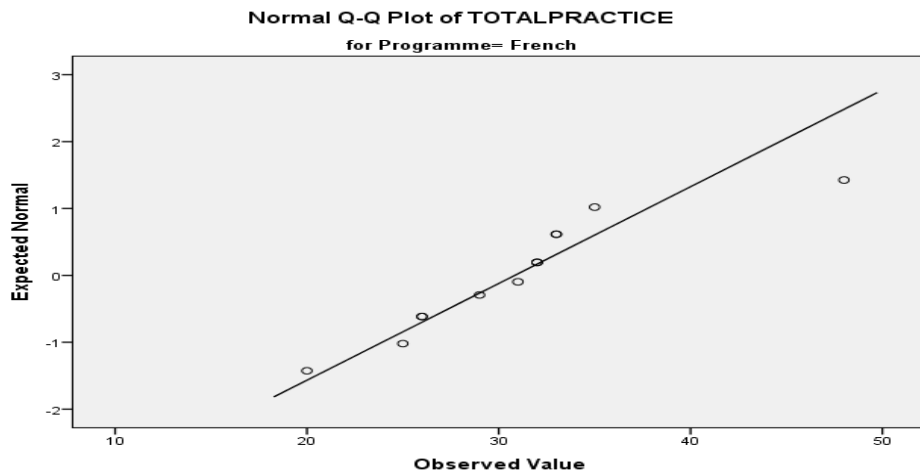
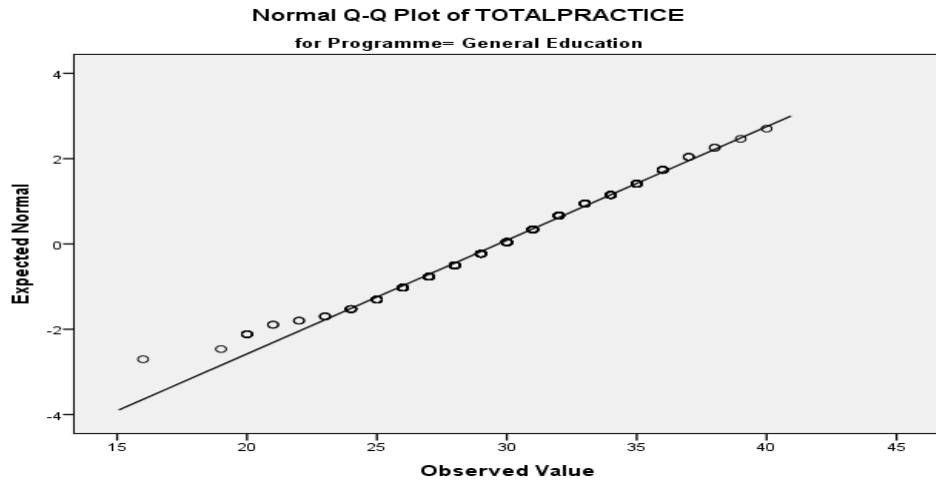
Descriptives

Programme	N	Mean	Std. Deviation
Maths and Science	27	28.3333	5.36370
Technical	14	29.6429	7.26008
Early Childhood	17	28.9412	3.61370
General Education	290	29.6724	3.75360
French	12	30.8333	6.91288
Total	360	29.5750	4.19244

Tests of Normality

Programme	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Maths and Science	.173	27	.037	.853	27	.001
Technical	.270	14	.007	.840	14	.016
Practice Early Childhood	.191	17	.100	.927	17	.191
General Education	.080	290	.000	.984	290	.003
French	.210	12	.149	.897	12	.145





Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
4.209	4	355	.002

Robust Tests of Equality of Means

	Statistic ^a	df1	df2	Sig.
Welch	.601	4	31.330	.664