

**EFFECT OF LARGE CLASS SIZE AND TEACHER-LEARNER RATIO ON
CLASSROOM MANAGEMENT IN EARLY CHILDHOOD EDUCATIONAL CENTRES
IN GHANA**

by

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Submitted in accordance with the requirements for the degree

of

DOCTOR OF PHILOSOPHY IN EDUCATION

in the subject Early Childhood Development

in the

Department of Early Childhood Development

College of Education

University of South Africa

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November 2021

DEDICATION

I dedicate this work to my daughters

Nhyira Kisiwaa Kisi-Abrokwah and Ama Pokuwaa Baffour-Awuah

DECLARATION

Student number: 66080045

*"I declare that **EFFECT OF LARGE CLASS SIZE AND TEACHER-LEARNER RATIO ON CLASSROOM MANAGEMENT IN EARLY CHILDHOOD EDUCATIONAL CENTRES IN GHANA** is my own original research and that all the sources that I have quoted have been indicated and acknowledged by means of complete references.*

I further declare that I submitted the thesis to originality software checker and that it falls within the acceptable requirement.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher educational institution".



SIGNATURE

20th July 2021

DATE

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my supervisors, Prof Krog and Dr Ngema both at the College of Education, for their professional guidance, advice, encouragement and the goodwill with which they guided this work. I am very grateful.

I am also grateful to Rev. Kwame Ntimoah Ntim, Rev. Isaac Kwofie, Rev. Kwaku Kyeremteng Ntim, Prof. Daniel Appiah-Essuman, Prof. Peter Boamah, Dr. Edward Kofi Ntim, Madam Adwoa Addea, Dr. Kwame Kodua-Ntim, Dr. Hansen Akoto-Baako, Dr. Kyermeh Tawiah Dabone, Dr. Joyce Dankyi, Dr. Lydia Dankyi, Mr. Rex Dzontoh, Mr. Benedict Atipo, Mr. Emmanuel Ofori, Mr Fredrick Okyere, Mr. Samuel Kyei-Baffour, Miss Dorcas Owusu-Ansah and Mrs Joyce Ayuure for their generous support and contribution to make this work better.

I am grateful to my wife Faustina Adu for her unflinching support throughout my studies. I also wish to thank my family for their support, especially, my parents, Late Prof. Baffour-Awuah, Archimedes Kissi-Abrokwah and Constance Amankwah, my brothers, Francis, Daniel and Samuel, my sisters, Grace, Abigail and Esther.

I am forever indebted to the Municipal directors of education, principals, preschool teachers and pre-schoolers for providing me with the opportunity to complete this research. I will always acknowledge the positive relationships I have had with you during the data collection sessions. I wish to thank my technical and language editors for assisting me to complete my thesis on time.

ABSTRACT

The purpose of this study was to investigate how large class size and teacher-to-learner ratio affect classroom management in early childhood educational centres (ECECs) in Ghana. Using the concurrent triangulation mixed method design underpinned by the pragmatic philosophical thought, this study employed the descriptive survey on the quantitative phase and case study on the qualitative phase. The data were collected in three phases using a four-point Likert-type scale questionnaire, semi-structured interview and observational guide. The sample size for the study was 228 respondents. In the quantitative phase, a questionnaire was administered to preschool teachers and headteachers. The qualitative phase involved semi-structured interviews for preschool teachers and headteachers while observation was done in early childhood education centres with a class size of more than 70 pre-schoolers. The quantitative data were analysed using Pearson product-moment correlation coefficient, independent samples T-test, one-way analysis of variance (ANOVA), frequency, percentages, mean and standard deviation. The qualitative data were analysed using counting and thematic analysis. The study outlined several behavioural patterns exhibited by pre-schoolers in large class size. It emerged from the study that out of seat behaviour, physical aggression, verbal aggression and talking out of turns were all behavioural patterns exhibited by pre-schoolers. Notwithstanding, the behavioural patterns exhibited by pre-schoolers, the ECECs were facing these challenges: 1) Inadequate seat and tables for pre-schoolers to feel comfortable, 2) The permeability between pre-schoolers and TLMs ratio, 3) Inability to organise exercise and class tests regularly and 4) Teachers do not have enough time to pay attention to each pre-schooler. The study also pointed out that positive reinforcement, shaping, given prompt feedback and given clear instructions were effective classroom strategies used in managing pre-schoolers in large class size. It was recommended that preschool teachers should be equipped with rudimentary skills of handling pre-schoolers' behaviour in ECECs and seminars should be organised for both trained and untrained preschool teachers on how to manage pre-schoolers behaviour in the classroom to upskill teachers. It was also established that preschool teacher should adopt concepts from the social constructivism theory by Lev Vygotsky where the social interaction, scaffolding and zone of proximal development were used to manage and reduce the heavy burdening from preschool teachers. There should be an appropriate classroom management plan under which the preschool teacher must operate, and this plan must be tailored to ECE trainee teachers during practicum to guide them in executing their duties in the classroom.

Keywords: Ghana, large class size, teacher-learner ratio, classroom management strategies, early childhood education, early childhood education centres, pre-schoolers, teachers, headteachers.

TSHOBOKANYO

Maikemisetso a thutopatlisiso eno e ne e le go batlisisa gore diphaposi tse dikgolo le rešio ya morutabana-go-morutwana di ama jang tsamaiso ya phaposiborutelo mo ditikwatikweng tsa dithuto tsa bana ba bannye (diEDEC) kwa Ghana. Thuto eno e dirisitse molebo o o tlhakaneng o o akaretsang molebo o o lebelelang dipalopalo le o o lebelelang mabaka mmogo, ka nako e le nngwe, o o theilweng mo mogopolong wa filosofi o o sa tlhokeng go tlhomamisa, mme e dirisitse tshekatsheko e e tlhalosang mo legatong le le lebelelang dipalopalo gammogo le thutopatlisiso ya tobiso mo legatong le le lebelelang mabaka. Go kokoantswe *data* mo magatong a le mararo go dirisiwa lekwelopotsolotso la dintlha-nne la sekale sa mofuta wa Likert, dipotsolotso tse di batlileng di rulagane le kaedi ya kelotlhoko. Bogolo jwa sampole ya thutopatlisiso e ne e le batsibogi ba le 228. Mo legatong le le lebelelang dipalopalo, barutabana ba barutwana ba bosetlabošweng le barutabanabagolo ba neetswe makwalopotsolotso fa kelotlhoko yona e dirilwe kwa ditikwatikweng tsa thuto ya bana ba bannye tse di nang le diphaposiborutelo tse di nang le bosetlabošweng ba feta 70. *Data* ya dipalopalo e lokolotswe ka go dirisa tekanyetso ya maatla a kamano a dipharologantsho ya Pearson, Teko ya T (T-test) ya disampole tse di ikemetseng, tokololo ya letlhakore le le lengwe ya pharologantsho (ANOVA), bokgapetsakgapetsa, diphesente, pharologano ya palogare le ya tlwaelo. *Data*

e e lebelelang mabaka e lokolotswe go dirisiwa tokololo ya go bala le morero. Thutopatlisiso e tlhagisitse mekgwa ya maitsholo e le mmalwa e e bontshitsweng ke bosetlabošweng mo diphaposiborutelong tse dikgolo. Mo thutopatlisisong go tlhageletse gore go emelela mo setilong kwa ntle ga go kopa tetla, go nna dikgokanyana le dipuo tse di botlha ke mekgwa ya maitsholo a a bontshitsweng ke bosetlabošweng. Kwa ntle ga maitsholo a a bontshitsweng ke bosetlabošweng, diEDEC di ne di lebane le dikgwetho tseno: 1) Ditilo le ditafole tse di sa lekanang gore bosetlabošweng ba ka nna ka tshosologo, 2) Go tlhoka tekatekano magareng ga bosetlabošweng le rešio ya TLM, 3) Go tlhoka bokgoni jwa go rulaganya ditirwana le diteko tsa mo phaposing gangwe le gape le 4) Barutabana ga ba na nako e e lekaneng go tota setlabošweng mongwe le mongwe. Gape thutopatlisiso e bontshitse gore maatlafatso, go bopa, go tsiboga ka bonako le go naya ditaello tse di utlwalang ke ditogamaano tse di bokgoni tsa mo phaposiborutelong tse di dirisediwang go laola bosetlabošweng mo diphaposiborutelong tse dikgolo. Go ne ga tshitshinngwa gore barutabana ba bosetlabošweng ba tshwanetse go nna le dikgono tsa motheo tsa go kgona go samagana le maitsholo a bosetlabošweng kwa diEDEC mme go tshwanetse ga rulagannngwa diseminara gore di tsenelwe ke barutabana ba bosetlabošweng ba ba katisitsweng le ba ba sa katisiwang malebana le tsela ya go tsamaisa maitsholo a bosetlabošweng mo phaposiborutelong go maatlafatsa barutabana. Go lemogilwe gape gore morutabana wa bosetlabošweng o tshwanetse go dirisa megopolo go tswa mo tioring ya kagoloago ya ga Lev Vygotsky moo go dirisiwang tshusumetsano ya loago, tshegetso le go ela tlhoko sekgala magareng ga se morutwana a ka se dirang kwa ntle ga thuso le se a ka se dirang fa a thusiwa go tsamaisa le go fokotsa morwalo mo barutabaneng ba bosetlabošweng. Go tshwanetse ga nna le thulaganyotsamaiso e e maleba ya phaposiborutelo e morutabana wa bosetlabošweng a tshwanetseng go dira ka yona, mme thulaganyo eno e tshwanetse go rulaganyediwa barutabana ba ba mo katisong ya ECE go ba kaela tsela ya go diragatsa ditiro tsa bona mo phaposiborutelong.

