UNIVERSITY OF EDUCATION, WINNEBA

KINDERGARTEN TEACHERS' SELF-EFFICACY AND THEIR USE OF DEVELOPMENTALLY APPROPRIATE PRACTICES IN SELECTED DISTRICTS IN THE CENTRAL REGION, GHANA

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DECLARATION

STUDENT'S DECLARATION

I, SELINA NANA SIMPSON, declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE: ……. DATE: …….

SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: Dr. Winston Kwame Abroampa

SIGNATURE: …… DATE: ……

DEDICATION

To my friend, Mr. Seth Ato Tompoli

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ABSTRACT

The intent of this study was to examine Kindergarten Teachers' Self-efficacy and their use of Developmentally Appropriate Practices in Selected Districts in the Central Region of Ghana. The study was underpinned by the Social Cognitive Theory. The cross-sectional survey design was adopted for the study. The target population for the study was all kindergarten teachers in the Central Region of Ghana whiles the accessible population was all kindergarten teachers in Cape Coast Metropolitan and the Gomoa West District. Simple Random and Purposive sampling techniques were used in selecting the districts and respondents. The sample size for the study was 274 kindergarten teachers, data analysis was based on the responses from 264 respondents. The instrument used to gather the data was a set of self-developed questionnaire and adaption of the Tschannen Moran and Hoy Self efficacy scale. Descriptive statistics (Percentages and Means) and inferential statistics (Pearson Product Moment Correlation) were the quantitative analytical tools used. The findings revealed that, the kindergarten teachers had a positive perception about kindergarten education. The findings indicated that, kindergarten teachers in the study area had high self-efficacy especially in their classroom management practices. It was also revealed that kindergarten teachers used developmentally appropriate practice in their teaching learning activities. Finally, there was a strong positive correlation between kindergarten teachers' self-efficacy and their developmentally appropriate practices and contrarily a weak positive correlation between kindergarten teachers' self-efficacy and their teaching experience. The study recommended that stakeholders should organize workshops, seminars, for kindergarten teachers to educate and sensitize them on professional expectations with regards to early childhood education, self – efficacy and developmentally appropriate practices.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter which is an introduction consists of the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations, delimitations as well as organization of the study chapters.

1.1 Background to the Study

Early Childhood Education plays an essential role in fostering children's development before the age of 5 and prepares them for success for the rest of their academic years and beyond. Varying terminologies such as preschool, pre-kindergarten, day care, nursery school or early education have been used in literature to represent the education of young children. No matter the name, each serves the same purpose; to prepare young children for their transition into formal school.

According to United Nations Educational, Scientific and Cultural Organization (UNESCO; 2000), Early Childhood Education is a term that refers to educational programs and strategies geared towards children from birth to the age of eight. One of the aims of early childhood education is to ensure that all primary school pupils have basic education that is rooted in kindergarten education. The National Association of Education of the Young Child (2009) opines that Early Childhood Education is also the education of young children from 0-8 years. This implies that kindergarten (4-5 years) is part of early childhood Education.

Literature is replete with the enormous benefits of educating young children. To the extent that it has become widely accepted that Early Childhood Education has the capacity

of affecting the future of any nation, by bringing up children with skills, attitudes and competencies that are required for individual and national development. Education of young children gives them the best start in life and also helps the child to develop capabilities and potentials in the social, physical, intellectual, creative and emotional development.

UNESCO (2011) also argues that Kindergarten education (4-5 years) is a time of rapid brain development and preparation for further learning. Shore (1997) had earlier intimated that from infancy, children undergo unimaginable development and by the time they enter kindergarten, their brains have already developed about 90% of its capacity. In kindergarten, young children are exposed to experiences that focus on unearthing their physical, intellectual and moral nature with equal attention on every child as well as helping each child to develop holistically. Bartels (2004) opines that children who go through Kindergarten education are likely to stay longer in education and during this period the teacher teaches the child to create, make and construct using Legos, clay, bricks etc. Social skills is one of the most easily learnt behaviours which occur most frequently at the kindergarten level (Beaty, 1994).

The numerous benefits of kindergarten education and educational reforms prompted the Government of Ghana to make kindergarten education part of the basic education system in Ghana in 2007. Sequel to this, in 2012, the Government of Ghana released a white paper to redefine the nine-year Basic Education programme to include two years of kindergarten (KG) education making it eleven years of basic school education. It then became a policy that every public basic school in Ghana should have at least two kindergarten classrooms attached to it. This has increased the enrolment of children in the

various schools (GES, 2015). The introduction of the kindergarten education was to promote proper transition of the child into the formal school system. Ghana has been able to successfully mainstream KG school system with the basic school education as part of the recommendations of the Dakar World Forum for Education the Millennium Development Goals.

To make kindergarten education effective, there is the need to employ teachers with the requisite skills and in-depth understanding of how the child develops and learns with the use of developmentally appropriate practices to make KG education more manageable, effective, and relevant. The kindergarten teacher forms part of the child's microsystem consisting of the interaction between the developing child and the people in the proximal environment such as the home, school, and peers (Bronfenbrenner, 1994). Logue (2007) argues that, they should provide the necessary support for children in their development. Kindergarten teachers are expected to engage children in a variety of activities that are developmentally appropriate and look out for each child's wellbeing in the classroom. Logue (2007) further argues that kindergarten classroom environments are places where children are taught social and interpersonal skills which are necessities for children to participate in group and instructional settings fully and successfully, they should thus be well equipped to promote learning.

However, most of the Ghanaian kindergarten classrooms do not have the requisite materials and resources to be used by teachers to help children achieve academically and where there is availability, the teachers are not able to utilize it well to help the child acquire the desired skills (Boateng & Sekyere, 2017). It is common knowledge that one of the main challenges of kindergarten education in Ghana is the unavailability of qualified teachers in

the field of early childhood education. Teachers without qualification and experience in early childhood education may not understand the best ways to educate young children. Kindergarten teachers with early childhood qualification should be able to manage classroom behaviours. Kindergarten teachers and care givers need to continuously learn new things about early childhood education because the success of every child is in the hands of those teachers (Wiafe, 2000).

To have quality teachers in the kindergarten depends on the perceptions they have about child development and how these children develop holistically. Agbeke (2015) is of the view that perception is usually subjective because individuals look at similar instances differently. Some teachers have the perception that, professional skills are required to teach at the early childhood level whiles others think kindergarten education is all about singing, dancing, and sleeping. Some are also perceive kindergarten as a place for pregnant women and old aged teachers. These perceptions about kindergarten education have the potential of affecting the way they implement teaching and learning.

Implementing an early childhood education programme requires the services of a good teacher. One variable which has consistently been associated with the qualities of an effective teacher is teacher efficacy. Teacher self-efficacy is a teachers' confidence or belief in his/her ability to promote children's learning (Hoy 2000). If a teacher establishes a goal and strongly believes in his or her actions, it will lead to the success of that goal as well as he/she will produce more effective coping strategies and higher levels of achievement. Self-efficacy, as described by Bandura (1977) indicates that an individual's perception has a profound effect on actions and intended outcomes. Self-efficacy is the

belief one has in one's own abilities, specifically the ability to overcome the challenges ahead and accomplish a task successfully (Akhtar, 2008).

Kindergarten teachers' who have a high sense efficacy are likely to have children in the classroom who learn. They make changes in the environment and use appropriate and innovative instructional techniques such as the use of varied instructional strategies as well as learning centers in the classroom and adjusting to new things. It is expected that teachers with high efficacy would be able to create developmentally appropriate teaching and learning classroom environment with active learning experiences and a balance between teacher directed and child directed activities. Developmentally appropriate practice (DAP) is an approach to teaching grounded in the research on how young children develop and learn. Its framework is designed to promote young children's optimal learning and development. It involves teachers meeting young children where they are, both as individuals and as part of a group; and helping each child meet challenging and achievable learning goals (Cochran, 2007).

Children are active learners and through interactions with teacher, adults, peers, environment, and solving conflicts, they construct meaningful knowledge. Therefore, developmentally appropriate practices (DAP) is seen as teachers providing an environment and offering content, materials, activities, and methodologies that are coordinated with a child's level of development and for which the individual child is ready (Bredekamp, 2000). Developmentally appropriate classrooms set up by teachers can meet the needs of individual child, promote self-esteem and positive feelings of children towards school (Burts, Hart, Charlesworth, DeWolf, Ray, Manuel & Fleege, 1992).

Copple and Bredekamp (2009) opines that Developmentally Appropriate Practice helps teachers to focus on social and emotional development as well as cognitive development of the child. When a teacher understands the developmental stages of a child and takes that information into account, that teacher is better able to meet the child's needs and a smoother transition occurs. It is important to not only ensure that children are prepared for kindergarten, but that kindergartens are prepared for children (Nelson, 2005).

A teacher who is knowledgeable and abreast in using teaching strategies within the realm of developmentally appropriate practices helps children develop in all the developmental domains (NAEYC 2009). In summary, teachers' knowledge about DAP will have a positive effect in their future teaching that will definitely affect the child positively in learning and development (Akin, 2013). Developmentally appropriate classrooms are set up by the teacher to maximize opportunities for child-initiated activities and independent problem solving. This prompted the researcher to examine whether kindergarten teachers have a self-efficacy to be able to employ developmentally appropriate practices in the engagement of learners, using teaching strategies and classroom management in their day to day teaching and learning in some selected districts in the Central Region of Ghana.

1.2 Statement of the Problem

According to UNICEF (2007) as stated in Boateng and Sekyere (2017) one major cause of low literacy, numeracy and BECE performances in Ghana that stakeholders normally overlook is the quality of and access to kindergarten education. Kindergarten education forms the bedrock of children's learning. Implementing the kindergarten curriculum to achieve its stated goals requires that teachers possess adequate knowledge

and skills to effectively and efficiently engage pupils in the academic and social aspects of school life.

A good educational system leads to a literate society and human resource development which is directed towards social change and economic progress in any country. There has been concerns about the falling standards of education, especially in the public schools in Ghana. Many factors have been found as being the cause of this unfortunate situation among which is weak foundation of kindergarten education. Many researchers have tried to connect the situation to lack of logistics, infrastructure, and trained, experienced, and committed kindergarten teachers etc. (Gbate, 2011).

Public schools in Ghana are being inefficient and are lacking the necessary materials that teachers need to provide effective care and good education. Moreover, teachers employed in the public kindergarten are often non-professionals and their teaching practices are geared towards direct instruction, rote memorization activities, and other inappropriate strategies. This may affect the holistic development of the child. Kafui (2005) indicated that a teacher who does not have both academic and professional qualification would undoubtedly have a negative influence on teaching learning and methodology.

She further stressed that, a teacher who is academically and professionally qualified but works under unfavourable conditions of service would be less dedicated to his work and thus be unproductive than a teacher who is qualified but works under favourable conditions of service. This also has a negative effect on the learning environment of the child. The basic area that affect the successful development of teachers are their beliefs systems and the application of those belief systems in the classroom (Abroampa, 2016).

Therefore, the beliefs of teachers' affect how they transfer knowledge to children as well as apply developmentally appropriate practice in the classroom.

Hoy (2000) contends that teacher's beliefs about their efficacy were constructed from personal experience, their expectations about teaching and their knowledge of the subject matter. Professional and experienced teachers have been found to have high self-efficacy in handling children than their unprofessional and novice counterparts, this is because as teachers develop their expertise, curricular practices are refined and self-efficacy is enhanced (Abroampa, 2016). Teachers have varying levels of self-efficacy and perceptions that affect how they implement educational innovations such as developmentally appropriate practices. Studies have shown that individual teacher beliefs and values play a vital role in shaping the goals, instructional techniques, and assessment procedures of schools (Hitchens-Smith, Ortlieb, & Cheek, 2011) and can spell success or failure for any educational reform by government.

In Ghana, there are many untrained kindergarten teachers, inequitable allocation of educational resources to urban and rural schools, in addition to a high number of children in the kindergarten due to the Free Compulsory Universal Basic Education (FCUBE) and the School Feeding Programme. It is thus expected that Kindergarten teachers teaching in such environments would possess an appreciable level of self-efficacy to enable them developmentally appropriate practices. The study sought to examine the self-efficacy of kindergarten teachers' and their use of developmentally appropriate practices in kindergarten settings.

1.3 Purpose of the Study

The purpose of the study was to examine the kindergarten teachers' self-efficacy and their developmentally appropriate practices in selected Districts in Central Region, Ghana.

1.4 Objectives of the Study

The study sought to achieve the following objectives:

1. To find out kindergarten teachers' perception of teaching in the selected districts in the Central Region, Ghana.
2. To determine the general self-efficacy of kindergarten teachers in the selected districts in the Central Region, Ghana.
3. To investigate the kindergarten teachers' efficacy in employing developmentally appropriate practices in the selected districts in the Central Region, Ghana.
4. To examine the relationship between kindergarten teachers' self – efficacy and their use of developmentally appropriate practices in the selected districts in the Central Region, Ghana.

1.5 Research Questions

The study sought to find answers to the following questions:

1. What is kindergarten teachers' perception of teaching in the selected districts in the Central Region, Ghana?
2. What is the general level of kindergarten teacher's self-efficacy in the selected districts in the Central Region, Ghana?
3. What is kindergarten teachers' self-efficacy in employing developmentally appropriate practices in selected districts in the Central Region, Ghana?

4. What is the relationship between kindergarten teachers' self–efficacy and their use of developmentally appropriate practices in the selected districts in the Central Region, Ghana?

1.6 Hypotheses

The study sought to test the following hypothesis:

H_O: There is no statistically significant relationship between the self-efficacy of kindergarten teachers and their teaching experience in selected districts in the Central Region, Ghana.

H_1: There is statistically significant relationship between the self-efficacy levels of kindergarten teachers and their teaching experience in selected districts in the Central Region, Ghana.

1.7 Significance of the Study

The finding of the study will help governments, stakeholders and policy makers to appreciate the importance of teachers' self-efficacy and the benefits of developmentally appropriate practices in kindergarten education. This is because research has shown that a higher self-efficacy of teachers means a high retention of teachers as they would continually be motivated to remain in the profession and help children to learn (Hoy 2000).

The study will further inform early childhood coordinators and circuit supervisors at the District Education directorates to provide the required resources the kindergarten teachers need to teach at this critical age since it is very challenging and the implications affects the child for life. It will inform Early Childhood Education Unit under GES to work together with NGOs interested in organizing in-service training for kindergarten teachers

to build their capacity on appropriate and successful ways of implementing developmentally appropriate practice.

The outcome of the study will bring to light the training needs of kindergarten teachers at the various Universities and Colleges of Education. This will enable them run early childhood education programmes that will help boost the confidence of teachers. This will in turn, help them to be abreast with the new trends in early childhood education globally to enhance effective teaching and learning. This is because the pedagogical knowledge of teachers also influences their developmentally appropriate practice and self-efficacy. Finally, the findings of the study will add further understanding to existing literature evidence for researchers interested in similar studies.

1.8 Limitations

Even though the study was effectively carried out, it was not without some major limitation. The study was limited to responses from only public schools in the Cape Coast Metropolitan and Gomoa West District in the Central Region of Ghana. Some of the respondents did not corporate very well during the study because they probably did not see the importance of participating in the study. So, it took a very long time in trying to get them to complete the questionnaire during the data gathering.

1.9 Delimitation of the Study

The study was delimited theoretically to kindergarten teachers' perception about kindergarten education, kindergarten teachers' self-efficacy and their developmentally appropriate practice and relationship between the teachers' self-efficacy and developmentally appropriate practice beliefs. The scope of the research was all kindergarten teachers in the Central Region of Ghana which was delimited to the Cape

Coast Metropolis and Gomoa West District through simple random sampling and purposive sampling technique. Cross-sectional survey design was used because it provides information about what is happening in the current population, the data can be used for various types of research and the finding and outcomes can be analyzed for in depth research. The teacher sense of efficacy scale (TSES) by Tschannen-Moran and Hoy (2001) was adapted and used together with a self-designed statements on kindergarten teachers' perception about kindergarten education and developmentally appropriate practice in a four-point Likert scale. This helped to collect relevant data for analysis and generalization of the findings.

1.10 Definition of Terms

Early Childhood: The period from birth through age eight. Children in this age group learn in a qualitatively different way than older children and adults.

Early Childhood Educators: Teachers who work with children birth to age eight or educators working with the teachers of children birth to age eight.

Developmentally Appropriate Practice: Education activities and environments based on the developmental level and age of the children involved.

Kindergarten: The early childhood program available to five-year olds before starting the formal school.

Self-Efficacy: A person's ability to accomplishing a particular task.

Teacher self-efficacy: A teacher's and beliefs and capabilities to organize and execute a teaching activity in helping the child develop holistically.

1.11 Organization of the Rest of the Study

The study was organized into five chapters. Chapter two addressed the review of related literature to the study it was divided into three sections, the first section dealt with the conceptual framework, the second section dealt with the theoretical framework, and the final section focused on the empirical framework of the study. Chapter three described the methodology for the study, the population, the sample and sampling procedure, instrumentation, validity, reliability and pretesting of the instrument, data collection procedures and ethical considerations. Chapter four presented the data analysis, results and detailed discussions of the various findings in relation to the questions and Chapter five outlined the summary of the findings and presented conclusions and recommendations.

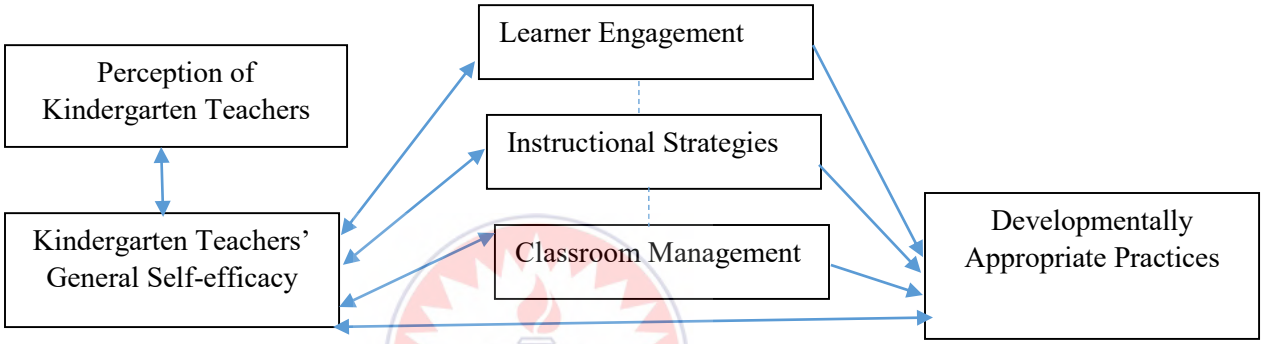
CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter reviewed related literature on issues pertaining to this study. The literature was specifically reviewed under conceptual framework, theoretical framework and empirical framework in what researchers have said about the study.

2.1Conceptual Framework



Author construct (2019): Conceptual framework

2.1.1 Definition of concepts

This section comprised the definitions of the following concepts, early childhood education, self-efficacy, teaching efficacy, developmentally appropriate practice, the application of developmentally appropriate practice, concept of perception, perceptual process, factors that influence formation of perception, cultural values, personal attitudes, expectation, and motivation.

2.1.2 Early Childhood Education

Different kinds of support and care are being given to children from birth till they reach school age. The United States National Association for the Education of Young Children (NAEYC) defines early childhood as the age before the age of eight. It is the period from birth to 8 years (UNESCO, 2000). Developed Nations consider early

childhood to be the period from birth through age eight (8) (Essa, 1999; Worthinthon, 2000), while developing nations focus on from birth through age six (6) (EvilleLo & Mbugua, 2001; UNICEF, 2002). Early childhood education is a term that refers to educational programs and strategies geared towards children from birth to the age of eight (UNESCO, 2000). It is the process or approach deliberately intended to effect developmental changes (physical, cognitive, social and emotional) for those below the age of 8 years and the foundation stage where children develop their potentialities and capabilities for the future

Early Childhood Education is the type of formal education meant for those who are within the age group of 0-8 years where the formal teaching and caring of young children is undertaken by people other than their families or in settings outside their homes. It is a time in the lives of the children that is deemed as remarkable for total development because these years lay the foundation for subsequent learning. Early childhood is defined as the period from birth to eight years. It is a time of remarkable brain development where foundations are laid for subsequent learning (UNESCO, 2011). It also refers to any organized educational provision outside of the home for children in the age range of one to seven years. Other frequently used terms include pre-school, early years, kindergarten, playgroup, nursery, pre-grade one, preparatory year, 'zero year' etc. (UNESCO & International Bureau of Education, 2006). The services that run at the early childhood centers include nursery, kindergarten, home visits by trained professionals, health and nutrition services, and parental education.