Mafoko a botlhokwa: Ghana, phaposiborutelo e kgolo, rešio ya morutabana-go-morutwana, ditogamaano tsa tsamaiso ya phaposiborutelo, thuto ya bana ba bannye, ditikwatikwe tsa thuto ya bana ba bannye, bosetlabošweng, barutabana, barutabanabagolo.

OKUCASHUNIWE

Inhloso yalolu cwaningo bekuwukuphenya ukuthi ubukhulu bekilasi nesilinganiso sikathisha-nomfundi kuthinta kanjani ukuphathwa kwekilasi ezikhungweni zemfundo yezingane ezisakhula (ECECs) eGhana. Kusetshenziswa ukusongozwa kwecebo lwendlela exubile kanxantathu okusekelwa umcabango wesifundo semibono mayelana nolwazi ngezindlela zakudala zokucabanga, lolu cwaningo lusebenzise inhlolovo echazayo ngesigaba sobuningi kanye nesifundo esigabeni sekhwalithi.

Imininingwane yaqoqwa ngezigaba ezintathu kusetshenziswa uhlu lwemibuzo lwesikali sohlobo lwe-Likert olunamaphuzu amane, izingxoxo ezihleliwe kanye nomhlahlandlela wokubheka. Usayizi wesampula wocwaningo kwaba ngu-228 abaphendulile. Esigabeni sobuningi, uhlu lwemibuzo lwanikezwa othisha basenkulisa nothishanhloko. Isigaba sekhwalithi sibandakanya izingxoxo ezihleliwe zothisha basenkulisa kanye nothishanhloko ngenkathi ukubhekwa kwenziwa ezikhungweni zemfundo yezingane ezisakhula ezinosayizi wekilasi labafundi basenkulisa abangaphezu kuka-70.

Imininingwane yobuningi yahlaziywa kusetshenziswa umqondo kaPearson wezibalo zokuhlola ezikala ubudlelwano bezibalo, phakathi kokuhluka okubili okuqhubekayo, ukuqhathanisa amaqembu amabili azimele okubhekwayo, ukuhlaziywa kwendlela eyodwa yokuhluka (ANOVA), imvamisa, amaphesenti, isilinganiso kanye nokuchezuka okujwayelekile. Imininingwane yekhwalthi ihlaziywe kusetshenziswa ukubala kanye nokuhlaziya ingqikithi. Ucwangingo luveze amaphethini okuziphatha ambalwa aboniswa abafundi basenkulisa ekilasini losayisi omkhulu. Ocwaningweni kuvele ukuthi ukuziphatha kwesihlalo, ukuhlukumeza, ukuthukana nokukhuluma ngendlela enobuwula konke yizindlela zokuziphatha ezivezwa yizingane zasenkulisa.

Noma kunjalo, amaphethini okuziphatha aboniswa abafundi basenkulisa, ama-ECEC ayebhekene nalezi zinselele: 1) Ukunganeli kwezihlalo namatafula ukuze izingane zasenkulisa zizizwe zikhululekile, 2) Isimo sokungeneka phakathi kwabafundi basenkulisa kanye nesilinganiso se-TLMs, 3) Ukungakwazi ukuhlela umsebenzi wokuzivocavoca. kanye nezivivinyo zamakilasi njalo futhi 4) Othisha abanaso isikhathi esanele sokunaka ingane ngayinye yasekulisa. Ucwangingo luphinde lwaveza ukuthi ukuqinisa okuhle, ukubumba, ukunikezwa impendulo esheshayo kanye nemiyalelo ecacile kwakungamasu asebenzayo ekilasini asetshenziswa ekulawuleni izingane zasenkulisa ekilasini elingusayizi omkhulu.

Kwatuswa ukuthi othisha basenkulisa kufanele bahlonyiswe ngamakhono ayisisekelo okusingatha ukuziphatha kwezingane zasenkulisa kuma-ECEC futhi kufanele kuhlelwe izingqungquthela zabo bobabili othisha basenkulisa abaqeqeshiwe nabangaqeqeshiwe mayelana nendlela yokulawula ukuziphatha kwezingane zasenkulisa ekilasini ukuze kuthuthukiswe othisha. Kwaphinde kwasungulwa ukuthi uthisha wasenkulisa kufanele athathe imiqondo evela kuLev Vygotsky yokucatshangwayo kweqembu lenhlalo elakha izinto lodwa lapho ukusebenzelana komphakathi, indlela lapho othisha benikeza uhlobo oluthile lokusekelwa kubafundi njengoba befunda futhi bethuthukisa umqondo omusha kanye negebe phakathi kwalokho umfundi asekwazile ukukwenza kanye nalokho angakwazi ukukwenza kahle ngokwesekwa kwasetshenziswa ukulawula nokunciphisa umthwalo osindayo ovela kothisha basenkulisa. Kufanele kube nohlelo olufanele lokuphatha ikilasi okumele uthisha asebenze ngaphansi kwalo, futhi lolu hlelo kumele lwenzelwe othisha abaqeqeshwayo be-ECE ngesikhathi sengxenywe engokoqobo yesifundo sokufunda ukuze babaqondise ekwenzeni imisebenzi yabo ekilasini.

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LIST OF ACRONYMS AND ABBREVIATIONS

ANOVA	-	One-Way Analysis of Variance
CM	-	Classroom management
CMS	-	Classroom management strategies
Df*	-	degrees of freedom
ECE	-	Early Childhood Education
ECEC	-	Early Childhood Educational Centre
ECECs	-	Early Childhood Educational Centres
EFA	-	Education for All
ELPT	-	Educational level of preschool teacher
EMIS	-	Education Management Information System
GPRS II	-	Growth and Poverty Reduction Policy II
IMF	-	International Monetary Fund
M	-	Mean
MD	-	Mean Difference
MGCSP	-	Ministry of Gender, Children and Social Protection
MoE	-	Ministry of Education
N	-	Frequency
NGOs	-	Non-Governmental Organizations
PPMCC	-	Pearson Product Moment Correlation Co-efficient
PTWE	-	Preschool teacher working experience
TLR	-	Teacher-Learner Ratio
TSEB	-	Teacher's Self-Efficacy Belief
S*	-	Significant

SPSS	-	Statistical Package for Social Sciences
SSA	-	Sub-saharan African
SR	-	Standard Error
SD	-	Standard Deviation
SW	-	Shapiro-Wilk test
TLMs	-	Teaching and Learning Materials
UNESCO	-	United Nation Educational, Scientific and Cultural Organisation's
UNISA	-	University of South Africa
ZPD	-	Zone of Proximal Development

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CHAPTER ONE

CONCEPTULISATION AND ORIENTATION OF THE STUDY

1.1 INTRODUCTORY ORIENTATION

Education remains at the heart of development in every country (Akoto-Baako, 2018) and as such it has been observed that most developed countries have invested a lot in education. Childhood education requires the most attention since it serves at the foundation of every learner. The effectiveness of early childhood learning depends on a number of factors such as dedication of preschool teachers, the size of the classroom, resources, parental involvement and the teacher-learner ratio (TLR). Large class size and TLR are the major concerns of early childhood educational centres (ECECs) in Ghana due to the compulsory education policy for every Ghanaian child (Ministry of Education, 2017). Before the establishment of the compulsory education policy, the Ministry of Education, Youth and Sports (2008) had established a 1:18 TLR for kindergarten and 1:22 TLR for lower primary schools to improve the quality and efficiency of classroom management to ensure good teaching and learning processes in school.

On 10th December 1948, the United Nations General Assembly proclaimed the Universal Declaration of Human Rights. This document contained innumerable statements on the substantial improvement of the basic benefits of education for pre-schoolers worldwide. From this assertion, education has been regarded to be the means and ends in the quest for social development and human rights (Yuzu, 2013). The Ghanaian Constitution, the Children's Act, and the Education Strategic Plan all feature this assertion (2010-2020). Most poor countries, including Ghana, regard universal basic education to be a major priority (Adam, 2015).

Education for All (EFA) was a global international movement that called for meeting the learning requirements of all pre-schoolers, children, and adults by the year 2015. It was first launched by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1990. (UNESCO, 2006). From this assertion, UNESCO mandated all

member countries to coordinate efforts to ensure that all pre-schoolers, youth and adults have good access to education. However, looking at how important the initiative was to help every citizen in every society, there was a coalition of government agencies, civil societies and the world bank group with committed effort to champion the concept of EFA (UNESCO, 2012).