Bowman (2000) states that Early childhood education does not refer to a single entity; rather, the term covers a variety of programmes for young children between birth

and age 8. These programmes take place in children's own homes and in public schools, private pre-schools, and child-care homes and centres. Each of these settings may have quite different characteristics (adult/child ratios, group sizes, age ranges, cultural practices, and adult training and teaching styles) that in turn affect what and how children learn.

UNESCO (2007) indicates that most children in early childhood education are between the ages of three and six years. A person's future potential is better exploited when proper attention, care and support are accorded as early as possible in one's life. Empirical research findings indicate that the nature of care given to children in the first eight years is directly linked to an individual's health and productivity during childhood, and to the socio-economic development. The success of children in school to a large extent determines their success as adults, determining whether they can go to college, what professions they enter, and how much they are paid (Asenso-Boakye, 2005). Early childhood Education provides a nurturing atmosphere which nourishes young imaginations and instils self-confidence in the children. For every child in Ghana to have access to quality education, it is important to ensure that all primary school children have basic education that is rooted in good Early Childhood Education which aims at helping the child to develop holistically.

2.1.3 Kindergarten Education

Kindergarten is a day-care service offered to children from age three until the child starts attending formal school and it is integrated into basic school structure. According to Boateng and Sekyere (2017) the aim of integrating kindergarten education into the basic school structure in Ghana was to ensure that all primary school children have a basic education rooted in good kindergarten training. The incorporation of kindergarten

education into the Free Compulsory Universal Basic Education seeks to achieve about five objectives. The objectives are to (1) pre-dispose children to conditions of formal schooling in order to accelerate the learning process during formal education; (2) strengthen primary education through the provision of pre-school education; (3) inculcate in children the desire of learning; (4) introduce children to basic hygiene and sanitation for healthy living; and (5) minimize gender barriers which seem to affect girls even before they enter primary school (Boateng & Sekyere 2017).

McGi-Frazen (2000) opines that Kindergarten education is the education for children usually between the ages of 5 – 6 years olds which is to prepare them for formal school. Kindergarten develops basic skills and social behaviour by games, exercises, music and simple activities (McGi-Frazen, 2000). Teachers provide manipulative materials and activities to motivate children to learn and develop holistically. Kindergarten classrooms provide a nurturing atmosphere which nourishes young imaginations and instils self-confidence in the children to lay a solid foundation for the formal school. Kindergarten education serves as a basis for human development and exposes children to experiences that will have lasting influence in childhood. It lays the foundation for creativity, imagination, self-reliance and survival of the young child (Asenso-Boakye, 2005). Kindergarten became an integral part of the formal educational system in Ghana in 2003, following recommendations from the President's Committee on Review of Education Reforms about the importance of early childhood development. The government in its bid to enhance quality kindergarten education made a conscious effort to provide resources to support the expansion of kindergarten facilities. It is the aim of the government that every

child in Ghana has access to quality kindergarten education and to ensure that all primary school children have basic education that is rooted in good kindergarten education.

2.1.4 Self-Efficacy

Self-efficacy reflects confidence in the ability to exert control over one's own motivation, behaviour, and social environment. It helps the individual to perform better and cope with challenges in the world. Self- efficacy emerged from the social cognitive theory by Albert Bandura (Bandura, 1977). Self-efficacy is one of the concepts used to describe the interaction between social experience, individual thinking and behaviour. Bandura emphasized that self-efficacy is a fundamental cognitive mechanism which underpins many aspects of human behaviour. The core principle of self-efficacy can be summed up as what people think, believe and feel affects how they behave. (Bandura 1986). Self-efficacy was developed by Bandura to understand human motivation, learning, self-regulation and accomplishments (Pagares, 2005). The generalization of self-efficacy as a core mechanism in human cognition behaviour is dependent on claims to the predictive generality of efficacy beliefs as significant contributions to the quality of human functioning (Benight & Bandura, 2004). Self – efficacy influences the choices people make to take on a particular task as to whether they view future scenarios positively or negatively. The levels of self – efficacy is said to the measurable and capable of predicting particular behavioural outcomes.

In addition, it Bandura's (1977, 1986) theory of self-efficacy suggests that one's ability to execute an action with success is determined by one's belief in one's ability to do so. If a person establishes a goal and strongly believes that his or her actions will lead to

the success of that goal, he or she will produce more effective coping strategies and higher levels of achievement.

Self-efficacy affects one's motivation and produces self-appraisals that have a direct effect upon motivation (Bandura 1986). Self-efficacy beliefs influence thought processes and emotions that enable actions in which people expend substantial effort in pursuit of goals, persist in the face of challenge, rebound from temporary setbacks, and exercise some control over events that affect their lives (Bandura, 1986, 1993, 1997). Naturally, people feel more comfortable tackling a given task if they feel prone to succeed at that task. On the other hand, when people doubt their abilities, motivation suffers and productivity weakens. Simply stated, self-efficacy is determined by certain situations and one's belief in one's abilities in that specific arena. Self-efficacy is a process of determining how well one can execute tasks, which are required to deal with prospective situations (Bandura, 2006).

Human action is influenced by personal qualities, social factors, and experience, all of which help determine one's self-efficacy (Schunk & Pagares 2002). Bandura's social cognitive theory outlines four elements of developing a strong sense of efficacy, which include mastery, social modelling, social persuasion, and lastly, one's physical and emotional states (Bandura, 2010).

Mastery involves people achieving goals. An important element of mastery involves overcoming or managing failures. Social modelling involves people seeing others like themselves being successful. Social persuasion is exhibited when people are persuaded by others that they can succeed and are given experiences that expand their abilities and confidence. The last element is one's ability to gauge one's physical and emotional states.

Self-efficacy encompasses the judgments of what people can do with their ability, and not simply their level of ability (Bandura, 2010).

The current study addresses the dimensions of self-efficacy in the early childhood classroom. Research over the last 30 years has suggested a clear distinction between early childhood development and later development, yet educational teaching standard requirements (K-8) have not adjusted accordingly (NAEYC & NAECS/SDE, 2002). To have positive self-efficacy, early childhood teachers must have appropriate and specific training in early childhood education. A teacher's self-efficacy and perceived capabilities can directly affect students' achievement (Tournaki, & Podell, 2005), motivation (Pajares, 2003), and sense of efficacy (Aydin & Hoy, 2005). In addition, teacher efficacy relates to a teacher's behaviour, performance, ambition, resilience, creativity, and the reluctance to use criticism (Hoy, Tarter & Hoy, 2006).

The importance of positive self-efficacy can be wide ranging. Self-efficacy beliefs determine how people think, motivate themselves and perform (Bandura, 2006). Past studies, which address concepts of self-efficacy, have covered many topics, from academic self-efficacy (Coffman & Gilligan, 2002) to the self-efficacy of computer preparedness (Giles & Kent, 2016). Bandura (2006) asserts that when measuring self-efficacy for any reason, the measure should be case specific. This thesis is specifically addressing perceived teacher self-efficacy within the context of the early childhood classroom environment; therefore, a measure specific to perceived teacher self-efficacy was used. A positive sense of efficacy increases teacher achievement and overall satisfaction in performance (Schunk & Pajares, 2002).

Another considerable impact of self-efficacy lies in how much effort an individual will expend on a particular activity, how long he/she will persist when faced with unfamiliar problems, whether one's mindset and emotional responses are self-impeding or self-facilitating, what degree of stress and discouragement one confronts in dealing with taxing environmental (classroom) demands, and the degree of success that is achieved. The importance and implications of self-efficacy have diverse effects upon teachers and their abilities in the classroom (Pajares & Schunk, 2001). A strong sense of self-efficacy in an individual enables one to address difficult tasks and environments (in this case, the early childhood classroom) as challenges to be overcome instead of obstacles that result in a sense of helplessness (Pajares, 2005). An individual (in this case a teacher) with low self-efficacy may perceive unfamiliar and difficult situations as overwhelming and unconquerable (Billheimer, 2006). Knowing the implications of these influences, self-efficacy beliefs are significant determinants and predictors of an individual's eventual success (Pajares, 2005).

2.1.5 Teaching Efficacy

Teaching efficacy has been defined as the extent to which the teacher believes he or she has the capacity to affect student performance (Manuel & Arias 2007). Essentially, it is the expressed level of confidence a teacher has in his or her ability to help children learn. For decades, researchers have identified teacher efficacy as a crucial factor for improving teacher education and promoting educational reform. Teacher efficacy has been found to predict student achievement (Caprara, Barbaranelli, Steca & Malone, 2006) children's motivation (Schunk, & Pajares, 2002) and children's own sense of efficacy (Hoy, & Spero 2005). Further, teacher efficacy has been linked to teacher's enthusiasm

for teaching (Tschannen-Moran & Hoy, 2001), teachers' high confidence levels and positive attitudes, their willingness to experiment with new methods (Hoy & Spero, 2005) the amount of effort and persistence a teacher demonstrates, their commitment to teaching (Milner, & Hoy, 2003), teacher retention (Jamil, Downer & Pianta 2012), levels of novelty in instruction (Buns, 2010) and an orderly and positive school atmosphere and greater classroom-based decision making. Teachers with a strong sense of efficacy tend to exhibit greater levels of planning and organization (Caprara, Barbaranelli, Borgogni & Steca, 2003.).

Evidence indicates that teacher' beliefs in their teaching efficacy (sometimes referred to as instructional efficacy) partly determines how they structure activities during class and shape student's evaluations of their capabilities. Milson & Mehlig (2002) measured teachers' beliefs in their efficacy to motivate and educate difficult students and to counteract adverse home and community influences on students' academic development. Teachers with a high sense of teaching efficacy operate on the belief that difficult students are teachable through extra effort and appropriate techniques and that they can enlist family supports and overcome negating community influences through effective teaching.

In contrast, teachers who have a low sense of teaching efficacy believe there is little they can do if students are unmotivated and that the influence teachers can exert on student development is severely limited by unsupportive or oppositional influences from the home and neighborhood environment. Milson, & Mehlig (2002) as stated in Gibson & Dembo (1984) also observed how teachers of high and low perceived efficacy manage their classroom activities. Teachers who have a high sense of teaching efficacy devote more

classroom time to academic activities, provide students who encounter difficulties with the guidance they need to succeed, and praise their academic accomplishments.

In contrast, teachers of low perceived efficacy spend more time on non-academic pastimes, readily give up on students if they do not get quick results, and criticize them for their failures. Thus, teachers who believe strongly in their ability to promote learning create mastery experiences for their students, but those with self-doubts about their teaching efficacy construct classroom environments that are likely to undermine students' judgments of their abilities (Bandura, 1997).

Teacher's belief in their efficacy affects their general view toward the educational process as well as their specific instructional activities. Teachers who have a low sense of teaching efficacy favour a custodial orientation‖ that takes a pessimistic view of student's motivation, emphasizes control of classroom behaviour through strict regulations, and relies on extrinsic inducements and negative sanctions to get students to study (Woolfolk & Hoy, 1990; Woolfolk, Rosoff, & Hoy, 1990). Friedman, (2003) finds that teachers with a low sense of efficacy are mired in classroom problems. They distrust their ability to manage their classrooms; are stressed and angered by students' misbehaviour; are pessimistic about students' improvability; take a custodial view of their job; resort to restrictive and punitive modes of discipline; focus more on the subject matter than on students' development; and, if they had to do it all over again, would not choose the teaching profession. Teachers who believe strongly in their teaching efficacy tend to rely on precursory means rather than authoritarian control and support development of their students' intrinsic interest and academic self-directedness (Bandura, 1997).

Buns (2010) document the cumulative impact of divergent levels of teachers' perceived efficacy. He studied seasoned teachers who taught students placed in classes for basic skills because of sever academic deficiencies. Teacher's beliefs about their teaching efficacy predicted their students' levels of mathematical and language achievement over the course of the academic year when the variations in the students' entering ability are controlled. Teachers with a high sense of efficacy tend to view difficult students as reachable and teachable and regard their learning problems as surmountable by extra effort. Teachers of low perceived efficacy are inclined to invoke low student ability as an explanation for why their students cannot be taught (Tschannen-Moran & Hoy, 2001).

This differential effect was identified by Akos (2002) as stated in Midgley et al., (1989) in a longitudinal study of the transition from elementary to junior high school. High-achieving children were not much affected by their teacher's sense of teaching efficacy during transition periods. In contrast, low-achieving students who had teachers low in self-efficacy in both school environments or who moved from teachers of high self-efficacy to ones of low self-efficacy suffered declines in academic expectations and evaluations of their academic performances. Transitions from teachers of low to high self-efficacy led low-achieving students to expect more of themselves academically.

Some teachers find themselves beleaguered day in and day out by disruptive and non- achieving students. Eventually, a low sense of self-efficacy to fulfil academic demands takes a stressful toll. Burnout in academia is not very uncommon (Bandura, 1997). It encompasses a syndrome of reactions to prolonged occupational stressors that includes physical and emotional exhaustion, depersonalization of the people one is serving, and lack of any sense of personal accomplishment (Jepson & Forrest, 2006). Brouwers,

Evers & Tomic, (2001) clarify the causal path through which a sense of coping inefficacy is linked to burnout in teachers. When faced with academic stressors, teachers of high self-efficacy direct their efforts at resolving problems. In contrast, teachers who distrust their efficacy try to avoid dealing with academic problems and, instead, turn their efforts inward to relieve their emotional distress. The pattern of coping and withdrawal heightens emotional exhaustion, depersonalization, and a growing sense of futility.

Some of the means of coping involve disengagement from the instructional activities themselves. Thus, teachers who lack a secure sense of teaching efficacy show weak commitment to teaching (Ross & Gray 2006) spend less time on subject matter in their areas of perceived inefficacy (Wheatley, 2002) and devote less total time to academic matters (Shidler, 2009). In a study of a variety of factors (Ware & Kitsantas, 2007), found that teachers' sense of teaching efficacy was the best predictor of commitment to the teaching profession. Strong educational leadership by the principal also contributed to teacher's commitment, but a school climate of collegiality and support, salary, and teaching experience did not. Teachers' sense of teaching efficacy is not necessarily uniform across different subjects. Bandura (1997) contends teacher efficacy scales should be linked to the various knowledge domains. Multi-item measures are an improvement over single-item ones, but teacher efficacy scales are, for the most part, still cast in a general form rather than being tailored to the domains of instructional functioning.

2.1.6 Developmentally Appropriate Practice

Young children should be exposed to learning experiences that are in harmony with their current levels of development in order to aid and support them in their learning. Therefore, Developmentally Appropriate Practice (DAP) utilizes an approach to education

of young children that focuses on the child as a developing human being and life-long learner. The child is viewed as an active participant in the learning process; a participant who constructs meaning and knowledge through interaction with others, friends and family, materials, and environment (Kumtepe, 2005, Goffin & Wilson, 2001).

Developmentally appropriate practice serves as a framework and philosophical approach for teaching young children, rather than a curriculum or rigid set of standards that dictate practice(Copple & Bredekamp 2009), Child-centered DAP goals embrace children's individual differences, encourage active learning, and promote deep understanding (Bredekamp & Rosegrant. 1992). This comprehensive approach addresses the interrelatedness of the developmental domains (cognitive, social, emotional, and physical) and stresses the relationship between emotional and social factors and children's academic ability (Geist & Baum 2005). The National Association for the Education of Young Children (NAEYC) notes DAP includes considerations for child development and learning as well as knowing what is individually appropriate and culturally important (National Association for the Education of Young Children. 2009). Developmentally appropriate practice (DAP) is an approach to early years teaching which is designed to ensure optimum learning and development for young children.

Piaget's theory of the construction of knowledge is seen as the basis for the cognitive-developmental approach (Edwards, 2003. & McInerney, 2005) with an emphasis on cognition. The teacher is an active facilitator in the system who helps the children make meaning of the various activities and interactions encountered throughout the day. In the first version of National Association of Education of the Young Child (NAEYC) position statement (1986) developmentally appropriateness was viewed as consisting of two inter-

related dimensions: Age appropriateness and individual appropriateness. This version of DAP was later updated in 1997 to include a consideration of social and cultural appropriateness (Kumtepe, 2005; Goffin & Wilson, 2001) reflecting a more moderate mix of Piagetian and Vygotskian develop mentalism than the first document.

Age appropriateness was defined in terms of theory and research that suggests universally predictable sequences of growth in children. Gestwicki (2013) as cited in Bredekamp and Copple (1997) stated in the second version, age appropriateness stems from the "knowledge of age-related human characteristics that permits general predictions within an age range about what activities, materials, interactions, or experiences will be safe, healthy, interesting, achievable, and also challenging to children. Activities, routines, and expectations are designed so that they accommodate and compliment the characteristics of children within a general age-range (Kostelnik, Soderman & Whiren, 2004). Knowledge of typical development of children within the age span served by the program provides a framework from which teachers prepare the learning environment and plan appropriate experiences.

Conversely, individual appropriateness was defined by the idea that each child is a unique character with an individual pattern and timing of growth (Copple & Bredekamp 2009) as well as an individual personality and learning style (Kostelnik, Soderman & Whiren, 2004). Since the individual variation is seen as inevitable (Bredekamp & Copple, 1997), all possible variations must be considered in the design, application, and evaluation of activities, interactions, and expectations. The experiences provided should match the child's developing abilities, while also challenging the child's interest and understanding. Although these first two definitions appear contradictory, it is reconciled from the

pedagogical perspective by the belief that each child will proceed through these stages at his/her own pace. The revised position statement stresses that age related data is to be used only for general predictions, without labelling the full range of individual levels of growth and ability as equivalent (Bredekamp & Copple, 2009). Hence, the children should be provided with learning experiences that match or suit their current levels of development. Teachers are required to make decisions in the classroom by combining their knowledge of child development with an understanding of the individual child to achieve desired and meaningful outcomes.

Children do not grow up in isolated areas, but rather, within families, neighborhoods, and communities. It is important that adults working with children have knowledge of the social and cultural contexts in which the children live in order to ensure that learning experiences are meaningful, relevant, and respectful for the participating children and their families. In the revised edition of the position statement, NAEYC suggests that the curriculum considers children within the context of their family, culture and community, history, and present circumstances (Bredekamp & Copple, 2009). It was highlighted that early childhood professionals should recognize differences among children as well as characteristics they have in common in a cultural group.

Relating and interacting with children and their parents are viewed as providers of information about this uniqueness. Parents' active involvement, both as resources of knowledge and as decision makers, is a necessity in deciding the individually appropriate practices for their children (Getswicki, 2013). Unlike the first version, group cultural differences are recognized as separate from individual differences. Cultural context is seen as an influence on behavioural expectations shared within a group. Practitioners of the field

are to approach with sensitivity and respect to children and families from distinct cultural and linguistic groups.

Getswicki (2013) informed teachers that as they make complex decisions for classrooms, decisions they make one year may be quite different from those that will be made the next year. Developmentally appropriate practice is a philosophy that reflects child development knowledge in designing early childhood programs. It is critical in making developmentally appropriate decisions to be indicative of developmental theories and research.

2.1.7 The Twelve Principles of Developmentally Appropriate Practice

Developmentally appropriate practice is a comprehensive educational perspective that supports optimal healthy development for every child and it embraces continuity because it guides a tradition of quality early learning and change as it embraces new research, knowledge, and science in regard to children's development and learning.