Furthermore, the UNESCO report (2012) showed that by the year 2000, 189 member countries of the UNESCO and Ghana inclusive adopted the objective for EFA. The main objective of EFA was to improve the quality of education by ensuring that pre-schoolers achieve educational outcomes through numeracy, literacy and other essential life skills. However, until date, the main objective for the EFA initiative has still not been achieved by all the member countries of UNESCO (UNESCO Institute for Statistics Report, 2018). The UNESCO (2005) report showed that of the many countries that sought to guarantee the right of all children to education, the focus on access often overshadows attention on quality. Yet, value defines how much and how well children learn and to what degree their learning translates into a variety of financial, social and developmental benefits.

1.2 RATIONALE FOR THIS STUDY

Due to government's policy on Education for All (EFA), the country has experienced an increase in early childhood education (ECE) enrolment each year. Out of 15 public universities and 48 Colleges of Education in Ghana, three (3) universities and twelve-(12) Colleges of Education pursue courses on early childhood education (ECE). Students graduating with ECE from these universities and colleges of education are estimated to be eight hundred and twelve (812) per year (Ministry of Gender, Children and Social Protection, 2017).

The ECECs are estimated to be more than 1,900,000 across the country (Ministry of Education Statistical Profile, 2017). As a supervisor of a private ECEC, my concern was how preschool teachers can manage pre-schoolers in the classroom to enhance effective and efficient teaching and learning. However, per my personal observation, it was difficult to find an ECEC in Ghana that has the required TLR as recommended by the Ministry of

Education and Sport in 2008. Again, due to economic hardship in Ghana, shortage of preschool teachers and difficulties in gaining employment either in the public or private sector, most supervisors in ECECs resort to employing unqualified graduates for their preschools. For this reason, the researcher would like to investigate how these large class size and high TLR affect classroom management of ECECs in Ghana. Again, the researcher sought to find out how these unqualified graduates with no knowledge or skills in classroom management are able to handle pre-schoolers in large class sizes.

The researcher's ultimate goal was to do this research on how large class size and TLR affect classroom management in ECECs because the researcher wants to specialise in classroom management as part of his preschool supervision. The main rationale for the study was targeted at identifying the challenges facing ECECs and draw the attention of authorities to improve the quality of ECE in Ghana because TLR was an integral part of this imperative preschool education. Hence, the research sought to investigate and understand the effect of TLR on classroom management and to advance knowledge in the area. The researcher intends to use preschool teachers and headteachers because they are the main implementers of the policies designed to take care of classroom management strategies and have the direct contact with pre-schoolers in classroom.

There are many studies on class size, TLR and classroom management in Africa such as other continents. However, the findings of those studies were useful for academic purposes and contextual benefits. Again, studies with this study area were mostly concentrated on either quantitative or qualitative research and were conducted in the district or regional context. To the best of my knowledge as far as this study area is concerned, no study, has investigated the effect of large class size and TLR on teachers' classroom management in ECECs to date in Ghana. The study would therefore aim to contribute to educational knowledge by conducting empirical research that has not been undertaken in Ghana.

1.3 BACKGROUND AND CONTEXT

From the EFA policy statement, the Government of Ghana was committed to reducing poverty through education. Quality education has been implemented as the poverty reduction strategy. This is done by ensuring that individuals acquire the rudimentary skills such as reading, writing and numeracy. However, education also promotes economic growth, reduces economic inequalities and increases the individual's earnings which help in poverty reduction (UNESCO GEM Report, 2016). The key indicators of the performance of the education policy in the Education Sector Plan (ESP) and the Growth and Poverty Reduction Policy II (GPRS II) were to promote excellence in teaching and learning to improve the educational efforts of pre-schoolers in the ECECs. Again, the goal of the GPRS II strategy was to enhance excellent teaching and learning, which was linked to the growth of all sectors of the economy (Ministry of Education, Youth and Sports, 2007).

Nevertheless, universal participation in the achievement of excellence was essentially dependent on the quality of education available to all pre-schoolers in the ECECs. The UNESCO (2006) report indicated an average of 1:40 TLR in developing countries. It also indicates that 84% of classrooms in developing countries had more than 1:55 TLR. A study conducted by Kaloki, Kasau, Kitoo, Mutind and Jeremiah (2015), found that the majority of ECECs in developing countries in the world have a class size of more than 40 pre-schoolers. Findings from other sub-Saharan African countries reflect the situation found in Ghana and these findings have undoubtedly impacted ECEC in Ghana.

The policy of TLR stated by the Minister of Education, Youth and Sports in 2008, has not yet been accomplished in Ghana and other sub-Saharan African countries. The UNESCO Institute for Statistics report (2018) shows that sub-Saharan African and Asian countries have the highest TLR of more than 1:30. Whereas sub-Saharan Africa has the highest TLR with Congo (1:54), Mali (1:55), Mozambique (1:67), Rwanda (1:65), Ethiopia and Malawi (1:70), Burundi (1:32), Central African Republic (1:44), Chad (1:32), Gambia (1:48), Ghana (1:38), Guinea (1:34) and Liberia (1:48). The UNESCO Institute for

Statistics Report (2018) showed that early childhood education (ECE) in Ghana was in a troubling state looking at the target set by Ghana's Ministry of Education, Youth and Sports in 2008 and the current situation of TLR.

The abnormally high TLR in the above-mentioned countries was as a result of the shortage of teachers and a higher enrolment following the pursuit for universal education. Studies have shown that the increase in enrolment was due to the quest for universal primary education (Akoto-Baako, 2018; Torkorny, 2019). The shortage of pre-school teachers had caused the problem for delivering good teaching in ECECs. Pre-school teachers face problems in dealing with large classes and with the management of pre-schoolers. These high enrolments in ECECs in developing countries have also caused low effectiveness in relation to instructional delivery which was the main reason for poor educational performance (Kaloki, Kasau, Kitoo, Mutind, & Jeremiah, 2015).

In the quest to fulfil the international mandate on TLR, most developing countries have instituted strategies by employing substitute teachers in order to reduce the workload created by large class sizes. In Cambodia, these substitute teachers are normally called contract or para-teachers who provide substitute education service in the country (Kaloki, et al. 2015). However, the study conducted by Kali (2014) suggests that due to shortage and non-availability of teachers, most private and public ECECs have engaged the services of religious leaders to support their educational system. In the same vein, Omotosho (2016) comments that contract and part-time teachers are employed to supplement teaching in schools. These substitute teachers or contract teachers were recruited in countries like: Ghana, Togo, Mali, India and Nigeria to help solve the shortage of teachers and high TLR (UNESCO, 2006). In support of UNESCO's (2006) statement, Akoto-Baako (2018) also suggested that large class sizes found in developing countries like Ghana and Nigeria often go beyond 100 pre-schoolers in a classroom which makes teaching and learning difficult to achieve. The truth was that large class sizes and high TLR have also affected the quality of instructional delivery in ECECs coupled with poor teaching resources (Semali, 2018).

Since 2008, Ghana has been faced with the challenges of TLR due to shortage of pre-school teachers (MoE, 2010). The situation continues to worsen as the International Monetary Fund (IMF) conditionality had to freeze employment in the public sector for a decade which resulted in Ghana's 2014 growth to drop below the sub-Saharan African (SSA) average rate of 5.0% (IMF, 2015). Despite, the concern of Ghana's failure to maintain its growth momentum, the dropping growth rates were not exclusive to Ghana rather they were being felt across other developing countries. The country went to the IMF for a financial bailout because the economy was not performing well. Nonetheless, based on the IMF's conditionality, students who graduated from the Colleges of Education from 2008 to 2016 were not employed. The study by the MoE (2018) also revealed that between 2008-2016, some 7,000 teachers were on retirement, and another 800 teachers who had health challenges were asked to retire early. In Ghana, the enrolment levels in ECECs have increased from 2.3 million to 4.1 million between 2008 and 2016 (MoE, 2016) and have caused problems such as the availability of physical and human resources to support pre-schoolers in the ECECs. The Ministry of Education (2017) reported that TLR increased progressively from 1:18 to 1:45 in urban areas and 1:70 in rural areas. Inasmuch as the aim of education was to ensure that pre-schoolers realise their full potential, supervising pre-schoolers under these conditions could be difficult to manage. However, the researcher's concern about how preschool teachers manage and direct class activities to help the pre-schoolers realise their full potential cannot be over-emphasised.

Classroom management entails organising events which are directed by the preschool teachers to prevent problems in class (Mohammad & Bafrin, 2015). In addition, Martin and Sass (2010) highlight that classroom management was a general term for pre-school teachers' actions to managing pre-schoolers' behaviours and their learning activities. These teacher's actions of the preschool teachers could help bring order in the classroom, dealing with distractive behaviour and offer suitable instructional activities to ensure that pre-schoolers have care for their emotional and cognitive are met (Emmer & Stough, 2001; Mohammad & Bafrin, 2015).

Classroom management has become an essential element in education for the past few years. The reason being has that, effective instructional activities cannot take place in our ECECs without proper classroom management strategies in place (Cobbold & Boateng, 2016). However, Cobbold and Boateng (2016) suggested that classroom management denotes a teacher's ability to keep order, engage pre-schoolers in active learning and engage pre-schoolers' cooperation in all activities in class. Mohammad and Bafrin (2015), also posit that classroom management place emphasis on how preschool teachers coordinate classroom activities to ensure that order is maintained. They further highlight that effective classroom management could enhance smooth instructional delivery. In addition, the researcher also believes that effective classroom management could be achieved if preschool teachers get the full attention of pre-schoolers to attain knowledge, skills, values and attitudes necessary for purposeful results or classroom activities.

Emmer and Stough (2001) state that classroom management was a significant component for preschool teacher training and required further attention. Cobbold and Boateng (2016) concluded that classroom management involves three essential mechanisms: the arrangement of classroom activities to help maximize academic achievement, maximizing time allocated for instruction and using proactive behaviour management practices. It is evident that classroom management in ECECs needs attention due to the protection of pre-schoolers from any attacks by other pre-schoolers, hazardous conditions in classroom and from physical, emotional and psychological abuse from other pre-schoolers and further concluded there were a positive relationship between effective classroom management and pre-schoolers achievement (Mohammad & Bafrin, 2015).

Poor classroom management could lead to pre-school teachers stressing to maintain discipline and prevent classroom violence and bullying (Cobbold & Boateng, 2016). In ECECs where there were the large class sizes and high TLRs, instructors or supervisors spent more instructional time trying to maintain discipline and order (Nicks, 2012). When the instructional time is spent maintaining discipline, pre-school teachers would eventually not cover the whole learning content needed by the pre-schoolers to achieve the

instructional objectives. It could be essential for pre-school teachers to implement effective and efficient classroom management strategies to help improve classroom environment where proper teaching and learning can be mediated with the desired TLRs in ECECs.

1.3.1 Contextual setting

Ghana is in West Africa, with the Ivory Coast to the west, Burkina Faso to the north, Togo to the east, and the Gulf of Guinea to the south. Ghana has a coastline of only 539 kilometres and a total land area of 238,533 square kilometres. It is the eighty-second (82nd) largest country on the planet (Cartographic Section University of Cape Coast, 2019).

According to Kissi-Abrokwah (2019), the number of sites in the sample is determined by the researcher's interest in the study and what he or she needs to know. Ashanti, Ahafo, Central, Eastern, Western, Greater Accra, Northern, Upper East, Upper West, Volta, Savannah, Bono, North East, Bono East, Oti, and Western North are the sixteen (16) regions of Ghana. The researcher conducted the research in all sixteen (16) regions which geographically were put into three (3) zones. Each zone has the characteristics of a regional commonality.

Table 1.1: Classification of Ghana into geographical zones

Zones	Regions
Northern	Northern, Upper West, Upper East, North East, Savannah
Middle	Ashanti, Brong-Ahafo, Eastern, Ahafo, Bono, Oti
Southern	Central, Greater Accra, Volta, Western, Western North

Source: Cartographic section UCC (2020)

Table 1.1 shows the geographical demarcation of Ghana into three (3) zones and each zone has its homogeneous characteristics namely: Northern (Northern Region, Upper West Region, Upper East Region, North East Region, Savannah Region); Middle (Ashanti Region, Brong-Ahafo Region, Eastern Region, Ahafo Region, Bono Region, Oti Region) and Southern (Central Region, Greater Accra Region, Volta Region, Western Region, Western North Region). For example, regions in the northern zone have the same climatic and vegetative conditions during the Harmattan period, rainfall patterns coupled with semi-deciduous trees such as shea nut trees, acacia and baobab trees.

Besides, the five regions of the northern zone have homogeneous characteristics. The middle zone has a different pattern of rainfall and the type of crop grown varies from the other two sectors. For example, crops grown in the three middle-sector regions are mainly cash crops such as cocoa and rubber. The southern zone also has a unique climatic condition and natural resource like the sea. According to Patton (2002), there is no guideline that tells a researcher exactly where and how to focus on a study. The extent to which a study's research or evaluation is broad or restricted is determined by the study's objective, available resources, and participants' interests.

Based on this and taking into account the proximity and remoteness of the regions, as well as the study's resources, the researcher limited the study to three (3) regions, with certain metropolis within each region being chosen. The Tamale Metropolis, which is the regional capital for the Northern Region, was the initial study area. The Tamale metropolis commands several tourist attractions, such as the Mole National Park. The metropolis was seen as the main gateway for people commuting from the southern zone to the northern zone and back. The climate and conditions there are completely different from those of the southern or the middle zone. The Tamale Metropolis has 268 ECECs, out of which 111 are public ECECs and 157 private ECECs (Education Management Information System, 2018).

The second study area was the Kumasi Metropolis which is the regional capital for Ashanti Region. It is positioned in the centre of Ghana. Most of the other metropolises usually

have their route connections through it before they get to other metropolises. People commuting from the Greater Accra, Eastern, Central, Western North and Western Regions to the northern zone usually have to pass through the Kumasi Metropolis before heading towards their destinations. The Kumasi Metropolis has 402 ECECs out of which 168 are public ECECs and 234 are private ECECs (Education Management Information System, 2018).

The third study area was the Cape Coast Metropolis which is the regional capital for Central Region. The Cape Coast Metropolis has the biggest castles and forts in Ghana. Cape Coast Metropolis was one-time, the capital of Ghana. It is seen as the citadel of education in the country, where most people would want their children to study. The Cape Coast Metropolis, which lies by the side of the Atlantic Ocean can boast of having some of the best schools in the country. The Cape Coast Metropolis has 230 ECECs which consist of 128 public ECECs and 102 private ECECs (Education Management Information System, 2018).

1.4 PROBLEM STATEMENT

Ghana has made efforts to improve its educational system for national development (Kusi, 2008). The implementation of Education for All (EFA) was part of the policy to help expand education in the country. Hence, it was believed that the effective delivery and implementation of early childhood education (ECE) was important to bring desirable results in the educational system. From this background, ECE has become a pre-requisite and it is of importance for the future development of every nation. However, presently in Ghana, it was disheartening to see early childhood education centres (ECECs) operating under distress conditions. Torkorny (2019) posits that kindergarten teachers experience stress as a result of workload, teaching large classes and coupled with poor classroom condition operated in school. He further explains that pre-school teachers become distressed when they are unable to meet deadline duties which create tension for them.

To achieve equitable access to education, Awoyemi (2006) states that a smooth transition was essential if EFA was to become a powerhouse for knowledge sharing and information dissemination that could also help in the formation of new generational thinkers. This

means that EFA becomes an effective tool to ensure that poverty gap in each nation has been closed (Awoyemi, 2006). For this reason, governments across the world have emphasised educational progress for every pre-schooler. Ghana's educational reform was designed to address the country's poor educational situation. The fundamental principle of educational reform was to produce intellectually, emotionally, and physically well-balanced persons with the nation's required knowledge, skills, values, and aptitudes for self-actualisation and socioeconomic and political revolution (Daily Graphic, 2003).

Ghana as a country has over the years faced challenges in educational development of ECECs. These challenges that ECECs face in Ghana ranges from large class size, poor classroom environment to high TLR which result in poor classroom management. Staffing, access, finance, quality, and relevance, as well as governance and administration, are all problems (Republic of Ghana Presidential Committee on Review of Education Reforms, 2002). Since ECE remains the heart or source of all forms of education, the researcher believes that steps should be taken to ensure that the conditions in which teaching and learning are mediated are well provided.

Awoyemi (2006) claims that even with support staff, the existing TLR in ECECs was still high. The Teachers and Lecturers Association report (2009) indicated that preschool teachers who teach large classes have the impression that their class sizes have an impact on the participation and concentration of the pre-schoolers. Furthermore, the Association of Teachers and Lecturers (2009) states that large numbers of pupils in class have an impact on not just the quality of teaching and learning, but also on the health of preschool teachers and their capacity to apply effective classroom management practices. The researcher suggests that when pre-schoolers are in large classes, it could be difficult for preschool teachers to deal with behavioural problems and non-task instructional tasks. It is still evident that there has not been any reduction in the TLR recently.

Statistics from the Education Management Information System (EMIS) for 2017/2018 revealed high enrolment at ECECs across the country from 81.4% to 96.4%. To confirm

the report, the Ghana population was currently estimated at around 30 million people. A study carried out by Adam (2015) found that TLR had increased and teacher textbook to learner ratio has not improved over the years. Adam's (2015) study gave an indication that TLR stands at 1:50 for public schools and 1:40 for private schools. This situation of one preschool teacher handling over 50 pre-schoolers in the classroom makes it challenging to control the pre-schoolers and teach effectively. Some pre-schoolers may pay attention while others may choose not to pay attention to classroom activities but may only add up to the classroom numbers.

Contrary to the large class size, preschool teachers in small class sizes with limited learners' ratios are able to attend to the pre-schooler's needs (Bahanshal, 2013). Again, Bahanshal (2013), stated that preschool teachers encounter challenges when dealing with pre-schoolers in large classes because knowing all pre-schoolers in the class was difficult. Another problem which was borne out of large class size was the ability for a pre-school teacher to recognise and control pre-schoolers who distract their classmates from concentrating on classroom activities and instructions.