According to (Bredekamp, 1987; Bredekamp & Copple, 1997), the original NAEYC guidelines for DAP were firmly based on developmental theory. At that time, more attention was given to the cognitive constructivist perspective of Piaget than to the social and cultural context of development that Vygotsky recognized (Van Horn &Ramey, 2003). The recent revision of the DAP guidelines (NAEYC, 2009) now acknowledges both of these perspectives in 12 principles of learning and practice derived from the most up-to-date theoretical and empirical accounts of developmental processes and sociocultural influences. These principles provide a strong foundation for the NAEYC guidelines for developmentally appropriate practice, which highlights the importance of teachers to

high quality early education and it stresses the importance of teachers' decision-making for effective teaching. The principles have been explained briefly as follows:

1. All domains of children's development—physical, social, emotional, and cognitive—are important and they are closely interrelated. Children's development and learning in one domain influence and are influenced by what takes place in other domains. Children are thinking, moving, feeling, and interacting human beings. To teach them well involves considering and fostering their development and learning in all domains. Because this full spectrum of development and learning is fundamental to children's lives and to their future participation as members of society, early care and education must address all the domains.

2. Many aspects of children's learning and development follow well- documented sequences, with later abilities, skills, and knowledge building on those already acquired. Human development research suggests that relatively stable, predictable sequences of growth and change occur in children during the first nine years of life. Predictable changes occur in all domains of development, although the ways that these changes are manifested and the meaning attached to them may vary widely in different cultural and linguistic contexts. Knowledge of how children within a given age span typically develop and learn provides a general framework to guide teachers in preparing the learning environment, considering curriculum, designing learning experiences, and teaching and interacting with children.

3. Development and learning proceed at varying rates from child to child as well as at uneven rates across different areas of each child's individual functioning. Individual variation has at least two dimensions: the inevitable variability around

the typical or normative course of development and the uniqueness of each child as an individual. Children's development follows individual patterns and timing; children also vary in temperament, personality, and aptitudes, as well as in what they learn in their family and within the social and cultural context or contexts that shape their experience.

4. Development and learning result from a dynamic and continuous interaction of biological maturation and experience. Development is the result of the interplay between the growing, changing child and the child's experiences in the social and physical worlds

5. Early experiences have profound effects, both cumulative and delayed, on a child's development and learning; optimal periods exist for certain types of development and learning to occur. Ensuring that children get the needed environmental inputs and supports for a particular kind of learning and development at its "prime time" is always the most reliable route to desired results.

6. Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities. A pervasive characteristic of development is that children's functioning becomes increasingly complex—in language, social interaction, physical movement, problem solving, and virtually every other domain. Increased organization and memory capacity of the developing brain make it possible with age for children to combine simple routines into more complex strategies.

7. Children develop best when they have secure, consistent relationships with responsive adults and opportunities for positive relationships with peers. From the

earliest years of life, warm, nurturing relationships with responsive adults are necessary for many key areas of children's development, including empathy and cooperation, self-regulation and cultural socialization, language and communication, peer relationships, and identity formation

8. Development and learning occur in and are influenced by multiple social and cultural contexts such as the home, school and the community as a whole. Understanding children's development requires viewing each child within the sociocultural context of that child's family, educational setting, and community, as well as within the broader society. These various contexts are interrelated, and all powerfully influence the developing child. For example, even a child in a loving, supportive family within a strong, healthy community is affected by the biases of the larger society, such as racism or sexism, and may show some effects of its negative stereotyping and discrimination.
9. Always mentally active in seeking to understand the world around them, children learn in a variety of ways; a wide range of teaching strategies and interactions are effective in supporting all these kinds of learning. Several prominent theories and bodies of research view cognitive development from the constructivist, interactive perspective. That is, young children construct their knowledge and understanding of the world in the course of their own experiences, as well as from teachers, family members, peers and older children, and from books and other media
10. Play is an important vehicle for developing self-regulation as well as promoting language, cognition, and social competence. Children of all ages love to play, and it gives them opportunities to develop physical competence and enjoyment of the

outdoors, understand and make sense of their world, interact with others, express and control emotions, develop their symbolic and problem-solving abilities, and practice emerging skills.

11. Development and learning advance when children are challenged to achieve at a level just beyond their current level of mastery, and when they have many opportunities to practice newly acquired skills. Human beings, especially children, are motivated to understand or do what is just beyond their current understanding or mastery. Effective teachers create a rich learning environment to activate that motivation, and they make use of strategies to promote children's undertaking and mastering of new and progressively more advanced challenges.
12. Children's experiences shape their motivation and approaches to learning, such as persistence, initiative, and inflexibility; in turn these dispositions and behaviour s affect their learning and development. Temperament and other inherent differences may affect children's approaches to learning, their experiences in families and early education programs have a major influence. Programs can implement evidence-based strategies that will promote positive approaches to learning. These strategies include strengthening relationships with children; working with families; and selecting effective curriculum, assessments, and teaching methods.

(Copple & Bredekamp, 2009, pp. 11-15).

These principles highlight how individual variation in development and learning should be linked to decisions about the curriculum, teaching and interactions to ensure that teaching decisions take account of the uniqueness of each child as well as group differences in temperament, growth rate, personality and background. Other principles

balance the focus on the individual by highlighting the importance of secure social relationships with responsive adults and multiple social and cultural settings for child development and growth.

In this context, the benefits of positive teacher–child relationships and cultural sensitivity in the classroom for children's learning and the development of social competence and emotional well-being become evident. The Vygotskian view of teaching is an important component of the 2009 NAEYC DAP guidelines and scaffolding is seen as a key feature of effective teaching, but one of the principles also suggests that: children benefit when teachers have at their disposal a wide range of teaching strategies and from these teachers select the best strategy to use in a situation, depending on the learning goal, specific context and needs of individual children at that moment including children who may need much more support than others even in exploration and play (NAEYC, 2009).

The knowledge, decisions, and actions of teachers directly impact children's experiences in the classroom. Effective teaching in the kindergarten requires content knowledge of child development - a deep understanding of developmentally appropriate expectations, knowing the way young children think and behave, and why (Allen & Kelly. 2015).

2.1.8 The Application of Developmentally Appropriate Practice (DAP)

Developmentally appropriate practices are based on the knowledge of developmental Theory, child development, and in the growing knowledge base of brain development (Shonkoff & Phillips, 2000). Shonkoff and Phillips (2000) state that brain development is longitudinal and a substantial portion of brain development occurs within

the first five years of life. The brain's ordered sequence requires foundational abilities to facilitate advanced learning of more complex skills. Brain connections are set and solidified within the context of experiences with adults, children, and the environment (Shonkoff & Phillips, 2000). The brain's capacity for change decreases as children and adults get older.

There is a relationship between genes and experiences that determine how children grow and develop. Children in situations where there is a reciprocal relationship are more likely to have higher levels of brain function (Shonkoff & Phillips 2000) because they are always being supported. The probability of positive outcomes increases when children are engaged in reciprocal relationships, thus creating more connections in the brain. Conversely, children's lack of positive interactions with people in their environment can increase a child's risk for developmental deficiencies (Shonkoff & Phillips, 2000). Attention to social and regulatory skills facilitates strong social, emotional, and behavioural skills across learning environments (Raver & Knitzer, 2002). To facilitate children's success teachers, foster positive interactions with children, between children, with families, and with other teachers (Bredekamp & Copple, 2009).

To enhance a child's developmental capabilities, there are features of developmentally appropriate curricula that must be present. For children to develop optimally, teachers need to be nurturing, welcoming, and respectful in their interactions with children and families (Bredekamp & Copple, 2009). Teachers act as facilitators not only in their relationships with children, but with families, and they facilitate relationships between children (Bredekamp & Copple, 2009). Teachers draw upon their knowledge base of child development to create well planned environments and experiences (Bredekamp &

Copple, 2009). First and foremost, in a DAP environment; teachers understand that children's safety and health needs must be met so that children may feel safe and secure (Bredekamp & Copple, 2009). Once children feel safe then they may begin to engage in purposeful play. In developmentally appropriate curricula, play is the primary process by which learning occurs. Bredekamp & Copple (2009) suggest that for play to be successful, teachers need to support children and engage them in tasks with specific goals and objectives in mind. When children play they are making sense of the world around them by recreating experiences from their prior knowledge, exploring materials and hypothesizing possible outcomes (Bredekamp & Copple, 2009).

Within the environment, teachers implement small and large group activities, facilitate project learning, help children learn strategies to solve problems, and implement routines to engage and enrich children's learning (Bredekamp & Copple, 2009). Teachers provide children with stimulating, hands on materials that have many possible uses that allow for children's open-ended utilization and investigations. Teachers support children in their ability to make choices and decisions within the safety of the materials and the environment that is provided. Children's responsibility for their decisions result in children's increased independence, self-regulation, joy in learning process, and intrinsic motivation (Bredekamp & Copple, 2009).

Teachers and administrators think deliberately about the social structure presented in developmentally appropriate environments. Children learn they are part of a learning community and build relationships with teachers and children. Classrooms have low child to adult ratios and small class sizes, so that children have the responsive interactions, which includes culturally and linguistic responsive interactions they need for optimal

development. Teachers plan for individual and cultural needs and implement instruction accordingly (Bredekamp & Copple, 2009). Teachers engage in intentional planning and activity execution that encapsulates individual and group needs while reaching goals and objectives. Poorly planned or implemented interventions have no beneficial effects; conversely intentionality in interventions and activity planning produce positive outcomes (Shonkoff & Phillips, 2000). Teachers facilitate comprehensive learning across all developmental domains and understand development is interrelated and engage children in whole child learning (Bredekamp & Copple, 2009). All development domains are considered in curriculum planning with special emphasis on language development to enhance brain development (Zamboo, 2007).

Teachers in developmentally appropriate environments understand that children do not learn skills or concepts within a direct instruction model. Teachers who adhere to DAP exercise a variety of teaching strategies such as small group learning, large group learning, and engage children in conversations using open ended questions and scientific thinking (Bredekamp & Copple, 2009). Teachers strive to offer challenging activities with achievable outcomes. They scaffold children's learning from one level to the next by working with children in the zone of proximal development. Teachers are co-creators of knowledge with children and engage in inter-subjectivity. Hill, Stremmel and Fu (2005) suggest that inter-subjectivity allows children and adults to operate on the "bubble of the zone of proximal development, where the challenge to learn and grow and transformation is supported and exciting" (p.178).

2.1.9 Concept of Perception

Perception is the process of building on our ill-defined and incomplete sensory experiences (Amissah & Agbeke, 2015). To Davidoff (1994) perception is a cognitive process, a way of knowing about the world. To her, perception is the point where cognition and reality meet-that is information must be taken into the mind before one can do anything else with it. The term perception refers to the ways in which organizations or individuals respond to the stimulus picked by their sense organ.

During the perceptual process there is a completion of information. Sensory information is changed or modified by the addition of information drawn from memory; parts of sensory information are amplified or highlighted while others are pushed to the background. Some aspects are noted while others are ignored. This goes on until the last meaning is assigned to sensory experiences and judgments and interpretations are made (Amissah & Agbeke, 2015). A lot of factors affect perception, some of which are cultural values, personal attitudes, expectation and motivational states

In the kindergarten, children are expected to master important skills for their holistic growth and development. Young children come to the kindergarten with various levels of needs, experiences, and abilities. Therefore kindergarten teachers are to adhere to the needs of these children to make learning meaningful. Some of the kindergarten teachers have the perception that children who go through the kindergarten education have a social and academic advantage than non – kindergarteners hence they believe that kindergarten should be mandatory for all children between the ages of 4 – 6 years (Larcinese, 2016). Teaching in the kindergarten settings requires teachers who have knowledge about children and how they learn. In view of this, there is a need for a growing number of

kindergarten teachers to be abreast with the nature of children and how teachers can use developmentally appropriate teaching approaches to enhance effective teaching.

Some practitioners view kindergarten as a female dominated profession and it is perceived as natural extension of women's mothering roles (Ailwood, 2007) requiring no prior training. In Pakistan for instance, teacher training is not a prerequisite for early childhood education teachers (Ailwood, 2007). It is usually dominated with females with little or no higher education training who are hired to teach. As such, teachers in charge of these young children have little or no theoretical knowledge about child development and children's learning

Kindergarten teachers' perception about kindergarten education influence how they work with young children. MacNaughton (2003) notes that kindergarten teachers act in a particular way with young children and develop activities for them based on their understandings of how children learn, develop, how they make sense of their surroundings and how they form relationships.

According to Vartuli (1999) teachers' decision in the classroom have been found to be based upon the practical knowledge and experience that they have rather than the technical knowledge of child development and learning. Teachers with early childhood training are more likely to engage in developmentally appropriate practices. Teachers need specialized knowledge and qualification to teach young children. Without this, they are likely to rely on informal knowledge derived from their personal and knowledge developed from their own practice.

2.2 Theoretical Framework

The theoretical framework was based on the following theories; Social Cognitive Theory, Social Learning Theory and Bandura's Theory of Self-Efficacy. These theories were adopted to explain the nature of child development and teacher self-efficacy.

2.2.1 Social Cognitive Theory

The Social Cognitive Theory defines human behaviour as a triadic, dynamic, and reciprocal interaction of personal factors, behaviour, and the environment (Bandura, 1977; 1986). However, this reciprocal interaction does not imply that all sources of influence are of equal strength. The theory recognizes that some sources of influence are stronger than others and that they do not all occur simultaneously. In fact, the interaction between the three factors will differ based on the individual, the behaviour being examined, and the specific situation in which the behaviour occurs (Bandura, 1986).

The person-behaviour interaction involves the bi-directional influences of one's thoughts, emotions, and biological properties and one's actions (Bandura, 1977; 1986; 1989). For example, a person's expectations, beliefs, self-perceptions, goals, and intentions give shape and direction to behaviour. However, the behaviour that is carried out will then affect one's thoughts and emotions. Social Cognitive Theory also accounts for biological personal factors, such as sex, ethnicity, temperament, and genetic predisposition and the influences they have on behaviour. A bi-directional interaction also occurs between the environment and personal characteristics (Bandura, 1977; 1986). In this process, human expectations, beliefs, and cognitive competencies are developed and modified by social influences and physical structures within the environment. These social influences can convey information and activate emotional reactions through such factors as modelling,

instruction, and social persuasion (Bandura, 1986). In addition, humans evoke different reactions from their social environment because of their physical characteristics, such as age, size, race, sex, and physical attractiveness.

The final interaction occurs between behaviour and the environment. Bandura contends that people are both products and producers of their environment (Bandura, 1977; 1986). A person's behaviour will determine the aspects of their environment to which they are exposed, and behaviour is, in turn, modified by that environment. A person's behaviour can affect the way in which they experience the environment through selective attention. Based on learned human preferences and competencies, humans select whom they interact with and the activities in which they participate from a vast range of possibilities. Human behaviour also influences their environment, such as when an aggressive person creates a hostile environment. Thus, behaviour determines which of the many potential environmental influences come into play and what forms they will take. In turn, the environment partly determines which forms of one's behaviours are developed and activated.

2.2.3 Social Learning Theory

Social learning theory, first articulated by Albert Bandura focuses on the social nature of learning. People live and work together, share philosophies, and have mutual ambitions to make their social surroundings a better place to live (Gray & MacBlain, 2014). According to Bandura (1989), individuals learn by imitating social behaviours in their unique social settings. That is, individuals learn from others in the societies to which they belong, through daily observations (Crain, 2011). Three principles of social learning theory

modelling, and self-efficacy and self-regulation are discussed in this section as they help to explain teaching behaviours identified in this study.

2.2.4 Modelling

Learning takes place when a person develops new reactions or modifies old ones because of observing and imitating models (Lefrancois, 1997). This process is, in Bandura's (1969) words, "one of the fundamental means by which new modes of behaviour are acquired and existing patterns are modified" (p. 118). That is, when individuals observe models, they can learn how to solve problems and, at the same time, they understand the possible consequences of their actions. Accordingly, children learn behaviours from observing models in their environment (Bandura, 1989). Such modelling and imitating provide opportunities for children to learn the skills, methods, and values of others (Santrock, 2009). Although the observations involve imitation, observers may or may not imitate exactly what is seen. Observers may apply the observed behaviours in an innovative manner or simply replicate the observed behaviour (Santrock, 2009). That is, children's behaviours are corrected or modified to fit in with their own social contexts. For example, a child can learn self-help skills and game instructions by playing with other children who have already learnt the skills and instructions of the game.

Of significance for teachers is that modelling takes less time than operant conditioning. Bandura (1977) proposed that people learn faster by observing how other people complete tasks: "learning would be exceedingly laborious, not to mention hazardous, if people had to rely solely on the effects of their own actions to inform them what to do" (p. 22). Thus, teachers, other adults, and peers can be role models for children to imitate (Rose & Rogers, 2012). Modelling can provide opportunities for teachers to show children how to cooperate, share, and assist in culturally acceptable ways (Crain, 2011).

For example, a teacher says “thank you” when a child helps to pick up rubbish and put it in the rubbish bin.

While modelling can offer opportunities for children to learn, it also provides chances for children to reflect on whether they have achieved their own goals. Social learning theory points out that individuals are constantly creating goals and objectives for themselves and, at the same time, they are assessing if they have accomplished those goals and objectives (Bandura, 1989). Teachers, parents, and peers can motivate children by praising them, although children can also be motivated by the attainment of their own goals. From a social learning theory perspective, teaching young children should emphasize modelling or imitation using encouragement, from which children are motivated to learn (Bandura, 1989). That is, teachers may create an environment in which children are exposed to models and may then provide children with adequate encouragement for them to demonstrate modelling actions (Grusec, 2013).

2.2.5 Self-efficacy and Self-regulation

Self-efficacy can influence a person’s feelings, thoughts, motivations, and efforts to learn (Bandura, 1993). Self-efficacy was described by Bandura (1997) as “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (p.3). Self-efficacy concerns “people’s beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives” (Bandura, 1993, p. 118). Individuals’ self-efficacy is a major factor in their behaviour across different circumstances and a sense of self-efficacy results from individual experiences (Bandura, 1997). Positive experiences can make people think that they are successful and can do well in a certain area, while negative experiences can make people

feel unsuccessful, thus hampering the ability to do well. That is, how individuals judge their self-efficacy determines what type of motivation and effort they devote to activities (Lefrancois, 1997). In addition, self-efficacy is a key "determinant of self-regulation" (Grusec, 2013, p. 27).

Self-regulation was described by MacBlain (2014) as "the ability to press a 'pause' button before taking physical action" (p. 160). That is, "self-regulation reflects the extent to which children are able to control impulses" (Boivin & Bierman, 2014, p. 212). Through the process of self-regulation, children can produce pro-social behaviour by regulating external situations and offering a basis for actions (Bandura, 1989). Accordingly, self-regulation is an instrument of personal self-control. As children develop internalized standards by modelling behaviours and listening to significant others such as teachers, they become progressively able to regulate their own behaviour. In other words, when a person has concrete models to imitate, most behaviour can be self-regulated (Bandura, 1977). Accordingly, an orderly classroom environment is a good place for children to work and play together, and through such interactions, children build up their ability to self-regulate and demonstrate self-efficacy (Rose & Rogers, 2012).

2.2.6 Bandura's Theory of Self-Efficacy

The theoretical foundations of self-efficacy were driven by the ideas of Bandura (1981), who defined self-efficacy as the perceived ability that one possesses the competence to organize social, motor, and cognitive skills into a course of action to accomplish tasks or face obstacles. Research conducted by Bandura on self-efficacy indicated that the greater the perceived self-efficacy, the more adaptive the behaviour, but that people may circumvent potentially adverse situations that they believe exceed their

abilities to cope. When individuals avoid possibly difficult situations due to a lack of perceived self-efficacy, this is in direct contradiction to circumstances where people behave with assurance when they consider themselves capable of handling situations that would otherwise be overwhelming (Bandura, 1977). Research conducted on a science teaching intervention with pre-service elementary school teachers by Ginns, Watters, Tulip, & Lucas (1995) indicated that although pre-service teachers experienced positive changes in their science experiences and their beliefs about teachers improving children's science learning, the study did not find significant increases in teachers' science teaching confidence. The authors suggested that this may be due to perceived self-efficacy diminishing when faced with difficulties, then rebounding with successful science teaching experiences, then decreasing once difficulties are again encountered (Ashton & Webb, 1986, as cited in Ginns et al., 1995).