Studies concerning large class size and TLR reviews were mostly quantitative studies that concentrated on primary schools, but scholars like: Akoto-Baako (2018), Hertling, Leonard, Limsden and Smith (2000) mainly focused on elementary schools, secondary schools and universities. The current study focuses on pre-schoolers at ECECs across the country, the class sizes in which teaching and learning are being mediated, TLR which shows the number of pre-schoolers that teachers supervise and classroom management which duly shows how preschool teachers are able to control pre-schoolers to attain their full potential. These variables were important because pre-schoolers are in their exploration stage and are full of adventure, so they need maximum care and attention from their preschool teachers to develop their full potential. For this reason, the researcher wants to focus on how class size and TLR affect classroom management in ECECs in Ghana.

1.5 THE RESEARCH AIM AND OBJECTIVES

The following are the study's goals and objectives, as defined in light of the study's problem statement:

1.5.1 Aim of the study

The main aim of the study was to investigate how large class size and TLR affect classroom management in ECECs in Ghana.

1.5.2 Objectives of the study

The following general objectives were addressed in order to achieve the study's main goal:

- To examine the pattern of behaviour exhibited by pre-schoolers in classroom;
- To identify the challenges preschool teachers, face in managing pre-schoolers in large size classroom;
- To investigate how large class size and TLR affect teaching and learning in early childhood development centres in Ghana;
- To examine preschool teacher's self-efficacy beliefs in managing pre-schoolers in large size classroom.
- To assess strategies adapted by preschool teachers to enhance effective classroom management in early childhood development centres in Ghana.

1.6 RESEARCH QUESTIONS AND HYPOTHESES

In the light of the problem statement of this study, the main research questions and hypotheses were formulated as indicated below:

1.6.1 Research questions

The study was guided by a set of sub-questions, which included the following:

- What patterns of behaviour are exhibited by pre-schoolers in large size classes?
- What challenges do preschool teachers face in managing pre-schoolers in large size classes?
- How does large class size and TLR affect teaching and learning in ECECs in Ghana?
- What are preschool teachers' self-efficacy beliefs in managing pre-schoolers in large size classrooms?
- What strategies do preschool teachers use to enhance effective classroom management in ECECs in Ghana?

1.6.2 Research hypotheses

In order to address the quantitative component of the study, the following research hypothesis were formulated:

- H1: There is no significant difference between preschool teachers' working experience and classroom management strategies.
- H2: There is no significant difference between the educational level of preschool teachers and classroom management strategies.
- H3: There is no significant difference between TLR and classroom management strategies.
- H4: There is no significant difference between ECECs and classroom management strategies.
- H5: There is no significant difference between type of teachers with respect to self-efficacy belief in classroom management strategies.
- H6: There is no significant difference between class size and teachers' self-efficacy belief to manage pre-schoolers in large class.

H7: There is a positive strong relationship between challenges teachers face in handling pre-schoolers in large class and classroom management strategies they adopt.

H8: There is a positive strong relationship between influence of class size and TLR on teaching and learning in ECECs and teachers' self-efficacy belief to manage pre-schoolers in large class.

1.7 SIGNIFICANCE OF THE STUDY

Headteachers, preschool teachers, researchers, parents, and curriculum specialists or designers are likely to benefit from the study. Head teachers and preschool teachers will benefit greatly from the study since it will provide them with useful information on how large class sizes and TLR effect classroom management in Ghana's ECECs. Parents would be able to know the pattern of behaviour exhibited by pre-schoolers so that effective measures can be taken to assist them in the house.

The research would, however, support curriculum experts by making changes to the curriculum reform of ECE. The study's findings would help experts understand the challenges faced by preschool teachers who teach in large class sizes and to develop a good curriculum that can account for TLR and classroom management strategies.

The research would also add to the existing literature on large class sizes, TLR, and classroom management. Future scholars would be able to access similar research reference material as a result of this. In other words, the findings of this study can be used as background information by future researches looking into the effects of large class sizes and TLR on classroom management in Ghanaian ECECs.

1.8 THE RESEARCH ASSUMPTIONS

In the study, the following assumptions were made:

- Pre-schoolers in ECECs were exposed to similar teaching and learning materials (TLMs).

- The participants used in the study were presumed to have similar rudimentary knowledge and training related to classroom management strategies.
- All ECECs had the required class size and TLR recommended by the Ghana Education Service.
- The practice and management of ECECs were in line with international trends.

1.9 RESEARCH DESIGN, PARADIGM AND METHODOLOGY

This section gives a quick overview of the philosophical underpinnings, as well as the design and approach used to attain the study's goals and objectives.

1.9.1 The research paradigm

The study was conducted from the pragmatism philosophical assumption concerning how knowledge was gained and provided insight into how data were collected and analysed in the study. This implies that the pragmatism paradigm provides the opportunities for the researcher to combine the ontological and epistemological assumptions for both positivists and interpretivists' views (Creswell & Creswell, 2018). Furthermore, the pragmatist paradigm allowed the researcher to interact with preschool teachers and headteachers with leading multiple views on how large class size and TLR affect classroom management in ECECs in Ghana. For this reason, multiple perspectives in the pragmatism paradigm allowed the researcher to have a more in-depth knowledge on how large class size and TLR affect classroom management in ECECs in Ghana.

1.9.2 The research approach

From the basis of the pragmatism paradigm, the researcher aligned himself with the mixed method approach which involved adopting quantitative and qualitative research approaches for collecting, processing and analysing data (Creswell & Creswell, 2018). On the quantitative phase, the researcher collected data from a large group of respondents using questionnaire with the aim of generalising the findings. On the qualitative phase, the researcher observed participants in ECECs whereby a systematic inquiry was done to understand the pattern of behaviour exhibited by pre-schoolers and

classroom management strategies used by preschool teachers (Dube, 2015; Parker, 2003). Again, the qualitative approach offered an opportunity to interact with participants to find out the challenges they encounter when managing pre-schoolers in large classes. However, observation and interview were used for data collection. In mixed method approach the weakness of one approach is complimented by the strength of other approaches.

1.9.3 The research design

The researcher chose the concurrent triangulation mixed method designed to investigate how large class size and TLR affect classroom management in ECECs. Choosing this design helped the researcher to collect, process and analyse quantitative and qualitative data simultaneously (Creswell & Creswell, 2018). This design addressed the research questions by obtaining thick, rich and vivid accounts from participants. The qualitative data were collected using case study through interviews and observation. The quantitative data was collected using descriptive survey through the administration of questionnaire. The use of this multiple procedure for data collection was important for the triangulation which allows the researcher to merge data (Creswell & Creswell, 2018; Ponelis, 2015).

1.10 DATA COLLECTION PROCEDURE

This section provides a brief summary on how data collection procedure, which include site selections, sampling and data collection tools were used for the study.

1.10.1 Site selections

The study on effect of large class size and TLR on classroom management in ECECs in Ghana would be worthwhile if it has covered the whole country. However, using all ECECs, preschool teachers and head teachers in Ghana was impossible due to financial constraints and time limit for the academic programme. The researcher decided to consider appropriate a 'bite-size' research covering Ghana. For the purpose of

generalisation and having fair representation of the study, Ghana was divided into three sectors where each had one metropolis namely; Cape coast, Kumasi and Tamale metropolis were selected as the study sites.

1.10.2 Sampling

The researcher made in-depth analysis of how large class size and TLR affect classroom management in ECECs. The multistage sampling procedure was used for the study. The researcher chose this sampling procedure because it allows researchers to divide the entire population into groups for easy sampling to be done. In the context of this research, the multistage sampling procedure allowed the researcher to use different sampling techniques in the study. It also helped in of selecting participants who provided significant data for the research and gave a fair understanding of how each participant in the study was sampled. The researcher believes that using the multistage sampling procedure provides the most relevant and rich data from participants (Creswell, 2014; Magwa & Magwa, 2015).

1.10.3 Data collection tools

By way of collecting rich and detailed description of data to enable the researcher to answer the sub-questions of the study, the researcher employed a questionnaire, semi-structured interview guide and observation guide as a result of the complex nature of the study (Appendix F, G and H). The questionnaire was four-point Likert scale, where participants were allowed to agree or disagree with a set of statements (Appendix F). The interview guide was essential because it allowed the researcher to make an in-depth assessment into the case (Appendix G). However, an observation helped in the assessment of the behavioural pattern exhibited by pre-schoolers in large class size and how preschool teachers managed pre-schoolers in these classes (Appendix H). In this sense, the use of multiple methods led to data triangulation (Thanh & Thanh, 2015) to help the researcher have a more comprehensive understanding of how large class size and TLR affect classroom management in ECECs in Ghana.

1.11 RELIABILITY, VALIDITY AND TRUSTWORTHINESS

This section provides a brief summary of how reliability, validity and trustworthiness were discussed in the study.

1.11.1 Reliability

Silverman (2015), defines reliability as the degree to which studies produce the same results when repeated by different researchers or on different context. During the pilot testing, test-retest reliability procedure was used. This helped the researcher to collect two (2) sets of data from the participants within two weeks. This procedure was used to check for the consistency of response from participants. However, statements that were complex and difficult to understand by participants were modified before data collection.