Bandura explained that the sources of efficacy are acquired through four different sources: performance experience or enactive attainments, modelling or vicarious experience, verbal or social persuasion, and emotional arousal or physiological factors. Enactive attainments are the most influential opportunities for self-efficacy information because they are based on authentic experiences (Bandura, 1981). Efficacy is raised by successful experiences, and efficacy is lowered by repeated failures (Bandura, 1981). This source of information applies to teachers if, as students, they experience multiple successes in the areas of teaching, or conversely, they experience various failures in understanding scientific concepts and mathematical applications. Vicarious experiences are based on seeing another individual succeeding, which raises our self- efficacy, yet observing another fail at an experience, decreases our self-efficacy. In general, vicarious experiences are not

as strong in developing efficacy as enactive attainments. With vicarious experiences, pre-service teachers may have viewed cooperating teachers having success in conveying science and maths concepts, which would increase the pre-service teacher's feelings of self-efficacy in science and math instruction once they are in their own classroom.

Verbal persuasion is another source of information in the development of self-efficacy, and it is defined as leading an individual through verbal suggestion into thinking they can prevail over their difficulties (Bandura, 1981). It may be less likely to produce enduring results of increased efficacy with verbal persuasion, and verbal discouragement is typically more effective at minimizing an individual's self-efficacy than encouragement is at growing it. An example of how this might pertain to early childhood teachers in the subject areas of science and math is that teachers may have heard while they were growing up that they were not "good" at science or math, or both. The final source of information that is used in developing self-efficacy as outlined by Bandura is physiological factors, which are defined as the emotions elicited by stressful situations that may debilitate an individual's performance (Bandura, 1981). When these debilitating emotions, such as fear and anxiety, reach elevated levels of distress and feelings of ineptitude are rampant, then the fear of incompetency may become a reality due to these feelings. This fear response may be triggered with science and math activities for both students and teachers.

As shown in examples in the previous paragraph, Bandura's theory of self- efficacy and its formation are easily related the subject of this study: early childhood teachers and their classroom practices in science and math education. Previous research has documented in-service and preservice prekindergarten to third grade teachers expressed lack of confidence and increased anxiety related to teaching in the scientific domain (Copley &

Padrón, 1999; National Science Board, 1999; Torquati et al., 2013). Several other reasons have been suggested for this anxiety, specifically teachers' limited content knowledge in science and math and pressure to focus teaching efforts on language and literacy (Greenfield et al., 2009; Saçkes et al., 2011; Tu, 2006).

In conclusion, the theories posited by Bandura assist in understanding the development of an individual that occurs over time with experience and provide an overarching perspective on how teachers develop their beliefs and the beginnings of self-concept. Bandura's theory on self-efficacy postulated on teachers' convictions regarding personal abilities to do more than teach a specific subject matter, but also maintain an environment conducive to learning, use resources effectively, and assist parents in helping their children learn (Bandura, 1997; Friedman & Kass, 2002). This theory provides the backbone of this study by illustrating the importance of teachers' self-efficacy in terms of providing a positive learning environment for all students, but specifically in this case, kindergarten-age children. In the context of teachers of young children, Bandura provide the theoretical support necessary to guide the content and research questions asked in this study.

2.2.7 Teacher Self – efficacy

Dellinger Bobbet, Olivier and Ellet (2008) assert that the construct of teacher self-efficacy provides a focus on the role played by teacher's beliefs in their ability to perform the wide variety of teaching tasks required in different contexts. They define teacher self-efficacy as a teacher's individual belief in their capability to perform specific teaching tasks at a specified level of quality in a given specified situation. From this perspective, while teacher efficacy focuses on successfully achieving children's performances, teacher self-efficacy focuses on successfully achieving a specific task. Dellinger et al.'s (2007) definition is more closely aligned to Bandura's (1997) definition of perceived self-efficacy,

creating the construct that self-efficacy beliefs of teaching capabilities create powerful influences on the overall effectiveness of the teacher with children. The construct of teacher self-efficacy is grounded within self-efficacy theory, emphasizing that people can exercise influence over what they do (Bandura, 2006). Self-efficacy is defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p.3).

However, teachers' self-efficacy is viewed as influential in regard to children's achievement and motivation. Also teachers self-efficacy has proven to be having a positive effect on the beliefs of teachers about teaching and instructional methods (Skaalvik & Skaalvik 2007; Tschannen-Moran & Woolfolk Hoy 2001). Betoret (2006) reported that teachers who have a low teachers' self-efficacy encounter more problems in teaching and are not satisfied in their work and experience higher level of job- related stress.

The above mentioned definitions of teacher self-efficacy are vital because they imply that teachers with high self-efficacy can influence the children under their care in regards to different instructional strategies. If teachers rated themselves using similar instructional methods such as developmentally appropriate practice, teachers will effectively help children in learning (Dibapile, 2011).

High self-efficacy is important it enables teachers to be effective in their work. Self-efficacious teachers are viewed as having the ability to organize relevant activities, they are patient with children who are struggling in learning and they spend more time designing relevant teaching activities. Similarly, the teachers will exhibit good performance and probably remain committed to their work (Ware & Kitsantas, 2007).

When teachers organize appropriate teaching activities, it shows that they engage children in learning and are commitment to their work. Podel & Soodak (1993) reported that teachers with high self-efficacy keep children on task. Erawan (2010) found that teachers with high self-efficacious beliefs are likely to perform better than those with low self-efficacy beliefs because they implement didactic innovations in the classroom and use classroom management approaches and adequate teaching methods that encourage children's' autonomy and reduce custodial control.

Teacher commitment to work is essential in the teaching profession, and teachers who are committed do not make their children only proud but the employer and their society at large. Teachers who have a desire to influence children learning tend to show commitment to their work. Research in educational psychology shows that a teacher's quality of performance and commitment to work is related to his/her level of motivation to influence children's learning (Ware & Kitsantas, 2007). Motivation is also important in teacher efficacy construct because it is where teachers will feel efficient to assist children in learning as well as the teachers' instructional attempts in choosing activities, 'level of effort' and patience with children (Tschannen-Moran & Woolfolk-Hoy, 2001). Other researchers have found that teacher efficacy has an impact on "performance, commitment, and professional retention (Ware & Kitsantas, 2007).

Teacher effectiveness might be a solution, to different factors that contribute to lack of effective teaching as it can have an impact on high teacher efficacy. Thus, teachers can impact children for a lifelong learning. This writer is not intending to discuss teacher effectiveness in detail, but rather to highlight its relevance to effective teaching. Hence

performance of teachers could lead them to commit themselves to their vocation and have a positive effect on students 'education

2.3 Empirical Review

This section focused on the review of literature relating to the various thematic areas in the stated objectives of the study. These were related to the following; kindergarten teachers' perception of teaching at the early childhood level; self-efficacy of kindergarten teacher's kindergarten teachers' efficacy in employing developmentally appropriate practices; relationship between kindergarten teachers' self-efficacy and their working experience in employing developmentally appropriate practice.

2.3.1 Kindergarten Teachers' Perception of Teaching at the Early Childhood Level

More recent research has pointed to the fact that a teacher's belief system will determine the quality of education in the classroom (Garvis, 2011; Garvis, Twigg & Pendergast, 2011). According to Fang (1996) the teachers' beliefs or philosophy affect teaching and learning. Research also suggests that there is a strong relationship between the teacher's thoughts and actions in understanding teacher effectiveness (Brophy & Good, 1974; Edwards, 2003; Leung, 2012).

Kagan (1992) viewed teachers' beliefs as their "assumptions about their students, classrooms, and academic materials to be taught." (p. 65). Teachers' beliefs are therefore what teachers say and do in the classroom based on their thinking about educational practices. This point is supported by Richards and Lockhart (1998) who posited that a teacher's action is reflective of what they know and believe and this knowledge and belief becomes the philosophical framework which guides their teaching methodology.

Beliefs also emerge from one's past and present experiences and socialization or cultural models that were presented (Raths, 2001). The development of these beliefs is based on previous experiences in the teachers' life and has a bearing on how they relate to the children in their classroom (Inozu, 2011; Borg, 2000; Richards & Lockhart, 1998). This point is especially critical considering the cultural-historical legacy of early childhood education in Jamaica and the teacher pedagogy that are still evident today.

This brings me to the point of self-perception, especially as it relates to the professional self. How one views self has an impact on one's behaviour. According to Bem's (1972), individuals come to 'know' their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behaviour and/or circumstances in which this behaviour occurs.

In other words, an individual's self-perception is formed implicitly by meanings derived from events and interactions in the environment. Teachers are no different as their perceptions and beliefs influence their actions (Kagan, 1992; Borg, 2001). They concluded that whether teachers were confident or unsure of their abilities, this perception is reflected in their classroom practices. In fact, Beijaard, Verloop and Vermunt, (2000), concluded from their study of Netherland secondary school teachers' perception of their professional identity, that self-perception is the schema from which teachers derive their professional identity as experts in subject matter, pedagogy, and didactic teaching.

This has similar implications for EC classroom practice. The early childhood teacher's personal and professional experiences are intertwined and are linked to their personal and professional identity (Court, Merav & Ornan, 2009; Rodgers and Scott, 2008). Court, et al. (2009), described the professional self as "a product of the interaction between

the teachers' personal experiences and the social, cultural and institutional environment within which they work on a daily basis." (p. 208). In their study of ten Israeli teachers' reasons for choosing the teaching profession and their perceptions of their roles as teachers, the researchers drew a relationship between the teachers' expressed beliefs about early childhood education and their roles as teachers. According to Court et al., these teachers perceived themselves to be 'nurturers,' and perceived their work as allowing for an intensive relationship with children, contributing to their moral, social and cognitive development.

However, Garvis, Fluckiger and Twigg (2012), from their study on pre-service teachers' beliefs and perceptions, alluded to the fact that this may be an idealized or romanticized view of early childhood education. While the participants in their study also perceived teaching in a positive, almost idyllic fashion, Garvis, Fluckiger and Twigg commented that the teachers lacked understanding of the complexity of the profession. They called this a 'deficit' and warned that this perception of the early childhood teacher faces a challenge, as dissonance may arise when the pre-service teacher experiences a 'reality shock' in the real classroom versus what was experienced during field work. This disequilibrium may re-position the teacher's belief system and at its extreme, may lead to the teacher lowering his/her own expectations to risk a self-assessment of failure (p. 101). It would suggest therefore that socio-cultural contextual factors must be taken into consideration when looking at beliefs and self-perceptions.

In the same manner, teachers' beliefs and self-perceptions may also determine the nature of the interactions that occur between them and the children they teach (Lim & Torr, 2007). According to Miller and Smith (2004), teachers' beliefs have an influence on their

nature of interaction with, and the resources and structure that they provide to children. Additionally, their beliefs also unconsciously affect the attitudes they convey to children (Miller & Smith, 2004). The teacher's attitude and behaviour will have an impact on the young child's emotional well-being and positive sense of self, and so the quality of teacher's interaction and relationship with the child are very important (Davies, 2008). Thus, the teacher's beliefs shape his/her approach to teaching and influence instructional strategies and performance in the classroom as these beliefs help to define their professional identity.

The teacher is crucial in this evolution of providing high-quality services as these services are based on a secure relationship between the children and the teacher (Sims, 2010). This secure relationship will also impact on effective pedagogy because, according to Bowman, Donovan and Burn (2001), young children depend on the adults with whom they interact and, in many instances, it is their classroom teacher. Brophy and Good (1974) described teachers as socializing agents who have a significant influence on students' behaviour as they transmit powerful interpretations of values and expectations. However as Court, Meray and Ornan (2009) found in their study, early childhood teachers' self-perception as professionals are subjected to constant testing and shaping by the environment within which they work and as such, acknowledgement and recognition by significant others, including parents will have a direct positive effect on the teachers' self-esteem.

2.3.2 Self-efficacy of Kindergarten teachers

Teacher efficacy is when a teacher believes in their own ability to guide the children to success. Teachers' pedagogical self-efficacy is their perceived capacity to effectively

educate children (Bandura, 1997, 2001), that is, their belief that they have the skills to promote children's development and learning. Investigating teachers' self-efficacy is important because a teacher's sense of self-efficacy is related to success in children's learning (Gibson & Dembo, 1984; Saklofske, Michayluk, & Randhawa, 1988; Woolfolk & Hoy, 1990). Teachers with high self-efficacy for teaching have more positive expectations for student achievement and better student outcomes (Tournaki & Podell, 2005).

Previous work focusing on teachers of young children has found that high teacher self-efficacy predicts teachers' use of developmentally appropriate practices in preschool and elementary class- rooms (McMullen, 1999). In fact, low teaching efficacy can be a barrier to implementing developmentally appropriate practices with children (Kim, 2005) and can result in poorer outcomes (Guo, Piasta, Justice, & Kaderavek, 2010).

It is important to note that teaching content areas such as literacy, math, and science requires domain-specific self-efficacy. That is, teachers need to feel confident in their own ability before they can feel confident in teaching specific content (Vartuli, 1999). Greater content knowledge is related to more pedagogical self-efficacy for a range of content areas, including mathematics (Newton, Leonard, Evans, Eastburn, & Tatum, 2012), social studies (Holt, 2009), and science (Maier, Greenfield, & Bulotsky-Shearer, 2013). Moreover, professional development focused on improving content knowledge has been shown to improve teachers' pedagogical self-efficacy (Holt, 2009). Because the present study focused on teachers' efficacy within content areas, we defined self-efficacy.

Self-efficacy as an individual's perceived enjoyment of and ability with respect to a subject or domain. This is an important distinction and extension of previous work, as

Morgan (2012) has shown that including questions about teachers' interest and ability in the content area can make important contributions to efficacy assessments. By assessing teachers' content-specific self-efficacy rather than their teaching efficacy, we learn more about their capacity to share and promote content understanding, thus filling this important gap in the literature on self-efficacy.

Currently, it is unknown whether teachers' self-efficacy for one content area is related to their self-efficacy or practice in another area. One could hypothesize a spillover effect for efficacy such that high self-efficacy in one area could result in high self-efficacy in other areas. This would presume that teachers are skilled in generalizing their knowledge and skills from one area of instruction to another. For example, a teacher who asks open-ended questions during book reading to facilitate conversations with children about book content or literacy concepts may also ask open-ended questions during science experiences to facilitate children's understanding of science concepts or content. The challenge to this assumption is that when a teacher does not understand a concept, he or she will be unlikely to identify meaningful open-ended questions that facilitate children's understanding of the concept. Thus, it is likely that teachers' self-efficacy for different content areas varies substantially.

Teachers' self-efficacy across content areas may vary for several reasons. Given the lack of resources available for supporting teachers to teach science in early childhood classrooms, the teaching of science to young children might be particularly influenced by teachers' own comfort with science. For example, one preservice teacher explained, "I'm not really very good at science. I had to take a few science courses along the way, but I don't really know how to include more science in children's everyday learning," which

demonstrates how the teacher's perception of her skill in the content area influenced her pedagogical self-efficacy (Hamlin & Wineskin, 2012, p. 82). Although the Next Generation Science Standards and Head Start Early Learning Outcomes Framework provide guidance on reform-based practices and goals for young children's development in science, these are newly developed. Most teachers, particularly early childhood teachers, have had minimal exposure to and lack understanding of these practices and how to incorporate them into their classroom. In fact, many teachers report that they will fail if they teach science to young children (Greenfield et al., 2009). The recent emphasis on literacy, stressed by both administrators and families, may contribute to teachers spending less time on science and providing fewer opportunities to engage in science. This may be particularly true if teachers subscribe to a perception that science is separate from other domains or if they struggle to design an integrated curriculum that provides opportunities to engage in literacy, math, and science within the same lessons and activities, as recommended by best practice (e.g., Neuman, Roskos, Wright, & Lenhart, 2007).

Teachers' educational background and experiences may be particularly salient factors influencing teachers' self-efficacy across content domains. Teachers may be burdened with negative feelings toward science from their early schooling experiences that may compromise their teaching (Edwards & Loveridge, 2011). Currently, only 66% of Head Start teachers have a bachelor's degree, which means that fewer Head Start teachers than elementary-level educators have had exposure to science content. Furthermore, even early childhood educators with bachelor's degrees report feeling unprepared or underprepared to teach science (Greenfield et al., 2009), like credentialed elementary teachers, who report very low self-efficacy for science (Morgan, 2012). This is likely

because few early childhood teacher preparation programs emphasize science in coursework or practicum experiences (Brenneman, Stevenson-Boyd, & Frede, 2009). However, some research has found that teachers with higher education levels tended to undertake science activities more frequently and utilize a wider range of methods for engaging children in science lessons (Erden & Sönmez, 2012). More specifically, teachers who had taken a greater number of science-related courses during a 2-year college program had more positive beliefs about science in comparison to teachers who had not taken science courses.

Previous work has found that teachers' self-efficacy in general increases with experience from early in one's career to mid-career (Klassen & Chiu, 2010). Other research has indicated that teachers with less than 1 year of experience hold more positive attitudes toward science, especially about the perceived developmental appropriateness of early childhood science education (Erden & Sönmez, 2012). This may be because they received their education more recently, which may have provided more positive views or support for early childhood science education.

2.3.3 Teachers' Efficacy in Employing Developmentally Appropriate Practices

Doliopoulou (1996) examined Greek kindergarten teachers' beliefs and actual classroom practices about DAP by using the Teacher Questionnaire and the Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classroom developed by Charlesworth et al. (1993). Both the instruments were translated into Greek. Sixty-seven kindergarten teachers in Greek's capital area participated in survey. Nine of them were observed in the classroom to examine the consistency between their self-reported beliefs and practices about DAP. Data were analysed by Pearson correlation coefficient and

correlational analysis. The results revealed that Greek kindergarten teachers' DAP were highly correlated with their developmentally appropriate practices. The teachers who believed in the importance of DAP implemented more developmentally appropriate activities in their classrooms.

Relationships among teachers' appropriate and inappropriate beliefs and practices, factors that influenced teachers' decision-making, years of teachers' experience, and number of children in a classroom were examined. Teachers who ranked parents or themselves having the highest influence on their instruction had more developmentally appropriate beliefs and implemented more appropriate activities. In addition, teachers who occupied children in more inappropriate activities ranked state regulations having high influence on their classroom activity planning and implementation. Furthermore, teachers who had more years of experience and had larger class sizes showed more inappropriate beliefs.

Hegde (2005) investigated the relationships between India kindergarten quality and teachers' beliefs and practices regarding to DAP. Data were collected from surveys, observations, and interviews. Teacher Beliefs Scale (TBS) and Instructional Activities Scale (IAS) (Charlesworth et al., 1991) were used to obtain India kindergarten teachers' self-reported beliefs and practices. The teachers' actual classroom practices and the quality of classrooms were measured by Classroom Practice Inventory (CPI) (Hyson et al., 1990) and the Quality Observation Scale (Datta, 2001). The participants included 20 teachers of 5-year-old children (upper kindergarten teacher) and 20 4-year-old children (lower kindergarten teacher) from English schools in middle to higher income areas in Mumbai,

India. The data were analysed by ANOVAs, Pearson product moment correlations, and multiple regressions.

The results showed that there was no difference between upper and lower kindergarten teachers' developmentally appropriate beliefs and practices. Scores on actual classroom practice and classroom quality observation also indicated no difference between upper and lower kindergarten teachers. However, the discrepancy between upper kindergarten teachers' beliefs and practices was higher than lower kindergarten teachers. Significant correlations were found between teachers' stated beliefs and practices, between self-reported practices and observed practices, and between teacher beliefs, observed practices, and classroom quality. Interestingly, teacher stated beliefs and observed classroom practices showed no significant correlation.

Teachers in two-teacher classrooms had stronger beliefs about DAP and had more appropriate practices in their classrooms. Two-teacher classrooms had higher quality than one-teacher classrooms. In addition, teachers with high developmentally appropriate beliefs and self-reported practices had more developmentally appropriate observed practices. Class size and teacher-child ratio influenced the observed classroom quality. Classrooms with smaller size and lower ratio had more developmentally appropriate teaching and activities as well as higher quality.

Several studies about Korean early childhood teachers' beliefs and practices regarding DAP have been conducted by Suh (1994), Shim and Herwig (1997), and Kim, Kim, and Maslak (2005). Suh (1994) compared beliefs and values about public kindergarten program and practices of Korean kindergarten parents, teachers, and principals. The participants included 280 parents, 179 kindergarten teachers, and 148

principals from three provinces in Korea. The Questionnaire on Public Kindergarten Programs and Practices was used to obtain beliefs and values of parents, teachers, and principals. Part of Questionnaire for Elementary Principals and Teachers developed by Bryant et al. in 1989 based on NAEYC guidelines was used for examining the attitude and knowledge of kindergarten principals and teachers toward DAP. Chi-square, t-test, and ANOVA were used to analyse the data.

Most Korean kindergarten parents, teachers, and principals showed strong agreement with providing public kindergarten education for 5-year-old children. They preferred public kindergarten teachers with early childhood education background. The kindergarten teachers valued the importance of affective development, play, social skill development, motor skill development, child selected activity, and parent involvement in public kindergarten more than the parents and principals. Teachers valued academic skill development and teacher directed activities were less important in the kindergarten education than parents or principals. Further, kindergarten teachers showed the highest agreement with developmentally appropriate practices when compared with parents and principals' beliefs. In addition, kindergarten teachers with early childhood education backgrounds had stronger developmentally appropriate beliefs and values than teachers with elementary education background. The level of education also influenced teachers' knowledge about developmental appropriateness; thus, it was found the higher the teacher education level, the stronger their developmental appropriateness knowledge.

Shim and Herwig (1997) examined the beliefs and practices of Korean early childhood teachers in public and private programs. The participants were 54 child care teachers, 58 private kindergarten teachers, and 45 public kindergarten teachers. The

Teacher Questionnaire (Charlesworth et al., 1989) translated into Korean to obtain the beliefs and self-reported practices of the teachers. Data were analysed using one-way ANOVA and post hoc and paired t-test. The results revealed that many public kindergarten teachers had higher levels of education and more teaching experience than teachers in private kindergartens or child care centres. Public kindergarten teachers also reported more frequent use of developmentally appropriate activities in their classrooms than other teachers. In contrast, child care teachers had the least teaching experience and showed less expectation and use of appropriate activities in their classrooms. Overall, Korean child care, private kindergarten, and public kindergarten teachers demonstrated a high desire toward DAP, but low developmentally appropriate teaching.

Kim, Kim, & Maslak (2005) investigated Korean kindergarten and child care teachers' understanding and use of DAP by using the Teacher Beliefs Scale (TBS) and the Instructional Activities Scale (IAS) developed by Charlesworth et al. (1991) based on the NAEYC guidelines. Study participants were 211 kindergarten teachers and 208 child care teachers. Multivariate analyses of variance (MANOVA) and discriminate analyses were used to analyse the data. The results indicated kindergarten teachers reported stronger agreement with DAP and more frequent use of appropriate activities than child care teachers. Reported inappropriate beliefs and practices were two important contributors for the significantly different responses for DAP between kindergarten and child care teachers.

Taiwan early childhood education scholars are also interested in exploring the acceptance of DAP by early childhood teachers. It was compared with the beliefs of kindergarten parents, teachers, and principals regarding DAP using the Teacher Beliefs Scale of the Teacher Questionnaire developed by Charlesworth et al. (1991) based on the

NAEYC 1987 guidelines. Fifty-seven kindergarten principals, 70 kindergarten teachers, and 59 parents of 5-year-old children in Taichung, Taiwan participated in this study. Data were analysed using one-way ANOVA and Scheffe test. For DAP items, Taiwan kindergarten parents, teachers, and principals all believed that social skills opportunities were important for kindergarten programs. All the groups believed in some developmentally inappropriate practices. Parents showed more favour to traditional teaching than teachers and principals. In addition, parents, teachers, and principals showed significantly different opinions on the domains of inappropriate activities and materials, and appropriate social and inappropriate structures for DAP. The response to the domains of appropriate individualization, appropriate literacy activities, and appropriate integrated curriculum beliefs showed no difference among these three groups. Overall, kindergarten parents, teachers, and principals in Taichung, Taiwan, showed positive acceptance toward DAP.

Yang also examined the similarities and differences of Taiwan kindergarten teaches' and US kindergarten teachers' responses about DAP. Both Taiwan and US kindergarten teachers demonstrated belief in the DAP items. US kindergarten teachers stated higher support on stories read, dictate stories, see, and use print, and input from parents than Taiwan kindergarten teachers. The majority of both groups agreed the item "social skills opportunities" is very important. On the other hand, the majority of US teachers believed that separate subject at separate time, seatwork, flashcards, authority-starts-treats to encourage appropriate behaviour , and learn to read were not important. Meanwhile, authority-punishment to encourage appropriate behaviour , recognize letters, and colour within lines was not important for the most of Taiwan kindergarten teachers.

A study that compared the perspectives of the best instructional practices in early childhood programs related to DAP among Taiwan parents and teachers of 4- and 5-year-olds was conducted by Chang (2003). The participants were 826 parents and 296 teachers from public and private kindergartens in Taipei, Taichung, Tainan, Kaohsiung, and Hualien, in Taiwan. Data were collected by using the Perspectives of Instruction in Early Childhood Education (PIECE) developed by the researcher. Twenty of the 26 statements of the questionnaire were adapted from a part of the Classroom Practices Inventory (CPI) developed by Hyson et al., (1990) based on NAEYC guidelines. To distinguish the locations of the participants, the researcher used different coloured questionnaires for the different areas. Data were analysed by using a 2 x 2 multivariate analysis of variance. Developmentally appropriate classroom instructional practices (DACIP), developmentally inappropriate classroom instructional practices (DICIP), developmentally appropriate educational home practices (DAEHP), and developmentally inappropriate educational home practices (DIEHP) were the four dependent variables. The results indicated that kindergarten parents and teachers had different perspectives regarding DICIP, DAEHP, and DIEHP. In addition, when comparing the perspectives of parents and teachers regarding different age levels of children, no significant differences were found on the perspectives related to DACIP, DICIP, DAEHP, or DIEHP. Overall, both parents and teachers in Taiwan believed that developmentally appropriate classroom instructional practices were very important for early childhood education.

Lin (2004) used surveys, classroom observations, and interviews to examine Taiwanese early childhood teachers' beliefs about DAP curriculum. Survey data were collected by two researchers at two different periods. Four hundred fifty-nine participants

were teachers, administrators, and caregivers of 3- to 6-year-old children in Taipei (urban area), Miaoli, Hsinchu, and Changhua (rural/suburban areas) Taiwan. The participants' beliefs about curriculum were obtained by using the Teachers Beliefs Scale developed by Charlesworth et al. (1993). The questionnaire was translated into Chinese by the researcher. Four teachers with different beliefs, from different locations, and in different types of early childhood programs participated in the interviews and classroom observations. The teachers' actual classroom practices were recorded by Early Childhood Environment Rating Scale Revised (ECERS-R) developed by Harms, Clifford, and Cryer in 1998. Documents and artefacts were also used to investigate the consistency between teachers' beliefs and actual classroom practices. The factor structure and the internal consistency of the Taiwanese version of the TBS were examined by components analysis and Cronbach's alphas. Three of four factors (teacher- directed/academic instruction, developmentally appropriate practices/social-cultural curriculum, active and interactive learning) were higher the minimum .30 and were used in the study.

Cronbach's alphas of the three factors were .72, .71, and .75 respectively. The results indicated that Taiwanese early childhood teachers had stronger beliefs toward DAP than inappropriate practices. However, there were 6 items that Taiwanese early childhood teachers did not show consistency with DAP philosophy. They were evaluating performance on worksheets and workbooks, classroom activities responsive to individual differences in development, allowing children to cut their own shapes, plan their own creative activities, using workbooks and ditto sheets, using teachers' authority through punishment and/or reprimands to encourage appropriate behaviour , and forming letters correctly on a printed line. In addition, teachers who worked in urban areas or public

settings and had early childhood education related majors or higher levels of education had stronger beliefs about DAP than teachers who worked in rural areas or private settings and had no early childhood education related majors or had lower levels of education. More access to educational resources and more competition for recruiting students served as contributors for urban teachers' strong DAP beliefs.

In the interviews and classroom observations, the four Taiwanese kindergarten teachers showed strong beliefs about the importance of ethic education and self-help training in curriculum which was not included in the TBS survey items. Parents' input was the primary factor on teachers' teaching decision-making and practices. The consistency between teachers' beliefs and actual practices only appeared on teacher-parent relationships, not on curriculum or teacher-student relationships.

Fei (1995) used the Teacher Questionnaire developed by Charlesworth et al in 1991 to examine Massachusetts kindergarten teachers' beliefs and practices about DAP. Samples were randomly selected from 150 schools in 351 school systems in Massachusetts. Three teachers in each school were invited to participate in this study. One hundred twenty-six teachers completed and returned the questionnaires. Frequency distributions, correlations, and analysis of variance were used to analyse the data. A positive correlation was found between the respondents' belief scores and practice scores. Significant correlation was shown between teachers with recent bachelor's degrees and teacher beliefs scores, but not practice scores. The relationships between teachers with recent advanced college/graduate training and teacher belief and practices scores were strong. Veteran teachers showed high beliefs and practices towards DAP. In addition, kindergarten teachers who attended more professional development activities had higher scores on both belief

and practice scales. Kindergarten teachers with early childhood education degrees or had more teaching experiences in preschool and kindergarten scored higher on both DAP scales than teachers with other majors. There was no difference between beliefs and practices of teachers in large and small communities. Furthermore, there was no difference in DAP scores between teachers who changed their beliefs and practices in their teaching career and teachers who did not change.

Idaho kindergarten teachers' beliefs and practices regarding kindergarten curriculum match with developmentally appropriate practices including the focus areas of assessment and teaching strategies were examined by Harman (2001). Twenty-one questions were utilized to determine the extent to which Idaho kindergarten teachers agreed with DAP. Teachers' agreement and implementation were shown by marking an appropriate number on the four-point Likert scales. Subjects of this study were 551 full- or part-time public kindergarten teachers of 5- and 6-year-old children in Idaho. Three hundred forty teachers completed and returned the questionnaires. Descriptive statistics and t-test were presented in the study.

In this study, 97.4% of respondents were female teachers. Seventy-five percent of the responding kindergarten teachers had a bachelor's degree and 21% had a master's degree. Idaho kindergarten teachers indicated strong agreements with developmentally appropriate assessment and teaching strategies. The results further showed that teachers who had more influence from their principals, peer teachers, or textbooks indicated less developmentally appropriate beliefs. About a quarter of the responding teachers had fewer than four years of experience in teaching kindergarten. Generally, Idaho kindergarten teachers held moderate agreement towards developmentally appropriate beliefs. They had

strong beliefs that student work and teacher observation were the most appropriate ways to assess children's achievement. The teachers also believed that use of open-ended and self-expressive materials were effective teaching strategies. The idea of not retaining kindergarten children was not accepted by most teachers. The use of time-out and predetermined curricular were acceptable and desirable by the Idaho kindergarten teachers. In addition, the teachers also showed moderate agreement on DAP. The teachers often used portfolios and observations to assess children's growth. They regularly used learning centres and art and music materials in their classrooms. Overall, the Idaho kindergarten teachers had more developmentally appropriate beliefs than practices.

McMullen (1999) examined the characteristics of early childhood teachers who engaged in the best practices. Participants included nine preschool teachers of three- to five-year-old children from Montessori, Head Start, and multi-categorical special needs programs and eleven from public elementary schools. The Teachers' Beliefs and Practices (Charlesworth et al., 1991) and Classroom Practices Inventory (Hyson et al., 1990) assessed preschool teachers' DAP beliefs and practices. Primary teachers' DAP beliefs and practices were examined using the Primary Teachers' Questionnaire (Smith, 1993) and Scale of Primary Classroom Practices (Burt & Sugawara, 1993). Data were gained from teacher survey and classroom observation. The author used t-test and multiple regressions to analyse the data.

Beliefs about DAP and actual classroom practices of preschool and primary teachers showed significant differences. Preschool teachers had higher scores on both beliefs and practices than primary teachers. Further, teachers' beliefs about DAP highly correlated with their classroom practices. Teachers who had high DAP beliefs had early

childhood or child development education backgrounds. Moreover, primary teachers who had early childhood education or elementary degrees with preschool teaching experiences had higher scores on DAP practices than those who had elementary degrees with no preschool teaching experience. Supports and barriers for beginning prekindergarten and kindergarten teachers' DAP were investigated by Jones, Burts, Buchanan, and Jambunathan (2000) using surveys, observations, and interviews. Nine participants were from public prekindergarten and kindergarten in six school districts in a large southern state. The Teacher Questionnaire (Charlesworth et al., 1991) and the Checklist for Rating Developmentally Appropriate Practice in Kindergarten Classroom (see Charlesworth et al., 1991) were used. Data were analysed by one tailed t test and content analysis.

The teachers in this study demonstrated positive self-reported beliefs and practices toward DAP. In the classrooms, they used more DAP than developmentally inappropriate practices. The majority of teachers ranked themselves as the most important influences on their teaching. Administrators, co-workers, parents, curriculum requirements, and resources were teachers' support and barriers for their implementation of DAP. The teachers suggested that teacher education programs should provide more field experience and classroom management courses.

McMullen and Alat (2002) examined the relationship between educational backgrounds and DAP of caregivers and teachers of 3- to 6-year-old children in Indiana. The one hundred fifty-one participants were from family child care homes, child care centres, Head Start center, church child center, public preschools, and Montessori preschool programs. The Teacher Belief Scale (TBS) of the Teacher Questionnaire (Charlesworth et al., 1991) was used to obtain beliefs of the caregivers and teachers.

Pearson correlation analysis, two-way analyses of variances, and factor analysis were used to analyse the data. The results indicated that highest degree obtained had significant correlation with the DAP scores. The teachers with graduate degrees and early childhood education backgrounds had higher DAP scores than teachers with high school/GED/CDA/associate degree and bachelor degrees and non-early childhood education backgrounds.

2.3.4 Relationship between Kindergarten Teachers' Self-efficacy and their Working Experience in Employing Developmentally Appropriate Practice

Self-efficacy influences the teaching and learning processes like high self-efficacy increases a teacher's enthusiasm for teaching (Allinder, 1994), and self-efficacy has also been positively correlated with teachers' efforts to enhance their teaching skills (Tschannen-Moran & Woolfolk Hoy, 2001). Accordingly, it can also be said that the self-efficacy of pre-service early childhood teachers is a valuable predictor of the teachers' future practices (Sak, 2015). Researchers have suggested that differences in teacher characteristics may affect teachers' sense of efficacy. Teaching experience may be one teacher characteristic that is related to teacher self-efficacy, but findings have been inconsistent (Guo, Piasta, Justice,& Kaderavek , 2011a).

In a quantitative study, Guo et al. (2011b) examined the relationship between teaching experience, teachers' sense of community, and children's engagement with teacher self-efficacy. A 20-item version of Bandura's (1997) teacher self-efficacy scale was used to measure teachers' sense of efficacy. The questionnaire assessed teachers' instructional and disciplinary self-efficacy, as well as teacher efficacy to create a positive school climate. Children's engagement was assessed by using the CLASS (Pianta et al.,

2008). Two questionnaires were completed by 48 preschool teachers, dispersed among 38 different preschool centres. All 48 teachers had a CLASS observation completed by a CLASS master observer. Of the 38 reported preschool centres, 27 centres were affiliated with Head Start, and 11 centres were state-funded prek/Title I centres. Guo et al. (2011b) reported that teacher collaboration and teacher decision-making influence were both positively associated with teacher self-efficacy. Teaching experience, as measured in total years of teaching, was positively related to children's engagement. However, teaching experience and children's engagement, as measured by the CLASS assessment, did not correlate with self-efficacy. Teachers that perceived higher levels of collaboration in their building was shown to be a predictor of child engagement and individual teacher self-efficacy. Furthermore, preschool teacher self-efficacy was predicted by the interaction between the teachers' sense of collaboration and children's engagement. This second finding suggests that teachers' sense of collaboration is essential in fostering teacher self-efficacy, which expands the growing literature supporting the importance of encouraging professional collaboration among teachers (Guo et al., 2010; Woolfolk Hoy & Spero, 2005).

Sak (2015) conducted a study consisting of 451 (220 males, 231 female) pre-service early childhood teachers from 10 random early childhood education programs in Turkey to examine the self-efficacy of early childhood pre-service teachers in the Middle East, and to test for differences in self-efficacy by gender. All participants were 4th-year university students who had recently completed their student teaching field experiences. The Turkish-language version of the TSES, derived from the original teacher self- efficacy scale developed by Tschannen-Moran & Woolfolk Hoy (2001), was used to measure

teacher self-efficacy. The TTSES is made up of three subscales: (a) efficacy for instructional strategies, (b) efficacy for classroom management, and (c) efficacy for student engagement. Independent t-tests were conducted to compare pre-service male and female early childhood teachers' self-efficacy. Sak (2015) reported that male pre- service teacher self-efficacy was significantly higher than female pre-service teacher self- efficacy in regards to classroom management. No significant differences between male and female pre-service teachers in self-efficacy were found regarding instructional strategies. Overall teacher self-efficacy scores showed male pre-service teachers reported higher scores than female pre-service teacher self-efficacy scores.

Woolfolk Hoy and Spero (2005) also used Bandura's (1997) teacher self-efficacy scale in a study consisting of 53 preservice teachers. Participants also completed a 10- item abbreviated version of Gibson & Dembo's (1984) teacher efficacy scale. Results indicated that general teacher self-efficacy increased during student teaching. However, personal teaching self-efficacy increased at the conclusion of student teaching, but then decreased after the first year of teaching, as measured by the Gibson & Dembo (1984) instrument. Using Bandura's (1997) teacher self-efficacy instrument revealed similar results in which teacher self-efficacy increased from the beginning of student teaching to the conclusion of student teaching, and self-efficacy decreased at the conclusion of the first year of teaching.

These findings contradict those of a previous study conducted by Hoy and Woolfolk (1990) in which general teacher self-efficacy decreased during the student teaching year. A sample of 191 student teachers completed a 22-item version of the Gibson and Dembo (1984) teacher self-efficacy instrument before and after their student- teaching experience. Methodologically, Hoy & Woolfolk (1990) separated the two types of

efficacies measured by the instrument. A general teacher self-efficacy score was calculated, along with a personal teacher self-efficacy score. Some researchers (Ashton & Webb, 1986; Evans &Tribble, 1986; Guskey, 1988) combined the scores of the general teacher self-efficacy portion of the instrument with the personal teacher self- efficacy scores, thus, using one total efficacy score in their analysis of the data. The work of Hoy and Woolfolk (1990) suggests that combining the scores may be misleading. When the scores are combined, it may appear that teachers have higher self- efficacy scores than they really do. General teacher self-efficacy is represented by items that may be out of the control of the teacher, such as family/parent engagement and student assessment implementation. Personal teacher self-efficacy items represent the internal feelings that the teacher has, such as getting through to difficult students, establishing classroom management systems, and fostering student creativity (Tschannen-Moran & Woolfolk Hoy, 2001).

A quantitative study conducted by Rimm-Kaufman & Sawyer (2004) examined the relationship between teaching experience and self-efficacy among 140 teachers who taught kindergarten through third-grade. A 19-item version of the Bandura (1997) TSES was used to gauge teacher self-efficacy. Their findings are consistent with other empirical studies showing a positive correlation between years of teaching experience and teacher self-efficacy (Kim & Kim, 2010; Woolfolk Hoy & Spero, 2005). Tschannen- Moran and Hoy (2007), in a sample of 255 graduate teachers ranging between 1 and 29 years of teaching experience, examined whether career teachers had higher senses of teacher efficacy compared to novice teachers, with a mean of 8.2 years (SD = 6.8). Career teachers (greater than 4 years of teaching experience) rated themselves significantly higher than novice teachers (less than 4 years of teaching experience) on overall self-efficacy, as well as in the

instructional strategy and classroom management domains. No significant difference between career and novice teachers was observed on the student engagement domain. Lower mean self-efficacy beliefs were found in novice teachers compared to career teachers.