1.11.2 Validity

Tashakkori and Teddlie (2010) define validity as the degree to which a concept or the values of the questionnaire accurately or truly measured what was supposed to be measured. To check the validity of the instruments, experts with knowledge about early childhood education and research were asked to assess the questions to determine if they really measure the variables being discussed in the study. The feedback derive from the experts were modified to suit the content of the study.

1.11.3 Trustworthiness

Trustworthiness was arguably one of the most important difficulties to overcome in research, especially in mixed method studies (Montuschi, 2014). The core reason was based on the argument that qualitative research was subjective and value laden (Montuschi, 2014); therefore, the traditional way of checking the rigour of research is normally the use of validity and reliability (Kusi, 2012). Meanwhile, there are four fundamental ways of ensuring rigour research. These four fundamental procedures which involve dependability, confirmability, credibility and transferability as espoused by Silverman (2015) were used to check the trustworthiness of the study.

1.12 ETHICAL CONSIDERATIONS

The researcher applied to the University of South Africa's College of Education for ethical clearance (Appendix I). Permission was sought from the Ministry of Education of Ghana, thereafter from the Metropolitan Educational Units from the various selected research sites, parents, pre-schoolers and research participants used for the study. The participants were voluntarily/purposively selected from ECECs in Ghana and the main aim of the study was explained to all the participants and informed consent was discussed with participants during the research process. Further, the researcher assured respondents about the confidentiality and anonymity of the information they would be providing before data collection.

1.13 THEORETICAL REVIEW

Theory was defined by Mackey and Jacobson (2011), as a set of interrelated ideas and facts that are intended to explain events. In the view of research, theories are used to shape participants ideas and concepts which help to achieve stated aim of the study (Mackey & Jacobson, 2011). The researcher believes that theoretical review forms an integral part of scholarly research where activities based on principles and practices are used to justify the course of action. Tewel (2015), concludes that theoretical review helps to predict and understand participants assumption on how knowledge was gained and explained. The study was underpinned by Lev Vygotsky's social constructivist theory.

1.13.1 Social constructivist theory

The study of how large class size and TLR affect classroom management in ECECs depends on Vygotsky's social constructivist theory as the lens to understand how preschool teachers interact with pre-schoolers to maintain effective classroom management at the ECECs. Vygotsky's theory ascertains that knowledge is co-constructed when pre-schoolers learn from each other. This implies that the pre-schoolers can learn some pattern of behaviour among themselves when they are found in large class size with less supervision. According to Clark (2014), the social constructivist theory was impacted by pre-schoolers' social environment and cognition, where pre-schoolers learn from interactions with more informed people (preschool teachers). Additionally,

Clark (2014) notes that pre-schoolers' development or behaviour is as a result of their interaction with the social environment they find themselves and their culture practice. In this sense, the preschool teachers communication of learning goals plays a significant role in developing pre-schoolers cognition to help classroom management.

Moreover, Vygotsky`s social constructivist theory can be conceptualised based on these learning principles: social interaction, zone of proximal development and scaffolding. The term social interaction interplays the discourse between the preschool teacher and pre-schoolers. Short (2013) posits that the positive relationship between the preschool teacher and pre-schoolers could lead to effective classroom management. However, negative interaction between the preschool teacher and the pre-schoolers can affect how preschool teachers manage classroom.

The next key concept of Vygotsky's social constructivist theory was zone proximal development. The researcher believes that active learning could translate in ECECs when pre-schoolers learn in groups while in classroom. Akoto-Baako (2018) stated that zone proximal development can be used to manage pre-schoolers in the classroom when they are in groups because the preschool teacher can easily attend to a group than focusing on an individual; therefore, communicating learning goals such as speech and writing can simply be taught in groups. The last concept of Vygotsky's social constructivist theory was scaffolding. This concept requires the preschool teacher to provide chance for the pre-schoolers to acquire skills by breaking the learnable bit into chunks (Hausfather, 2016).

1.14 DELIMITATION OF THE STUDY

The study focuses on how large class size and TLR affect classroom management in ECECs in Ghana. The study covered eighteen (18) ECECs within the Tamale, Kumasi and Cape Coast metropolises of Ghana. The head teachers and preschool teachers were the main participants of the study because they are directly involved with classroom management. The study also focused on the observation by kindergarten one (1) and kindergarten (2) pre-schoolers in ECECs within Tamale, Kumasi and Cape Coast metropolises of Ghana.

To provide in-depth analysis of the issues at hand, the philosophical stance of the study, the pragmatism paradigm was found paramount. Also, to obtain a fair understanding of how large class size and TLR affect classroom management in ECECs, the researcher employed the concurrent triangulation mixed method design. The concurrent triangulation mixed method design allows the researcher to obtain, process and analyse both quantitative and qualitative data. The design also allows the researcher to compare data and in collecting data, participants are selected without recourse to their racial, cultural or socio-economic backgrounds. The participants were selected were not the total representation of the entire population of ECECs in Ghana, but they were expected to have similar challenges with the rest of the ECECs in Ghana.

1.15 CLARIFICATION OF CONCEPTS

A number of concepts which are highlighted throughout this study are described in this section.

1.15.1 Classroom management

Classroom management refers to various procedures and techniques used in managing instruction and behaviour in order to ensure safety of pre-schoolers in early childhood classroom (Torkorny, 2019). Wong and Rosemary (2001) explain classroom management as activities organised by preschool teachers to ensure that pre-schoolers understand the instructional content. Wong and Rosemary (2001) further assert that principles and procedures adopted by the preschool teacher to ensure that organised space, time and materials are available for the pre-schoolers to act effective in class.

1.15.2 Class size

It is the stipulated number of pre-schoolers that should be in early childhood classrooms and the required number of pre-schoolers should be up to 18 or below (Ministry of Education, 2016). From this perspective, Shamim, Negash, Chuku and Demewoz, (2007) note that there was no definite definition for class size but can be conceptualised based on the researcher's context. The definition varies from one context to another because

the class size that was considered to be small in one country may be large in another country.

1.15.3 Early childhood education

It is an educational course which are delivered for children from birth to age 6 years to build their developmental needs (Ministry of Education, 2016). The age range of children in early childhood education (ECE) used for this study was 4 to 6 in this study. In confirmation to the above, Akoto-Baako (2018) points out that early childhood education was a developmental setting where children around the ages of 4 to 6-years develop their inner potentials.

1.15.4 Early childhood education centre

It is a study centre where pre-schoolers from birth to 6 years are trained on social, educational, moral, emotional, cultural, physical and psychological development (Ministry of Education, 2016). Education for pre-schoolers starts at this centre because the facilities there help pre-schoolers to develop their full potentials of life.

1.15.5 Large class size

The Ghana Education Service defines the large class size as any class setting where the numbers of pre-schoolers in a classroom are more than stipulated TLR (1:18) and in the view of Akoto-Baako (2018), large class size depicts pre-schoolers exceeding the physical space which should be occupied.

1.15.6 Pre-schoolers

Torkorny (2019) highlights that pre-schoolers are children who have just started schooling and can be found in early childhood educational centres and further stated that these individuals are miniatures who are yet to develop their mental, social, psychological

abilities and knowledge in life. They are children between the ages of 4-6 years and are in kindergarten 1 and 2.

1.15.7 Preschool teacher

An adult whose primary responsibility is teaching pre-schoolers at the ECECs. These are professionals who have qualifications in preschool training and have acquired the rudimentary knowledge and skill to teach pre-schoolers in ECECs. In this study, the researcher believes that preschool teachers are trained graduates who have the abilities to manage pre-schoolers in classroom.

1.15.8 Teacher-learner ratio

It is the recommended learner per teacher in the classroom. The term was not fixed but depicts the required number of pre-schoolers and how the preschool teacher can supervise to ensure effective instructional activities (Akoto-Baako, 2018).

1.16 CHAPTER DIVISIONS

This section explains how the research was organised into chapters.

1.16.1 Chapter one: Conceptualisation and orientation of the study

The study's background statement, a description of the problem, the research's objective, and its goals are all included in this part. The major research question, sub-questions, research hypotheses, significance, study delimitations, concept definitions, and study organisation are all discussed in this chapter.

1.16.2 Chapter two: Literature review

It involves the theoretical review, conceptual framework and empirical perspective. The empirical analysis was divided into subheadings representing the thematic areas such as: 1) pattern of behaviour exhibited by pre-schoolers in large size classes, 2) challenges preschool teachers face in managing pre-schoolers in large size classes; 3) large class

size and TLR affecting teaching and learning in ECECs; 4) preschool teacher's self-efficacy beliefs in managing pre-schoolers in large class sizes; and 5) strategies preschool teachers use to enhance effective classroom management in ECECs.

1.16.3 Chapter three: Research design and methodology

The third chapter focuses on the methodology that guided the study. The chapter summarizes the study's philosophical stance, approach and design of the study, research population, sample and sampling method, research tool, measures to ensure the study's trustworthiness, pre-testing of instruments, and the data processing and analytical procedures.