The work of Kim and Kim (2010) provided further support that linked years of teaching experience and teacher self-efficacy in their study of 169 early childhood educators who taught children age 0 to 5 years old in 45 preschools and childcare centres across South Korea. A translated version of Bandura's (1997) teacher self-efficacy scale was used to measure self-efficacy, which consists of 30 multi-dimensional and situational questions. Bandura's (1997) questionnaire incorporates a 10-point Likert scale comprising seven constructs of efficacy: (a) efficacy to influence decision-making, (b) efficacy to influence school resources,(c) instructional self-efficacy, (d) disciplinary self- efficacy, (e) efficacy to enlist parental involvement, (f) efficacy to enlist community involvement, and (g) efficacy to develop a positive school environment.. Kim and Kim (2010) found that teacher self-efficacy was positively correlated to teaching experience, corroborating the results found in previously published empirical studies (Woolfolk Hoy & Spero, 2005).

A quantitative study conducted by Bullock et al. (2015) validated the results of the Kim and Kim (2010) study, finding that early childhood educators that had more years of teaching experience than their peers reported higher levels of teacher self- efficacy. Preschool teacher self-efficacy was examined in relationship to classroom management, which was measured by the classroom management subscale of the Tschannen-Moran & Hoy (2001) self-efficacy instrument. In total, 395 early childhood educators from preschool centres in Ontario, Canada completed the teacher self-efficacy scale. In a similar study

examining preschool teacher self-efficacy and classroom management, Klassen, & Chiu (2010) also reported that years of early childhood teaching experience was positively and significantly correlated to classroom management self-efficacy. In their quantitative study, 1,430 teachers across Western Canada completed the short version of the teacher self-efficacy scale (Tschannen-Moran & Hoy, 2001). Teachers with an average of 23 years of teaching experience had significantly higher teacher self-efficacy scores than teachers with fewer than 23 years of teaching experience. Student engagement self-efficacy and job satisfaction were also positively correlated to years of teaching experience.

Similarly, a mixed-methods study conducted by Cheung (2008) found that teaching experience was related to teachers' perceived self-efficacy and school efficacy. Primary and elementary teachers from Hong Kong and Shanghai completed the Chinese version of the TSES. A 12-item version of the Tschannen-Moran & Hoy's (2001) TSES was completed by 1,300 teachers. Of the 1,300 teachers, 725 in-service primary and elementary teachers from 28 different schools in Hong Kong participated in the study. Teachers came from schools ranging from government, aided, and private schools to direct-subsidy schools. In Shanghai, 575 in-service primary teachers from 22 different primary schools participated. Among the 575 teachers, 430 were from public schools and 145 were from private schools. Although Shanghai in-service teachers were found to have higher teacher efficacy than Hong Kong in-service teachers, the study showed that some aspects, such as gender and years of teaching experience, might be predictable for both locations (Cheung, 2008).

The association between teacher self-efficacy and student performance was posited to be bidirectional (Ross, 1998), given that it is possible that teachers with more

developmentally-oriented beliefs provide higher quality learning opportunities in their classrooms (Pianta et al., 2002). These teachers may elicit a more positive effect and higher achievement from their students, which, in turn, makes the teachers feel more efficacious. To strengthen the argument positioned by Ross (1998) and Pianta et al. (2005), Jamil, Downer, and Pianta (2007) conducted a study consisting of 509 pre-service teachers' final year at a state university. Teacher self-efficacy was measured by the TSES, long version (Tschannen-Moran & Woolfolk Hoy, 2001). Mastery teaching performance was measured by the CLASS (Pianta et al., 2008). Contrary to expectations, teachers' mastery teaching performance was not a significant predictor of teacher self- efficacy at the end of the student-teaching experience. The results suggest that how teachers performed in the classroom during student-teaching was not related to how confident they felt about the quality of their future performance as teaching professionals (Jamil et al., 2007). Despite prior work on teacher self-efficacy suggesting that mastery experiences provide the most influential information in self-efficacy development, no relationship was reported with teacher self-efficacy (Jamil et al., 2007). These findings might suggest that the structure and formation of teacher self-efficacy beliefs is different in pre-service populations since they have not spent as much time in the classroom (Tschannen-Moran & Woolfolk Hoy, 2001; 2007), relying more heavily on pre-existing characteristics of the teachers than actual teaching experiences.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter describes the methods adopted in carrying out the research study under the following sub-headings: philosophical assumption, research design, the population of the study, sample and sampling procedure, instrumentation, data collection procedure, data analysis procedure and ethical considerations.

3.1 Philosophical Assumption and Research Approach

The philosophical assumptions underpinning this study was post positivism. Post Positivists are of the view that when data is collected and analyzed, knowledge is gained hence facts can be separated from values. Hence, only facts and the use of scientific methods was concentrated on in the study. Post positivism provides a better understanding into the phenomenon of study (Creswell, 2014).

It also allowed the application of quantitative method to address the research questions as well as the hypothesis generated for the study. The data collected for the study was measured and analyzed statistically. This philosophical paradigm enabled the collection of large amounts of data for generalization, gave a greater opportunity to retain control of the research process and finally gave a clearer theoretical focus for the research. The philosophical assumption allowed the use of the quantitative approach for the study.

Quantitative research approach focuses on gathering numerical data and generalizing it across groups of people or to explain a phenomenon (Babbie, 2010) and their relationships. Quantitative approach answers questions on relationships within measurable variables with an intention to explain, predict and control a phenomenon.

Quantitative study usually ends with confirming or debunking of the hypothesis tested. It uses questionnaires to generalize concepts more widely and predicts future results.

The strength of the quantitative approach is that it allows greater objectivity and accuracy of results; it enhances generalization of the results; vast sources of data can be summarized and comparisons made across categories over time (McNabb & David, 2007). With the numerous benefits outlined, the quantitative approach is not devoid of weaknesses. The major weakness is the minimal interaction with the respondents. This weakness was curbed by personal administration of the questionnaires to clarify, explain and encourage the respondents to finish answering the research question in time for collection.

3.2 Research Design

Research design is the blueprint of the entire study. It provides a framework for the process of collecting, analyzing, interpretation of data and subsequently indicates which research method is appropriate (Walliman, 2006). Data was collected on kindergarten teachers' self-efficacy and their developmentally appropriate practices at one point in time, focusing on studying and drawing inferences from public schools in selected districts in the Central Region.

Therefore, cross-sectional survey design was adopted for the study. The design has the merit of being appropriately suited to gathering demographic data that describe the composition of the sample. Moreover, study does not consciously aim at any active intervention to produce and measure change or to create differences Kothari & Garg, 2014). The findings derived from the study could easily be generalized (Kothari & Garg, 2014) to the entire population. The design was employed to help produce a good amount of

responses from a wide range of kindergarten teachers. This enabled the study to collect enough data to determine the nature of the group studied as it existed at the time of the study. Also, cross-sectional survey design utilizes tools such as percentages frequencies and mean in the analysis of the data collected. Despite the numerous benefits associated with the cross sectional survey design, it lacks the feel of the direct voices in which the respondents express themselves. Therefore, the questionnaires were personally administered for clarifications and explanations of concepts to the respondents in order to minimize this weakness. Finally the design enabled the generalization of research findings about kindergarten teachers in the central region.

3.3 Population of the Study

According to Burns and Grove (2003), population is the total elements that meet the criteria to be included in a study. That is the entire participants to be focused on in the study. The target population for the study was all kindergarten teachers in Central Region teaching in public Schools. The accessible population for the study was kindergarten teachers from two (2) randomly selected districts from the twenty (20) districts in the Central Region. A list obtained from the Central Regional Metropolitan Directorate of the Ghana Education Service at the time of the study which showed that there were 1417 public kindergarten schools with 2,838 substantive teachers respectively in the Region.

3.4 Sample and Sampling Procedure

Simple random sampling, and purposive sampling techniques were utilized in the study. Central Region has 20 districts and simple random sampling technique was used to select two districts out of the 20 districts for the study. The two districts selected eventually were the Gomoa West District and Cape Coast Metropolitan. Moreover, the simple random

sampling technique used to select the two districts was done using the lottery method so that each and every district would have an equal chance of being selected for the study. Purposive sampling was used for the final selection of the respondents for the study because representative sampling can be obtained using a sound judgment which will result in saving time during the research (Black, 2010). That is the main focus was to select the main class teachers from Kindergarten one and kindergarten two because they had the specific qualities that was required for the study.

Furthermore, Ghana Education Service statistics for 2017/2018 academic year indicate that Gomoa West District had 74 public kindergarten whiles Cape Coast Metropolis had 63 public kindergarten. In all, 137 public kindergarten schools were selected for the study. In the 137 kindergarten schools, all the substantive kindergarten teachers' in KG1 and KG 2 were purposively selected for the study. A total of 274 kindergarten teachers were finally sampled as respondents for the study. This was because all the teachers had all the characteristics to be included in the study to enhance the generalization of the findings.

3.5 Instrumentation

Research instrument serves as tool used to collect data (Bell, 2005). A set of questionnaires was adopted as an instrument for data collection. A set of questionnaire was used because it gave fewer opportunities for bias, it was consistent, stable and of uniform measure without differences hence respondents gave their objective view in answering the questions. In most cases, respondents preferred to write rather than talk about certain issues (Twum, 2016). This encouraged them to fill the questionnaires readily on time. Finally, it provided a wide coverage of respondents.

Closed ended items were used for the study because it aimed at ensuring uniformity in the response and thereby preventing subjectivity of any kind. Likert-type scale was found suitable for measuring how strong respondents felt and it also enabled the respondents to indicate the degree of their beliefs in a given statement (Abroampa, 2007). Tschannen Moran and Hoy's long version of the Ohio State Teacher Self-Efficacy Scale (OSTES) with the three variables (learner engagement, instructional strategies, and classroom management) was adapted. It was used together with a self-designed statements on kindergarten teacher's perception about Kindergarten Education and kindergarten teachers Developmentally Appropriate Practice (DAP) based on the 12 principles of DAP by espoused by the National Association of Education of the Young Child (NAEYC). In order for the questionnaires to gather relevant data, all the items in the questionnaire were generated from the research questions.

The first part of the questionnaire included 5 items measuring teachers' demographic characteristics such as the district, gender, age, qualification, number of years of teaching at the present level. The second part consisted of 8 items measuring kindergarten teachers' perception of teaching at the kindergarten level. The third part consisted 22 items measuring the general self-efficacy of kindergarten teachers covering (Learner Engagement, classroom management and instruction strategies). The fourth part also measured kindergarten teachers developmentally appropriate practices covering all the twelve principles of DAP hence 12 items.

The study measured kindergarten teachers self – efficacy and their developmentally appropriate practice beliefs on a four point likert-type scale agreement with values ranging from 1 (strongly disagree) to 4 (strongly agree). The four point likert scale was chosen

because it was seen as more appropriate than the traditional five point scale due to the recommendation in Casely and Kumar (1998) as stated in Abroampa (2007). It was explained that, there is an increase in the probability of respondents to select responses in the centre of the scale if an odd response scale is used. Respondent might use "not sure" to avoid making a real choice. Also, respondents will be obligated to choose between "agree" and "disagree" attributes with perceptions. The close ended items demanded the respondents to tick responses that best suited them. The focus was to ensure uniformity in the responses thereby preventing subjectivity of any form. Close ended items also ensured effective editing and analysis of data.

Likert-type scale was chosen because it is the most universal method for survey collection, therefore it is easily understood. It does not force the respondent to take a stand on a particular topic, but allows them to respond in a degree of agreement; this makes answering of questions easier for the respondent (Dolnicar Grun, Leisch, & Rossiter, 2011).

3.6 Validity, Reliability and Pre testing of the Instrument

Validity checks the accuracy and credibility of the findings (Creswell, 2005). Validity checks were done to ensure that the research instruments measured exactly what it were supposed to measure. To determine the content validity of the research instrument, the supervisor examined the research questions alongside each item on the questionnaire to ensure that the instruments measured what they were supposed to measure and to check for errors. The necessary corrections were made on the set of questionnaire.

The questionnaires were pretested to determine the overall reliability of the research instrument. Cronbach's alpha was used to test for the internal consistency of the instrument

and reliability. This helped to reshape the instrument by correcting possible weaknesses, inadequacies that could characterize the items. Questionnaires were administered to 20 kindergarten teachers in the Effutu Municipality because they had the same characteristics as the actual respondents for the pre testing. Analysis of the pre-test data established the reliability coefficient for all items in the questionnaire as .874 .George & Mallery (2003) interpreted this coefficient to mean that the internal consistency of the items in the scale was good, and Gliem & Gliem (2003) would described it as high, making the instrument acceptable. The cronbach's coefficient alpha was deemed appropriate. Pre-testing was also done to help the actual respondents to experience no difficulties when completing the final questionnaire.

3.7 Data Collection Procedure

An introductory letter was collected from the Early Childhood Education Department (UEW) to seek permission at the Cape Coast Metropolitan Education Office and the Gomoa West District Education Office before embarking on the research. The Cape Coast Metropolitan Education office and the Gomoa West District Education Office granted permission by issuing letters all the Head teachers of the kindergarten in the two selected districts. The purpose of the study was stated in the letter, further explanation was given to the respondents and the cooperation of the school authorities was sought.

The questionnaires were personally administered to the respondents in their respective schools. It took five weeks to administer the questionnaires. The schools were visited in the first week of the reopening date. Entry in each school was sought by presenting approval letter from the District and Metropolitan directors of Education in Gomoa West and Cape Coast respectively who gave permission to engage the kindergarten

teachers. In each school, the purpose of the study was explained to the respondents and assured that their responses would be used solely for academic purposes and treated with maximum confidentiality. The respondents were also assured that their names and schools were not going to be used in the write up. In each selected school, KG 1 and KG 2 substantive teachers were asked to fill the questionnaires. Two hundred and seventy four and 274 questionnaire were administered and a total of 264 questionnaires were duly filled and returned hence 96% return rate.

3.8 Data Analysis Procedure

Data analysis involves limiting and simplifying the accumulated data to make it more understandable (Frankel & Wallen, 2000). It involves using appropriate techniques and procedures to develop meaningful summaries of the data. In analysing quantitative data, copies of the filled questionnaires were serially numbered and edited. The study employed both descriptive and inferential statistical tools in the analysis of the data to answer the research questions. The resultant data from the descriptive analysis were organised into tables of frequency and Means. Research hypotheses generated from the study were tested using Pearson Product Moment Correlation. Research question one, two and three were analysed using frequencies and Means. Research question four was also analyzed using Pearson Product Moment Correlation (PPMC) to show the relationship between kindergarten teachers' self-efficacy and their developmentally appropriate practice belief as well as the hypothesis looking at the statistical relationship between kindergarten teachers' self-efficacy and their teaching experiences.

3.9 Ethical Consideration

Ethical consideration is part of the research works and cannot be avoided. Respondents were assured their protection from harm, exposure and anonymity. Ethical guidelines and legal rules were considered by the researcher. According to Bailey, Hennink and Hutter (2011), ethical issues have the following considerations:

i. Informed consent. Individuals should be provided with sufficient information about the research, in a format that is comprehensible to them, and make a voluntary decision to participate in a research study.

ii. Self-determination. Individuals have the right to determine their own participation in research, including the right to refuse participation and also pull out at any time.

iii. Minimization of harm. Researchers should not do any harm to participants or put them at risk.

iv. Anonymity. Researchers should protect the identity of research participants at all times.

v. Confidentiality. Researches should ensure that all data records are kept confidential at all times.

From considerations above, it should be noted that the consent of all participants were obtained prior to the commencement of the study. The purpose of the study was explained to the respondents, the expected time commitments and the procedure for the research activities. All participants were given a guarantee of confidentiality and anonymity in reporting the information provided for the study.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Overview

This chapter is designed for the presentation of results and discussion of the analysis quantitative data gathered for the study. Presentations under this section has been put into two main categories. The first part captures the analysis of the demographic data. The second part is for the analysis of the main data to generate answers for the research questions and the hypothesis are covered in the second segment. The data was analyzed and interpreted using mean ranges, frequencies and Pearson Moment Correlation to determine the direction of responses of respondents.

4.1 Demographic Characteristics of Respondents

Two hundred and seventy four (274) respondents were involved in the study. This was made up of kindergarten teachers from two selected district: Gomoa West District and Cape Coast Metropolitan. However, 10 of the questionnaires could not be retrieved. Therefore, the analysis and discussion were based on the data provided by 264 respondents. Details of the demographics of respondents have been presented in table 1 – 3 below

Table 1: Distribution of District and Gender

Items		Frequency	Percentage (%)
District:			
	Gomoa West district	147	55.7
	Cape Coast Metropolitan	117	44.3
Gender:	Male	40	15.2
	Female	224	84.8

Source: Field Data (2019)

The data in Table 1 shows that out of the 2 selected districts from the 20 districts in the Central Region, Gomoa West district had 147 (55.7%) of the kindergarten teachers responding to the questionnaire whiles 117 (44.3%) of the respondents were from the Cape Coast Metropolis. With respect to the gender, the data suggest that, majority 224(84.8%) of kindergarten teachers were females' whiles as low as 40 (15.2%) were males. In summary, there were more female participants than men which is the normal trend nationally and in the world as a whole concerning kindergarten teachers. There is also a general perception of early childhood as a female care giving institution mostly patronized by females in Ghana. Finally, more females (women) are found in the kindergarten because of their caring and nurturing nature.

Table 2: Distribution of Age Ranges and Academic Qualification of Respondents

	Frequency	Percentage (%)
Age Range:		
20-24 years	6	2.3
25-29 years	36	13.6
30-34 years	71	26.9
35-39 years	58	22.0
40-44 years	44	16.7
45-49 years	30	11.4
50-54 years	18	6.8
55-59 years	1	.4
Qualification		
Cert. in pre-school education	21	8.0
Diploma in basic education	59	22.3
Diploma in early childhood education	52	19.7
Degree in early childhood education	75	28.4
Degree in basic education	51	19.3
Postgraduate Diploma in education	5	1.9
Master Degree in education	1	0.4

Source: Field Data (2019)

It can be noted from the data in Table 2 that most of the kindergarten teachers constituting about 26.9% fall within the ages of 30-34 years and as low as 1 (0.4%) who form the minority were between the ages of 55-59 years. It may be deduced from the data that, whiles only 93(35.3%) kindergarten teachers were 40 years and above and as a result, may naturally be seen as matured enough to take care of children below six years, more than half of them 165(62.5%) were between the ages of 25-39 years who may be considered youthful. This is because a huge number of teachers who completed colleges of education and the recent recruitment of graduate teachers were posted to teach at that level fell within that age range.

As a corollary, that data in Table 2 further shows that, kindergarten teachers possess various kinds of professional qualifications. Kindergarten teachers had gone through varying programmes that qualifies them as professional kindergarten teachers. It ranged from certificate in preschool education to Master's in education. The data shows that 75 (28.4%) constituting the majority had degree in basic education with another 59 (22.3%) having diploma in basic education. Therefore, 134(50.7%) had training in basic education. However, it can be noted that 124(44.7%) has been specifically trained to teach in the early childhood level and have certificates in preschool education, diploma in early childhood and degree in early childhood education.

Table 3: Work Experience of Respondents

Experiences	Frequencies	Percentages
Less than 1 year	22	8.3
1-4 years	60	22.7
5-9 years	80	30.3
10-14 years	55	20.8
15-19 years	32	12.1
20 years and above	15	5.7

Source: Field Data (2019)

Table 3 shows the working experience of sampled respondents for the study. It is obvious from the table that respondents have taught at the kindergarten level for different number of years. Eighty (80) of the kindergarten teachers consisting of 30.3% who are the majority have been teaching the kindergarten between 5-9 years. However, minority constituting 15(5.7%) have been teaching for 20years and above. More than half of the kindergarten teachers constituting 61.3% have been teaching for less than 9 years. This is as a result of posting of professional teachers to fill the vacancies at the kindergarten due to the compulsory attachment of kindergarten to the basic school system in the new educational reform.