1.16.4 Chapter four: Analysis and interpretation of data

This chapter describes the quantitative and qualitative results of the study. The results were obtained using the instruments that were discussed in chapter three. The explanation of quantitative results was in line with the sub-questions and hypotheses found in sub-section 1.3.2 and 1.3.3. However, the qualitative data was analysed based on transcription and observations made during data collection. The interviews and observations were transcended to have deeper understanding on how large class size and TLR affect classroom management in ECECs

1.16.5 Chapter five: Discussion of findings

The section presented in the discussion of findings. The discussion was conducted in accordance with the findings in Chapter four (4) and was based on the material reviewed in Chapter two (2).

1.16.6 Chapter six: Summary, conclusions and recommendations

The study's summary, conclusions, and recommendations are presented in this chapter. The chapter also makes suggestions for future research. Finally, appendices were placed

at the end of the thesis, including data collection instruments, introductory letters, ethical clearance letters, and data collection and acceptance letters.

1.17 SUMMARY OF CHAPTER ONE

The introduction and background shed light on the state of class size and TLR in Ghana and the world. From the global perspective, the literature confirms how education represents the heart of nations. However, the quality of the education was compromised due to resource, parental involvement and teacher to learner ratio that do not ensure effective delivery of teaching in ECECs. Again, the background phase shed light on how Education for All (EFA) instituted by UNESCO was adopted by 189-member countries. This concept of EFA guaranteed access to education for every growing child in the world.

The section highlighted how TLR could ensure quality of education. Explaining further, statistics on TLR from sub-Saharan Africa and Asia were discussed. Looking at the target set by government of Ghana of 1-18 and the current situation of 1-38 showed that Ghana is in a troubling state due to TLR. The situation of TLR has compelled supervisors of ECECs to employ substitute, contract and religious leaders to assist with the delivery of teaching.

Another essential element highlighted at the background phase was classroom management. Regarding this variable, researchers like Cobbold and Boateng (2016); Jepson and Forrest (2006); Mohammad and Bafrin (2015); Nicks (2012) and Sugai and Horner (2006) all shared their knowledge about what classroom management is. For instance, they shed light on what classroom management entails where comments were based on all activities that ensured effective delivery of instructional content in class. These also include preschool teachers' ability to keep order, coordinate classroom activities and prevent harmful conditions in the classroom.

The issue statement, the significance of the study, and the study's assumptions on the effects of large class sizes and TLR on classroom management in ECECs were also presented in this chapter. It also includes a brief description of the research questions,

hypotheses, research objectives, methodology, delimitations of the research, theoretical framework, definition of key concepts, and thesis structure.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This section presents literature review of the study. The researcher was aware of the studies conducted by other researchers on effect of large class size and teacher to learner ratio on classroom. The literature review is described as a particular subject or a study field which holds discussion on published information (Hart, 2018). Typically, a literature review has an operational structure, incorporating description and thesis synthesis. Therefore, literature was the primary source of information supporting the findings of the study. It plays an important role in scientific research, and it has been clarified as supportive information for the study (Ridley, 2012). The literature review was characterised as the systematic processes involved in a research area looking for scholarly works (Ridley, 2012). However, literature review is described as a critical review of scholarly works which have been put together (Hart, 2018). As part of a thesis, the literature review offers detailed reference to similar research in the field of study, where comparisons are made between a number of related studies (Ridley, 2012). The literature review essentially explains the whole process of the analysis, including acting as a guide for analysing research data and explaining research findings (Hart, 2018).

The literature supporting this study was gathered from the internet, journals, abstracts and books. The review of the literature was therefore organised under five (5) thematic areas. The first section describes the study's literature map. The second section discusses the theoretical underpinnings of the study. The third section deals with the conceptual framework that focuses on the analysis. The fourth segment discusses the empirical literature review which corresponds with the research questions. The last section provides the conclusion for chapter two (2).

2.1.1 Overview of early childhood education in Ghana

The foundation of early childhood education (ECE) in Ghana can be traced from Britain in the 19th century, where early childhood facilities were built to care and educate infants from age 1 to 6. Ghana was not the only country to have been influenced by the British schooling system. On the African continent, the British system was also accepted by Zimbabwe, Nigeria and South Africa (Lemaire, Amoah, Ntsiful, Micah & Bonney, 2013). The United States was also influenced by how British infant schools have been helping to nurture their children's education (Torkorny, 2019). However, the United States government copied how the ECE system was run from the British with the view of bridging the poverty gap and rescuing poor young children from the street for proper guidance (Aruldoss, 2010). In view of the British and United states, the institutionalisation of ECE in Ghana was to help provide quality and fundamental education culture and citizenship education to pre-schoolers to ensure national development (Ministry of Education, 2018)

The ECE policy offered by the Ministry of Education recommendations and services to help children in all areas of development from prenatal to 6 years. The ECE system ensures that knowing physical, visual, behavioural, socio-emotional, cultural and aesthetic factors ensure harmony with children's medical and nutritional aspects. Another consideration relates to the health and nutrition aspects is the developmental goals for each sub-stage (Torkorny, 2019). This covered every sub-stage within the spectrum of ECE. However, it was expected that before the child leaves the ECE system he/she has developed good sensory developmental readiness for numeracy and literacy skills (Appiah-Essuman, 2019; Ntim 2019, United Nations, 2010).

An assessment was undertaken in the year 2000 to monitor progress in some 180 countries, including Ghana, South Africa, India and Nigeria, towards basic education. The assessment showed that there was a 5% increase in enrolment in the ECECs worldwide. A further education conference took place in Dakar, Senegal (April 26-28, 2000). The main objective was to re-inspire membership countries for their pledge for the EFA (Appiah-Essuman, 2019; Ntim, 2019; United Nations, 2010).

One hundred sixty-four (164) nations, including Ghana, adopted an action plan in Dakar on how to achieve universal basic education for all children by 2015. The implementation of the EFA policy was complicated by a lack of resources and financial support to carry out the action plan. The conference's purpose was to discuss how to expand and enhance education, with a focus on meeting learning needs, guaranteeing equitable access to school for all children, and achieving measurable learning outcomes, particularly in numeracy, reading, and life skills (Ntim, 2019; United Nations, 2010).

The institutionalisation of ECE in Ghana can be traced to 1843 where Ghana was dominated by European missionaries. The motive for the establishment of ECE in Ghana was to promote Christian religion by the European missionaries (Appiah-Essuman, 2019). In 1908, the British missionaries added primary schools to the early childhood education centres (ECECs). However, by 1930, a declaration was issued to include syllabus to formalize ECE system to promote Christianity and life skill (Morrison, 2019). During the first educational reform in Ghana, basic education consisted of three groupings. The nursery and day care centres provide education for pre-schoolers within the ages of 2 to 4 years while the Crèches cater for under age 2 years (Senaman, 2010; Sharpley, 2014). The kindergarten system focuses on the age 4 to 5 years where the pupil would mature to attend primary school that is class one (1) from six (6) years.

After the Dakar conference in 2000, the focus of ECECs has been on the cognitive, emotional and social as well as physical ability of the pre-schoolers. These ECECs are either funded by government or private individuals. The registration of these ECECs is done by the Registrar General's Department and Ministry of Education on the guideline of ensuring that qualified teachers are employed, approved class sizes by the ministry are adhered to, ventilation and security measures are all inspected before licenses are given to start any ECEC (Ministry of Education, 2018; Sharpley, 2014).

Compulsory ECE was instated for pre-schoolers to attend before they graduate to kindergarten and lower primary (Donkor, 2011; Torkornyo, 2019). Based on the compulsory installation of ECE, the government instructed the District Assemblies, Non-

Governmental Organizations (NGOs), Churches and Communities to assist the ECECs in their areas with resources to expand facilities and improve the country's standard of ECE for developmental readiness of pre-schoolers (Ministry of Gender, Children and Social Protection, 2017).

The decisions at the Dakar conference were to ensure that all children have access to quality education. To ensure access to quality education, all primary schools were also instated to have good rooted ECE to graduate pre-schoolers for their schools. However, ECE was/is aimed at helping pre-schoolers develop their skills, particularly by using their hands to make items, unravelling and growing their hidden talents before lower primary (Ministry of Education, 2018; Ministry of Women and children's affairs, 2017). The early childhood education curriculum highlights the importance of life skills such as ensuring good personal hygiene which involves hand washing, tooth brushing to encourage healthy living; improved human relationships which include playing together, giving and sharing, loving oneself and loving others. The ECE curriculum aims to ensure that these life skills are achieved through storytelling, reading books, videos, drama and skits produced by pre-schoolers with guidance from their teachers (Donkor, 2011).