In summary, the background information revealed that a large number of the respondents were females and most of them were youthful. Majority of the kindergarten teachers have diploma and degrees in basic education instead of degree or diploma in early childhood education which does not make them professionally qualified to teach at the kindergarten level. Finally, more than half of the kindergarten teachers have been teaching for less than 9years.

4.2 Analysis of the Main Data

The following analyses have been presented from data gathered with questionnaires relating to kindergarten teachers self-efficacy and their ability to use developmentally appropriate practice for effective teaching in public schools in some selected districts in the central region.

Table 4: Kindergarten Teacher's Perception about Kindergarten Education

	SD Freq. (%)	D Freq. (%)	A Freq. (%)	SA Freq. (%)	Mean
I need professional skills to teach at the kindergarten.	0(0.00)	1(.4)	98(37.1)	165(62.5)	3.62
Appropriate qualification is needed to teach at the kindergarten not only teaching experience.	0(0.00)	0(0.00)	81(30.7)	183(69.3)	3.69
Kindergarten education creates the foundation for formal school.	0(0.00)	0(0.00)	66(25.0)	198(75.0)	3.75
Kindergarten education is not about singing, dancing and sleeping.	0(0.00)	1(.4)	69(26.1)	194(73.5)	3.73
Kindergarten education helps to give special care and attention to each child in the classroom.	0(0.00)	0(0.00)	91(34.5)	173(65.5)	3.72
It is important for parents to participate in the kindergarten education of their children.	0(0.00)	1(.4)	90(34.1)	173(65.5)	3.66
Kindergarten education develops all the developmental domains of the child.	0(0.00)	0(0.00)	74(28.0)	190(72.0)	3.65
Kindergarten education is important for every developing child.	0(0.00)	0(0.00)	79(29.9)	185(70.1)	3.70
Grand mean					**3.69**

Source: Field Data (2019) *Mean Ranges: SD: 1.00-1.59 D: 1.60-2.59 A:2.60-3.59 SA: 3.60-4.00 NB: SD: Strongly Disagree, D: Disagree, A: Agree, SA: Strongly Agree*

Table 4 analyses the perception of the teachers about KG education. The teachers had a higher perception that KG education creates the foundation for formal school (mean=3.75). Next, the teachers had the perception that KG education is not all about singing, dancing and sleeping. This generated a mean of 3.73. In a like manner, the teachers posited that KG education develops all the developmental domains of children. The least mean generated was 3.62. This was in response to the need for professionals to teach at the KG.

Notwithstanding the mean differences observed, it was deduced that the teachers had a strong and positive perception about KG education, since the grand mean of (3.69) lied between the ranges of 3.60-4.00.

Table 5: Kindergarten Teachers Self –Efficacy in Learner Engagement

	NT Freq. (%)	VL Freq. (%)	M Freq. (%)	GD Freq. (%)	Mean
How much can you do to get to the most difficult pupil?	0(0.00)	0(0.00)	91(34.5)	173(65.5)	3.66
How much can you do to help your pupils think critically?	0(0.00)	0(0.00)	77(29.2)	187(70.8)	3.71
How much can you do to motivate pupils who show low interest in school work?	0(0.00)	0(0.00)	86(32.6)	178(67.4)	3.67
How much can you do to get your pupils to believe they can do well in school work?	0(0.00)	0(0.00)	82(31.1)	182(68.9)	3.69
How well can you do to help your pupil's value learning?	0(0.00)	0(0.00)	79(29.9)	185(70.1)	3.70
How much can you do to enhance your pupils' creativity?	0(0.00)	0(0.00)	97(36.7)	167(63.3)	3.63

Table 5 continued

How much can you do to improve the understanding of a pupil who is struggling?	0(0.00)	0(0.00)	76(28.8)	188(71.2)	3.71
Grand Mean					**3.68**

Source: Field Data (2019) *Mean Ranges: NT: 1.00-1.59 VL: 1.60-2.59 M: 2.60-3.59 GD: .60-4.00* *NB: NT: Nothing VL: Very Little, M: Much GD: Great Deal*

Table 5 illustrates that KG teachers' belief in their ability to engage learners during classes. The information gathered showed that out of the seven items, teachers first considered themselves much capable of helping their pupils to think critically, as well as how much they can do to improve the understanding of a pupil who is struggling (mean=3.71). This was closely followed by their belief that they can help pupils to value learning. This generated a mean of 3.70. Again, the teachers they can do much to get pupils believe that they can do well in school work, which obtained a mean of 3.69. Conversely, teachers' responses toward how much they can do to enhance the creativity of pupils scored the least mean mark of 3.63.

To sum up, KG teachers have a great deal of self-efficacy in engaging pupils in learning since the cumulative mean (3.68) falls between the ranges of 3.60-4.00. That is they are able to effectively engage the children under their care in teaching and learning activities.

Table 6: Kindergarten Teachers Self –Efficacy in Instructional Strategies

	NT Freq. (%)	VL Freq. (%)	M Freq. (%)	GD Freq. (%)	Mean
How well can you respond to difficult questions from your pupils?	0(0.00)	0(0.00)	75(28.4)	189(71.6)	3.72
How much can you assess pupils' understanding of what you have taught?	0(0.00)	0(0.00)	77(29.2)	187(70.8)	3.71

	NT Freq. (%)	VL Freq. (%)	M Freq. (%)	GD Freq. (%)	Mean
To what extent can you set good questions for your pupils?	0(0.00)	0(0.00)	81(30.7)	183(69.3)	3.69
How much can you do to adjust your lessons to the proper level for individual pupils?	0(0.00)	0(0.00)	96(36.4)	168(63.6)	3.64
To what extent can you provide other explanation/example when pupils are confused?	0(0.00)	0(0.00)	76(28.8)	188(71.2)	3.71
How well can you implement other strategies in your classroom?	0(0.00)	0(0.00)	85(32.2)	179(67.8)	3.68
How well can you provide appropriate challenges for very capable pupils?	0(0.00)	0(0.00)	78(29.5)	186(70.5)	3.70
Grand Mean					**3.69**

Source: Field Data (2019) *Mean Ranges: NT: 1.00-1.59 VL: 1.60-2.59 M: 2.60-3.59 GD: 3.60-4.00*

Table 6 depicts the efficacy of KG teachers in applying instructional strategies. The teachers reported being much capable of responding to difficult questions from pupils, with a mean of 3.72. Next, equal means (3.71) were scored by the teachers indicating their abilities to assess pupils' understanding of what has been taught and also the extent to which they can provide other explanations or examples when pupils are confused. Likewise, the teachers' response to the extent to which they can set good questions for pupils earned a mean of 3.69. The lowest mean obtained (3.64) was the result of KG teachers'' reaction to how much they can do to adjust lessons to the proper level of individual pupils. In all, the ratings indicated that KG teachers have a great deal of belief

in their ability to use various instructional strategies with early learners. This is shown by a grand mean of 3.69, falling between the ranges of 3.60-4.00.

Table 7: Kindergarten Teachers Self –Efficacy in Classroom Management

	NT Freq.(%)	VL Freq. (%)	M Freq.(%)	GD Freq. (%)	Mean
How much can you do to control some pupils' disruptive behaviour?	0(0.00)	0(0.00)	81(30.7)	183(69.3)	3.69
To what extent can you make your expectations clear about pupils' behaviour?	0(0.00)	0(0.00)	95(36.0)	169(64.0)	3.64
How well can you establish routines to keep activities running smoothly?	0(0.00)	0(0.00)	75(28.4)	189(71.6)	3.72
How much can you do to get pupils to follow classroom rules?	0(0.00)	0(0.00)	69(26.1)	195(73.9)	3.74
How much can you do to calm a pupil who is disruptive and noisy?	0(0.00)	0(0.00)	87(33.0)	177(67.0)	3.67
How well can you establish a classroom management system with each group of pupils?	0(0.00)	0(0.00)	72(27.3)	192(72.7)	3.73
How well can you keep a few problem pupils from destructing an entire lesson?	0(0.00)	0(0.00)	90(34.1)	174(65.9)	3.66
How well can you respond to disobedient pupils?	0(0.00)	0(0.00)	75(28.4)	189(71.6)	3.72
Grand Mean					**3.70**

Source: Field Data (2019) *Mean Ranges: NT: 1.00-1.59 VL: 1.60-2.59 M: 2.60-3.59 GD: 3.60-4.00*

Data in Table 7 depicts KG teachers' responses regarding their self-efficacy in classroom management. The data shows that teachers have a great deal of belief in getting pupils to follow classroom rules. This is reflected by the highest mean of 3.74. The second

highest mean of 3.73 is a result of teachers' response to establishing a classroom management system with each group of pupils. The teachers' response to how well they can respond to disobedient children and also their capability of establishing routines to keep activities running smoothly were regarded as a great deal to them (mean=3.72). The least mean ranked (3.64) represented teachers' response to the extent to which they can make their expectations clear about their pupils' behaviour.

Overall, responses provided as shown in Table 4 indicate that KG teachers possessed a great deal of self-efficacy in managing their classrooms. This is represented by a cumulative mean of 3.70.

Table 8: General Level of Kindergarten Teachers' Efficacy

Self-Efficacy subscales	Mean	SD	Ranking	Remarks
Learner Engagement	3.68	0.466	3rd	GD
Instructional Strategies	3.69	0.461	2nd	GD
Classroom Management	3.70	0.460	1st	GD
Grand Average	**3.69**	**0.464**		

Source: Field Data (2019) Mean *Ranges: NT: 1.00-1.59 VL: 1.60-2.59 M: 2.60-3.59 GD: 3.60-4.00 NB: SD: Standard Deviation*

From Table 8, it can be deduced that KG teachers showed a great deal of their general level of self-efficacy. The teachers rated their efficacy in classroom management (mean=3.70) as the most important, followed by their efficacy in applying instructional strategies while engaging their pupils in learning was least rated. The above generated respective grand means of 3.70, 3.69 and 3.68. Conclusion can be therefore drawn that KG teachers are fully poised about their ability to teach beginners. A grand mean of 3.69 signifies that they have a great deal of efficacy in teaching pupils.

Table 9: Kindergarten Teachers Developmentally Appropriate Practices.

	SD Freq. (%)	D Freq. (%)	A Freq. (%)	SA Freq. (%)	Mean
I have the ability to ensure that all domains, or areas, of development and learning (social, physical, intellectual, creative and emotional) of children are catered for during teaching and learning.	0(0.00)	0(0.00)	73(27.7)	191(72.3)	3.72
I have the ability to sequence children's learning and use the skills, knowledge and abilities that the children already have as foundation for later learning.	0(0.00)	0(0.00)	69(26.1)	195(73.9)	3.74
I have the ability to ensure that children learn at their own pace since learning happens at different rates from child to child.	0(0.00)	0(0.00)	80(30.3)	184(69.7)	3.70
I can make the child interact effectively with the teaching and learning environment to acquire valuable experiences that will support their development.	0(0.00)	0(0.00)	81(30.7)	183(69.3)	3.69
I am able to ensure that learning activities provided for young children considers their previous experiences since it may have an effects on their development and learning	0(0.00)	0(0.00)	81(30.7)	183(69.3)	3.69
I am able to arrange activities and other learning experiences from simpler to more complex in all domains or areas of learning.	0(0.00)	0(0.00)	71(26.9)	193(73.1)	3.73
I am aware that children develop best when they feel warm and secure in relationships with adults who take notice of them. Hence, I use techniques that are very	0(0.00)	0(0.00)	75(28.4)	189(71.6)	3.72

	SD Freq. (%)	D Freq. (%)	A Freq. (%)	SA Freq. (%)	Mean
interactive when teaching in order to establish a bond.					
I try to make what children learn very relevant by relating and situating it within a cultural contexts such as family, community, religion, school etc.	0(0.00)	0(0.00)	68(25.8)	196(74.2)	3.74
I have the ability to use a wide variety of teaching approaches and ways of bringing children together so that they can learn better.	0(0.00)	0(0.00)	67(25.4)	197(74.6)	3.75
I am able to use play to build thinking, language and, most importantly, social skills of children in my class.	0(0.00)	0(0.00)	64(24.2)	200(75.8)	3.76
I am able to provide the needed time and place for practicing new skills to enable the children deal with challenges that is just beyond.	0(0.00)	0(0.00)	63(23.9)	201(76.1)	3.76
I believe I can use children's experience at home and especially at school to influence their thinking and feeling about learning positively.	0(0.00)	0(0.00)	61(23.1)	203(76.9)	3.77
Grand Mean					**3.73**

Source: Field Data (2019) *Mean Ranges: SD: 1.00-1.59 D: 1.60-2.59 A: 2.60-3.59 SA: 3.60-4.00*

It can be seen from Table 9 that out of the twelve items representing the KG teachers' developmentally appropriate practice beliefs, most of the teachers indicated that they are able use children's experience at home and at school to influence their thinking and feeling about learning. This resulted in the highest mean score of 3.77. Next, the

teachers rated their belief to use play to build thinking, language and, most importantly, social skills of children second with a mean score of 3.76. This was equal to their rating in their ability to provide the needed time and place for practicing new skills to enable the children deal with challenges that is just beyond (mean=3.76). Additionally, the teachers strongly agreed that they have the ability to use a wide variety of teaching approaches and ways of bringing children together so that they can learn better (mean=3.75). Closely following was the agreement that teachers have the ability to sequence children's learning and use the skills, knowledge and abilities that the children already have as foundation for later learning (mean=3.74). This was rated on par with their ability to make what these young children learn very relevant by relating and situating it within a cultural contexts such as family, community, religion, school etc.

The least mean scored (3.69) expressed the ability to make the child interact effectively with the teaching and learning environment to acquire valuable experiences that will support their development, as well as their ability to ensure that learning activities provided for young children considers their previous experiences since it may have an effects on their development and learning.

Generally, the responses of the KG teachers showed a strong agreement that they are applying the developmentally appropriate practice beliefs. This is implied by the grand mean of 3.73 which falls within 3.60-4.00.

Table 10: Relationship Between Kindergarten Teachers Self-efficacy and their DAP

Variables		Total self-efficacy	Developmentally Appropriate Practice(DAP)
Total self-efficacy	Pearson Correlation	1	.742
	Sig. (2-tailed)		.000
	N	264	264
Developmentally Appropriate Practice	Pearson Correlation	.742**	1
	Sig. (2-tailed)	.000	
	N	264	264

Source: Field Data (2019) *Correlation is significant at the 0.01 level (2-tailed).*

The relationship between self-efficacy and developmentally appropriate practice was examined using Pearson Product Moment correlation coefficient. As revealed in Table 8, there was a strong positive correlation between self-efficacy of KG teachers and their developmentally appropriate practice beliefs (r=.742, n=264, p=.000). The corresponding p-value implies that the strong correlation observed between the variables is not due to chance factors since it is significant (p≤.01), and thus, there exist a relationship between self-efficacy and developmentally appropriate practice. The coefficient of determination computed indicates that self-efficacy explains 55.0% of the variance in developmentally appropriate practice beliefs.

Table 11: Relationship between KG Teachers Self-efficacy and Years of Experience

		Total self-efficacy	Number of years of teaching at
Total self-efficacy	Pearson Correlation	1	.125
	Sig. (2-tailed)		.042
	N	264	264
Number of years of teaching at present level	Pearson Correlation	.125	1
	Sig. (2-tailed)	.042	
	N	264	264

Source: Field Data (2019) Correlation *is significant at the 0.05 level (2-tailed).*

In investigating the relationship between KG teachers' self-efficacy and their years of experience, a bivariate correlation analysis was run between the two variables and the results are as presented in Table 11.

The correlation coefficient was .125 which indicates that there is a weak positive relationship between teachers' self-efficacy and working experience. The significance level (.042) implies that a relationship exist between teachers' self-efficacy and working experience ($p \leq .05$). The coefficient of determination computed indicates that self-efficacy explains 12.5% of the variance in the number of years of experience.

4.3 Discussion of Findings

4.3.1 Kindergarten Teachers' Perception of Teaching in the Kindergarten

Research question one assessed the perception of teachers on teaching in the kindergarten level. Despite the differences in the views of teachers, the study revealed that teachers strongly agree that kindergarten education was needed because it is important in the holistic development of the individual child. This positive perception about KG education stem from the fact that the cumulative mean value lies within the range 3.60-4.00. Again, this positive and strong agreement of teachers confirms other empirical studies such as Asenso-Boakye (2005); and Boateng and Sekyere (2017). For instance, Asenso-Boakye (2005) noted that early childhood education is very good since it lays the foundation for creativity, imagination, self-reliance and survival of the young child. Boateng and Sekyere (2017) also added KG education predisposes children to conditions of formal schooling in order to accelerate their learning process and also inculcate in children the desire for learning. These assertions give the indication that indeed early

childhood education is the foundation based on which formal education and other forms of education rest.

The study however contradicted the view of Ailwood (2007) who suggested that early childhood education was a female dominated career and also the preserve of older women which may not need prior training. From the study it was abundantly clear that early childhood education is no longer the preserve of older women but the young and energetic people. It was also evident that teaching in the KGs require some amount of training since most teachers on the field possessed university degrees, diplomas and even post graduate diploma in early childhood education. In addition, Garvis et al (2012) intimated that early childhood education may not be necessary and can be ignored since it may not add anything to the wholeness or wellbeing of the child or are generally an idyllic fashion. Though the authors acknowledged that comparatively children with formal early childhood education adapt faster than the ones with little or no formal early childhood education. To this end, it could be assumed without a shred of doubt that early childhood education is positive and helpful to the children. There is also the affinity for this perception since almost all the authors opposing this view use a rather a normative arguments.

4.3.2 The General Level of Kindergarten Teacher's Self-efficacy

The second research question examined the general efficacy level of teachers in KG teaching in the Central Region. The efficacy level of the teachers was measured in three ways – leaner engagement, instructional strategies, and classroom management. First, the study showed that KG teachers have a great deal of self-efficacy in engaging the kindergarten pupil since the cumulative mean is 3.79 which fell in the range of 3.6-4.0. Second, the results indicated that though there were differences in opinions and views, the

responses seems to suggest that teachers possessed a great deal of self-efficacy in managing instructional strategies for kindergarten pupils. Finally, the data suggested that teachers have a great deal of self-efficacy in the management of classrooms at the KG level. Studies have shown that early childhood education is fundamental to the cognitive development of children, hence it is only appropriate that teachers have the wherewithal to agree with the demands of the system. The study supported the assertion of Guo et al (2010); Maier et al (2013); and Newton et al (2012).

Maier et al (2013)'s study revealed that self-efficacy is a virtue every teacher must possess whether teaching at the lower level or the higher level of self -efficacy. The intuition is that students at whatever level look up to teachers for inspiration in whatever they do, hence it is imperative for their teachers to have the confidence or self-efficacy in the discharge of their role or duties. There is also the belief that self-efficacy of teachers helps motivate and whip the interest of pupils to study especially those who seem to have special problems. Additionally, Bandura (2010); and Guo et al (2010) agreed that teacher efficacy is positively associated with student achievement, children's motivation and children's own sense of efficacy. Similarly, Newton et al (2012) mentioned that teachers with higher self-efficacy are able to experiment with effective instructional strategies and also are willing to take risks their classroom.

Moreover, there is this argument fronted by Tschannen-Moran & Hoy (2007); and Jamil et al (2012) that teachers with higher levels of self-efficacy have higher enthusiasm for teaching, have positive attitudes, willingness to experiment with new methods, have the effort and persistence for commitment to teaching teacher retention. The study further

stated that higher levels of self-efficacy enables teachers to manage classroom lessons well using strategies available or learnt from elsewhere to spur pupils to study hard.

It is worth noting that teaching at the KG level comes with lots of challenges however, confidence of the teachers is able to assuage most of these challenges. Some of these may include techniques to employ, getting the attention of students or management of classroom situations, engaging pupil's cognition and deploying innovative strategies aimed at boosting the capacity of the student. Self-efficacy helps teachers learn how to implement proven classroom management strategies and techniques (Miller & Hall, 2009). As a result, distractions and behaviour problems that hinder learning are minimized and controlled. In theory, creating a classroom environment that models instructional strategies, engages children, and manages the environment will improve children's behaviour and increase learning (O'Neill & Stephenson, 2012). Teacher efficacy provides a way to view teachers' beliefs about their ability to teach, which includes a determinant for teaching behaviour. A connection exists between teacher beliefs, student behaviour, and a teacher's understanding of the learning process (Henson, 2001). Self-efficacy of teaching impacts judgments, actions, energy, and perseverance to face difficulties in the classroom. The rising concern is not simply how proficient teachers are, but how capable teachers believe themselves to be.

On the general level of self-efficacy of teachers, it was revealed that Central Region KG teachers have a high self-efficacy in first, classroom management, followed by instructional strategies, and learner engagement. The overall mean was 3.69 with a standard deviation of 0.46 meaning, the teachers have a great deal of self-efficacy in teaching pupils at the kindergarten level. Again, there was a deviation of approximately 0.5 indicating that

the data only deviate around the mean of 3.69 by a standard of 0.5, thus there is not much deviation in the responses from the teachers. This reflected the views of Buns (2010) suggesting that self-efficacy is a crucial ingredient in the execution of teaching role whether at the lower of higher level of education.

4.3.3 Kindergarten Teachers' Efficacy in Employing Developmentally Appropriate Practices

The third research question explored teachers' efficacy in employing or using developmentally appropriate practices. The results evidently showed that KG teachers were in support of developmentally appropriate practices and as such their responses showed that they were applying the developmentally appropriate practices in the delivery. Almost all teachers in the KG level agreed that developmentally appropriate practices were important to building the cognitive level of a child. This stance is anchored to the very definition of developmentally appropriate practices. According to Kumtepe (2005), developmentally appropriate practices utilizes an approach to education of young children that focuses on the child as a developing human being and life-long learner. Based on this definition, no teacher would disagree to it relevance on it usage and practice in real life.

Similarly, Charleworth (1998); Copple and Bredekamp (2009) lauded the use of developmentally appropriate practices at the KG level. The idea is that, developmentally appropriate practices emphasize the developmental level and learning style of the whole child in terms of physical, social, emotional, and cognitive needs. This view again imply that children learn actively through physical and social experiences to construct their own understandings of the world around them. These assertions are directly in line with NAEYC's (2009) guidelines for developmentally appropriate practices. Moreover, the

study supported the views of Shonkoff and Phillips (2000) that DAP have a great influence on the development of children since they are based on growing the knowledge base or brain development. However, Allen and Kelly (2015) cautioned that DAP usage may be good in developing children but care must be taken not to include the personal beliefs of the teachers since that may have the tendency of thwarting the very essence of the program. Notwithstanding, the caution, strongly recommended DAP to be used by all teachers regardless of the level but importantly for early childhood educators.

4.3.4 Relationship between Kindergarten Teachers' Self-efficacy in Employing Developmentally Appropriate Practices

The final research question examined the relationship between self-efficacy and the ability to use DAP. Using the Pearson correlation, the results proved that at 1 percent significant level, self-efficacy is positive and highly associated with employing DAP. The essence of this result is that teachers who possesses self-efficacy are most likely to use DAP in their discharge of teaching duties. This correlation is in tandem with the studies of McMullen and Alat (2002); and Kaboaglu (2015). For instance, McMullen and Alat (2002) stated that there is a relationship between educational backgrounds and DAP of caregivers and teachers of 3-6 year-old children. The study also added that teachers with higher levels of educational attainment have higher self-efficacy and they are most likely use DAP in the discharge of their roles.

Moreover, Kaboaglu (2015) intimated that teacher self-efficacy and teaching beliefs predict the extent early childhood teachers implemented educational or teaching curriculum. Self-efficacious teachers are mindful of the total or whole wellness of children and as such try everything within their power to follower the educational syllable and to

even adopt innovative ways other than the traditional teaching skills to making sure pupils have the utmost benefits. Getswicki (2013) also of the view that DAP take into account the society, environment and culture of the child, since children grow up not in isolation but in the midst of families' friends and other society. To this end it may not be negotiable for teachers with self-efficacy not to use developmentally appropriate practice at the KG levels.

In other related studies it has been argued that to facilitate children's success teachers, foster positive interactions with children, between children, with families, and with other teachers (Bredekamp & Copple, 2009). This practice hinges on first, teachers understand that children's safety and health needs must be met so that children may feel safe and secure and that children learn they are part of a learning community and build relationships with teachers and children. Again, tteachers in developmentally appropriate environments understand that children do not learn skills within a direct instruction model. Thus, teachers who adhere to DAP exercise a variety of teaching strategies such as small group learning, large group learning, and engage children in conversations using open ended questions and scientific thinking. Teachers strive to offer challenging activities with achievable outcomes by scaffolding children's learning from one level to the next by working with children in the zone of proximal development.

4.3.5 Relationship between kindergarten Teachers' Self-efficacy and their Teaching Experience

Hypothesis one examined the difference between self-efficacy levels and teaching experiences. The Pearson correlation coefficient between self-efficacy and experience was low though positive, but, not significant. By implication, it means that having experience

is good but not sufficient in the teaching of KG pupils. There is more to self-efficacy than teaching experience. In simple terms teaching at the KG level is not all about experience but self-efficacy. According to Sak (2015) experience is good because it spurs self-efficacy to thrive among teachers and that for a teacher to build his or her self-efficacy, teaching experience is key. The views of Sak (2015) were premised on the point that the mean deviation or difference between teaching experience and self-efficacy was small.

The study of Tschannen-Moran and Hoy (2007) in support of self-efficacy maintained that teachers' self-efficacy is believed to be most malleable in the challenging early stage of the teacher's career and then to increase and become more firmly established as teachers gain experience. The results again opposed the assertions of Hoy and Spero (2005) that experiences and self-efficacy may be related and that even if there is any difference, it would be insignificant. The arguments were also based on the view that before one could develop self-efficacy, there must be some level of teaching experience.

CHAPTER FIVE

SUMMARY, CONCLUSION, RECOMMENDATIONS

5.0 Overview

This chapter presents the summary, conclusions and recommendations. Whereas the summary gives a brief overview of the whole study together with the key findings; the conclusions capture the outcomes regarding the findings of the study. Recommendations also present specific remedies to be implemented by specific agencies. This chapter also presents the suggestion or direction for future research.

5.1 Summary

The study examined kindergarten teachers' self-efficacy and their Developmentally Appropriate Practices in selected Districts in Central Region of Ghana. The study further sought to answer questions relating to the perception of teachers teaching at the early childhood level; knowing the general self-efficacy levels of KG teachers in the region; how self-efficacy of teachers help in employing developmentally appropriate practices and also to investigate the relationship existing between teachers' self – efficacy and their efficacy in employing developmentally appropriate practice. In addition, hypothesis concerning kindergarten teachers' general self – efficacy and their teaching experience was tested.

Cross-sectional descriptive survey design was employed for the study. Simple random and purposive sampling techniques were adopted to sample respondents for the study and a sample 274 was selected. A set of questionnaires were used to gather data for analysis. The questionnaires were pretested to determine its validity and reliability. Cronbach alpha was used to test for the reliability of the overall items in the questionnaire. An alpha coefficient of .874 was obtained making instrument appropriate. Out of the 274 questionnaires administered, 264 questionnaires were returned indicating a responses rate

of 96.35 percent. Sarantakos (2005) mentioned that studies in the social sciences that require the use of questionnaires, a close to 100 percent responses rate is difficult even though it is possible hence any rate beyond 80 percent may be appropriate for analysis since its exceeds the central limit theorem. In terms of analysis, the study employed statistical tools like the Pearson Correlation coefficient and the means to analyze the data and presented with frequency tables.

5.2 Key Findings

From the analysis of the data, it was found out that;

1. Kindergarten (KG) teachers' in the Central Region of Ghana strongly agreed that early childhood education was important because it forms the foundation to formal education. This was such that KG teachers held a strong and positive perception about teaching in the kindergarten.
2. Moreover, kindergarten teachers had a great deal of self-efficacy, in managing their classroom situations, deploying institutional strategies aimed at bolstering the cognitive abilities of pupils and learner engagement. It was again showed that the general self-efficacy of kindergarten teachers in the Central Region is in this order; classroom management, instructional strategies, and learner engagement.
3. Kindergarten teachers use developmentally appropriate practices to teach in the kindergarten. This was based on the fact that DAP help the child to develop holistically and prepare the child to overcome other challenges in the formal school.
4. There existed a positive relationship or high correlation between self-efficacy of KG teachers and the use of developmentally appropriate practices. This thus

indicates that the higher the self-efficacy of kindergarten teachers, the higher teachers' ability to implement developmentally appropriate practices.

5. Finally there was weak positive correlation between experience and self-efficacy levels of kindergarten teachers, however, there is more to self-efficacy than teaching experience. By implication, having experience is good but not sufficient in the teaching of KG children.

5.3 Conclusions

From the study, it could be concluded that KG teachers had positive perception about teaching at the early childhood level. It further revealed that kindergarten teachers had a positive perception that kindergarten education forms the foundation for formal education.

Again, it may be may be seen that the general self-efficacy of KG teachers was very important especially, in the area of classroom management, employing instructional or innovative teaching techniques or strategies, and learner engagements. This stance of self-efficacy reinforces their ability to teach and manage the classroom effectively.

The study also realized that there is positive and high relationship between self-efficacy of kindergarten teachers and the use of developmentally appropriate practices. This is such that the more KG teachers show self-efficacy, the more likely they are to adopt developmentally appropriate practices. This is because developmentally appropriate practices focus on the holistic development of pupils. Finally, the study concludes that teaching experience may be good but self-efficacy is the ideal since there exist a low positive between experience and self-efficacy.

5.4 Recommendations

The following recommendations were made based on the findings of the study

1. The Central Regional Education Office, the Gomoa West District and the Cape Coast Metropolitan Educational Directorate should organise workshops for KG Teachers to fully educate and synthesize them on the professional expectations with regards to teaching at the early childhood level to inform their general perception.
2. The Central Regional Education Office, should collaborate with the other significant social workers and NGOs to effectively educate Kindergarten teachers on their self-efficacy, specifically relating to the training on classroom management, instructional strategies and learner engagement. To foster proper development of their self-efficacy in their teaching and learning activities in the kindergarten.
3. The Central Regional Education Office, the Gomoa West District and the Cape Coast Metropolitan Educational Directorate should collaborative with the Early Childhood Educators to organise workshops, seminars and lectures on the practice of developmentally appropriate practices focusing on the child's development and learning, engaging each child as an individual and considering each child's social and cultural contexts when teaching. As well as how to develop children's learning domains, improving foundations for later learning and equipping the children with significant academic experience.
4. The Central Regional Education Office, the Gomoa West District and the Cape Coast Metropolitan Educational Directorate should collaborative with Early Childhood Educators to organise workshops, seminars, in-service training for

kindergarten teachers on constantly developing their self-efficacy as well being abreast with new developments in developmentally appropriate practices.

5.5 Suggested areas for Future Research

The purpose of the study is to examine the kindergarten teachers' self-efficacy and their developmentally appropriate practice beliefs in selected districts in Central Region of Ghana. Future studies should concentrate on using mixed method approaches to scientifically determine the correlations and the subjective experiences of the respondents. Future studies should also consider increasing the sample size of the study to include other district and municipalities to widen the scope of the study. Teachers' specific efficacy in the kindergarten should also be assessed regularly to help evaluate the quality of the instructional process.

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APPENDIX A

UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF EDUCATIONAL STUDIES
DEPARTMENT OF EARLY CHILDHOOD EDUCATION
QUESTIONNAIRE FOR KINDERGARTEN TEACHERS IN SELECTED DISTRICTS IN THE CENTRAL REGION

Dear Sir/ Madam,

This questionnaire is meant to gather data for an MPhil. Thesis titled 'Kindergarten Teachers Self-Efficacy and their use of Developmentally Appropriate Practice Beliefs in some Selected Districts in the Central Region. The information you provide will help researchers and policy makers understand the extent to which your level of efficacy influences your developmentally appropriate practice. In all other respects, however, the data will be held in confidence to the extent permitted by law. Should the data be published, your identity will not be disclosed. Taking part in this study is voluntary. However, if you decide to be part, you are kindly requested to read through the items and respond to them as frankly and objectively as possible. Thank you for being part of this study.

SECTION A: Background Characteristics of Kindergarten Teachers

1. Please, indicate the District in which school is located:
   ……

2. Gender: Male [ ] Female [ ]

3. Age: Less than 20 year [ ] 20-24 years[ ]
25-29 years [ ] 30-34 years[ ]
35-39 years [ ] 40-44years [ ]
45- 49years [ ] 50-54years [ ]
55-59 years [ ] 60years + [ ]

4. Qualification:
   Cert 'A' 3-year post sec [ ] Cert. in Pre-school Education [ ]
   Diploma in Basic Education [ ] Diploma in Early childhood education [ ]
   Degree in Basic Education [ ] Degree in Early Childhood Education [ ]
   Post Graduate Diploma in Education [ ] Master degree in Education [ ]
   Higher National Diploma [ ] Any other [ ]
   Specify……

5. Teaching experience at present level: Less than 1 year [ ] 1 – 4years [ ]
   5 – 9years [ ] 10 –14years
   15 –19years [ ]20years and above [ ]

SECTION B: Kindergarten Teachers' Perception of Teaching at the Kindergarten

The items below seeks to explore your perception of teaching at the kindergarten. Please, read carefully and tick the option that is most suitable.

Statement	Strongly disagree	Disagree	Agree	Strongly Agree
6. I need professional skills to teach at the kindergarten.				
7. Appropriate qualification is needed to teach at the kindergarten not only teaching experience.				
8. Kindergarten education creates the foundation for formal school.				
9. Kindergarten education is not about singing, dancing and sleeping.				
10. Kindergarten education develops all the developmental domains of the child.				
11. Kindergarten education helps to give special care and attention to each child in the classroom.				
12. It is important for parents to participate in the kindergarten education of their children.				
13. Kindergarten education is important for every developing child.				

SECTION C: Kindergarten Teachers General Self efficacy

Kindergarten Teachers' Self-Efficacy in Learner Engagement

The items below are meant to look at your level of efficacy in engaging your children in class. Please, read carefully and choose any option by ticking the column that suites your thinking.

Statement	Nothing	Very little	Much	A great deal
1. How much can you do to get to the most difficult pupil?				
2. How much can you do to help your pupils think critically?				
3. How much can you do to motivate pupils who show low interest in school work?				
4. How much can you do to get your pupils to believe they can do well in school work?				
5. How well can you do to help your pupil's value learning?				
6. How much can you do to enhance your pupils' creativity?				
7. How much can you do to improve the understanding of a pupil who is struggling?				

Kindergarten Teachers' Self-efficacy in using Instructional Strategies

The items below seeks to explore kindergarten teachers' ability to use varying instructional strategies. Please, read carefully and tick the option that is suitable.

Statement	Nothing	Very little	Much	A great deal
1. How well can you respond to difficult questions from your pupils?				
2. How much can you assess pupils' understanding of what you have taught?				
3. To what extent can you set good questions for your pupils?				
4. How much can you do to adjust your lessons to the proper level for individual pupils?				
5. To what extent can you provide other explanation or example when pupils are confused?				
6. How well can you implement other strategies in your classroom?				
7. How well can you provide appropriate challenges for very capable pupils?				

Kindergarten Teachers' Self-Efficacy in Classroom Management

Managing children at the kindergarten level is an important aspect of teaching. Please, indicate the extent to which you are able to manage your classroom by ticking any of the options that corresponds to your ability.

Statement	Nothing	Very little	Much	A great deal
8. How much can you do to control some pupils' disruptive behaviour?				
9. To what extent can you make your expectations clear about pupils' behaviour?				
10. How well can you establish routines to keep activities running smoothly?				
11. How much can you do to get pupils to follow classroom rules?				
12. How much can you do to calm a pupil who is disruptive and noisy?				
13. How well can you establish a classroom management system with each group of pupils?				
14. How well can you keep a few problem pupils from destructing an entire lesson?				
15. How well can you respond to disobedient pupils?				

SECTION D: Kindergarten Teachers' DAP

The items below are meant to look at your Developmentally Appropriate Practice. Please, read carefully and choose an option by ticking the column that is suitable.

Statement	Strongly disagree	Disagree	Agree	Strongly Agree
16. I have the ability to ensure that all domains, or areas, of development and learning (social, physical, intellectual, creative and emotional) of children are catered for during teaching and learning.				
17. I have the ability to sequence children's learning and use the skills, knowledge and abilities that the children already have as foundation for later learning.				
18. I have the ability to ensure that children learn at their own pace since learning happens at different rates from child to child.				
19. I can make the child interact effectively with the teaching and learning environment to acquire valuable experiences that will support their development.				

Statement	Strongly disagree	Disagree	Agree	Strongly Agree
16. I have the ability to ensure that all domains, or areas, of development and learning (social, physical, intellectual, creative and emotional) of children are catered for during teaching and learning.				
20. I am able to ensure that learning activities provided for young children considers their previous experiences since it may have an effects on their development and learning				
21. I am able to arrange activities and other learning experiences from simpler to more complex in all domains or areas of learning.				
22. I am aware that children develop best when they feel warm and secure in relationships with adults who take notice of them. Hence, I use techniques that are very interactive when teaching in order to establish a bond.				
23. I try to make what these young children learn very relevant by relating and situating it within a cultural contexts such as family, community, religion, school etc.				
24. I have the ability to use a wide variety of teaching approaches and ways of bringing children together so that they can learn better.				
25. I am able to use play to build thinking, language and, most importantly, social skills of children in my class.				
26. I am able to provide the needed time and place for practicing new skills to enable the children deal with challenges that is just beyond.				
27. I believe I can use children's experience at home and especially at school to influence their thinking and feeling about learning positively.				

APPENDIX B

GHANA EDUCATION SERVICE

In case of reply the Number and date of this Letter should be quoted

METROPOLITAN EDUCATION DIRECTORATE
P. O. BOX 164
CAPE COAST

REPUBLIC OF GHANA

Tel. 0244445552
capecoastmeo@yahoo.com

My Ref. No GES/MD/EP/VOL.5/8
Your Ref. No.

2nd May, 2019

THE HEADTEACHERS OF KG SCHOOLS CONCERNED
METRO EDUCATION DIRECTORATE
CAPE COAST

PERMISSION TO CONDUCT RESEARCH

This is to inform you that, Management of the Metropolitan Education Directorate has granted permission to **Ms. Selina Nana Simpson**, a Second year MPhil student of the Department of Early Childhood Education of the University of Education, Winneba, to conduct a research on Kindergarten teachers' self-efficiency and their developmentally appropriate practice.

The research requires that she administers questionnaires to all KG teachers in the schools.

We hope that, the teachers would accord her the needed support.

We also hope to receive a copy of her research report with recommendations to improving upon KG delivery in the metropolis.

I count on your maximum cooperation.

Thank you.

PHILIP KWESI INCOOM
METRO DIRECTOR OF EDUCATION
CAPE COAST

cc:
Ms. Selina Nana Simpson, University of Education, Winneba

APPENDIX C

GHANA EDUCATION SERVICE

In case of reply the number and date of this letter should be quoted

District Education Office
P. O. Box 61,
Apam

My Ref. No. GES/ CR/GWED/
Your Ref. No.....

Republic of Ghana

30th April, 2019

TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION
MISS. SELINA NANA SIMPSON

The bearer of this letter is a Master of Philosophy student of University of Education, Winneba and she is conducting a research for academic purpose on the topic "Kindergarten Teachers' Self Efficacy and their Developmentally Appropriate Practice Beliefs in some selected districts in the Central Region of Ghana.

Gomoa West has been selected as one of the Districts and your school has also been sampled for the study.

I would be very grateful if you accord her the necessary assistance for her to carry out this research successfully.

BENJAMIN K. GOKA
DISTRICT DIRECTOR OF EDUCATION
GOMOA WEST

DISTRICT DIRECTOR
GHANA EDUCATION SERVICE
GOMOA WEST DISTRICT