Sadly, the intention of Dakar conference to ensure quality access to education has remained fruitless. This was so because of the limited access to ECECs, large class size, high TLR and the lack of resources to ensure the effective delivery of teaching have not been provided (Appiah-Essuman, 2019; Torkorny, 2019). With the current situation of ECE in Ghana, the researcher concluded that the aim of helping pre-schoolers with basic life skills that define human society has tied us together and has helped people to function in unity; however, this may not be achieved due to poor institutionalisation of ECECs. Early childhood education teaches pre-schoolers on how to work together. Pre-schoolers are paired together to work in teams to help them to develop team spirit and a spirit of commitment among themselves. Early childhood education helps pre-schoolers to develop a spirit of cooperation and support for each other. In Ghana it is common to find ECECs with class size of seventy (70) pre-schoolers and in some cases one (1) preschool teacher would be supervising three (3) classes. Looking at the aim of ensuring quality

access to education with the scenario where 70 pre-schoolers and one (1) preschool teacher supervising three classes makes it difficult to compete with the developed countries.

2.2 A LITERATURE MAP OF THE STUDY

It was very important to arrange the analysis of literature under various headings, using conceptualised literature map. The conceptualised literature map describes the structure of the study and includes different sub-structure points, indicating how literature was reviewed from the research questions. There is a link between the theoretical review and the conceptual framework of the study. Creswell (2014) states that a good literature review should guide readers on how the ideas used in the study were related to the conceptual framework. Creswell (2014) went on to say that visualising a literature review allows readers to see knowledge overlaps or important literature topics, as well as determine how the research adds to or builds on existing literature rather than duplicating previous studies. Figure 2.1 depicts how the literature was organised in this study.

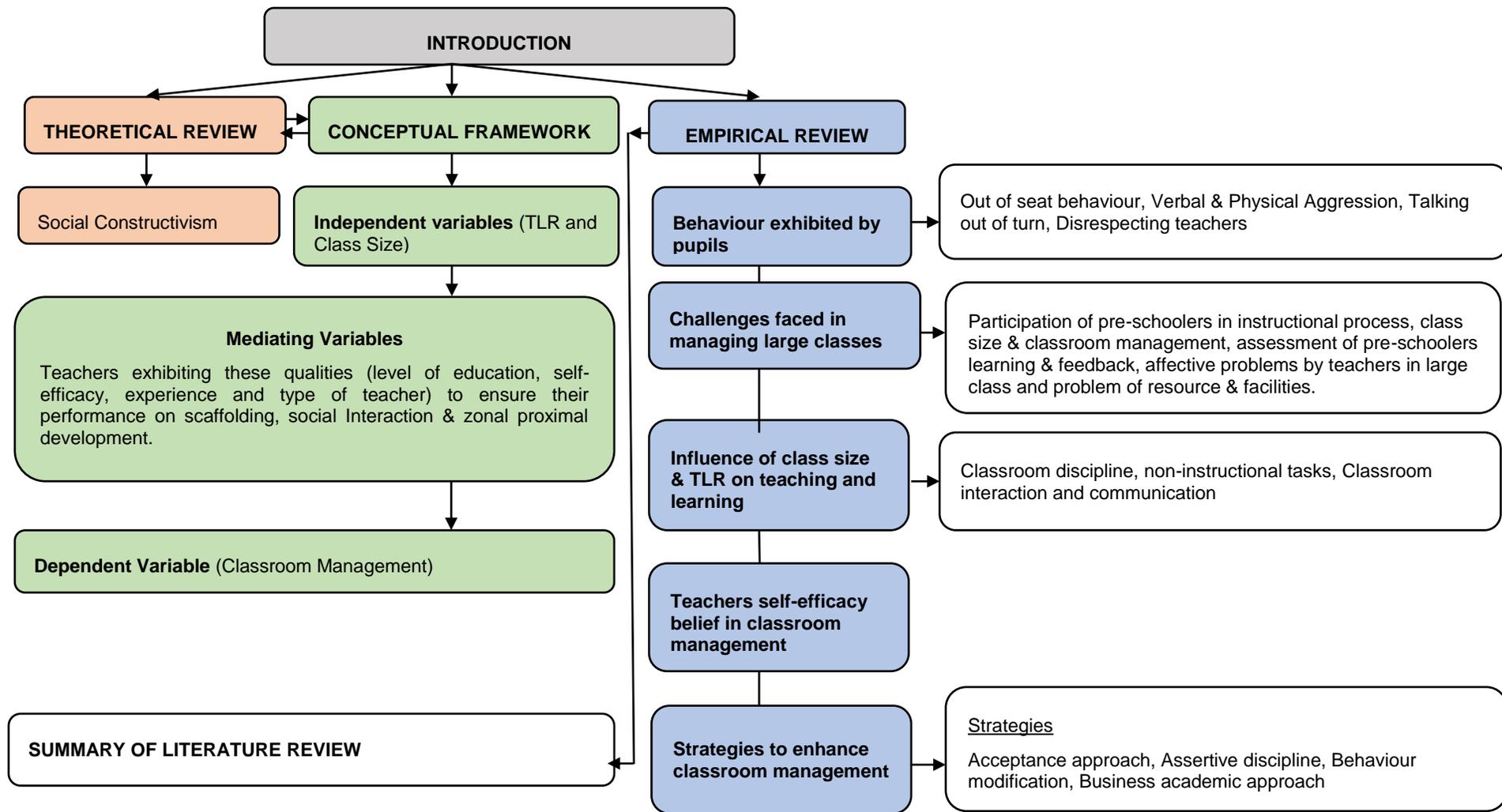


Figure 2.1: Literature map of the study

Source: Researcher's construct (2020)

2.3 THEORETICAL REVIEW

Grant and Osanloo (2015) concluded that a theoretical review is a systematic observation or explanation of phenomenon of the study. However, DeVos, Strydom, Fouché and Delport (2011) indicate that theory reviewed in studies determines how research questions should be answered and how empirical procedures should be used as well. The selecting theory of a study is either underpinned by research questions, hypotheses or the purpose of the study. Mackey and Jacobson (2011) introduce and describe theory as a concept that explains why the research problem under study exists. The theoretical review for the study was underpinned by “social constructivism theory” by Vygotsky.

2.3.1 Social constructivist theory

Vygotsky's theory of social constructivism is used as a lens to explore the interactions that may exist between the preschool teacher and pre-schoolers in ECECs in Ghana in this study on large class size and TLR on classroom management. The soviet psychologist Lev Vygotsky developed the social constructivism theory in 1962. Vygotsky was a cognitive psychologist who rejected the assumption made by cognitivists psychologist like Piaget. Vygotsky explained that the cognitive functions are product of social interaction not through assimilation and accommodation by pre-schoolers of new knowledge, learning but can be the way we integrated pre-schoolers' knowledge about the community (Edjah, 2018). Social constructivism, according to Westbrook, Durrani, Brown, Orr, Pryor, Boddy, and Salvi (2013), views knowledge as a socially produced mechanism and learning as a social interaction between pre-schoolers and more knowledgeable people. It was mediated by cultural tools, especially with language which must be the first language of the pre-schoolers, or at least one that was familiar with them.

The emphasis of Vygotsky's theory on how pre-schoolers' social and cultural experience should be included in the teaching and learning process (Edjah, 2018; Vygotsky 1962). Further, social constructivist theory also emphasizes that knowledge should also be based on social interaction or co-constructed when pre-schoolers learn from themselves. This assumption underlines the bases of social constructivist theory

where the pre-schoolers form the centre of the learning process. According to Clark (2014), social constructivism is a philosophy that combines the social environment with cognition, claiming that pre-schoolers learn a style of thinking and acting through contact with a more knowing individual. Clark (2014) goes on to say that pre-schoolers' development is influenced by their interaction with the social environment, which includes people and their culture. Vygotsky's social constructivist theory can be conceptualised based these three (3) learning principles: social interaction, zone of proximal development and scaffolding.

2.3.1.1 Social interaction

Social interaction emphasises on effective relationship between the preschool teacher and the pre-schoolers and these lead to pre-schoolers exhibiting positive patterns of behaviour in classroom while poor social interaction ensures negative patterns of behaviour that do not promote classroom management (Akoto-Baako, 2018). Short (2013) supports this finding that a positive relationship grows over time as a result of interactions between the preschool teacher and the pre-schoolers and this helps to reduce disruptions in the classroom. Research on classroom management (Blum, 2005; Capern & Hammond, 2014; Klem & Connell, 2004) has shown that positive relationships between pre-schoolers and teachers play a vital role in classroom management and how pre-schoolers behave in class. Positive relationships help in creating positive learning outcomes when preschool teachers are able to manage pre-schoolers in class. On the other hand, a negative interaction between the preschool teacher and the pre-schoolers can lead to the formation of negative relationships which would affect how preschool teachers manage pre-schoolers in the classroom.

2.3.1.2 Zone of proximal development

This concept emphasizes that learning outcomes that help pre-schoolers' develop their cognition should be guided by individual or a more skilled person to control their activities in classroom (Akoto-Baako, 2018). The zone of proximal development (ZPD) in the classroom environment becomes the difference between a pre-schooler's ability to perform a task under the guidance of a preschool teacher and/or peer support and the pre-schoolers' ability to independently solve the problem. Active learning takes

place when pre-schoolers are either part of a team or a group in the classroom (Torkorny, 2019). Vygotsky concentrated on the relations between the pre-schoolers and the socio-cultural context in which they behave, communicate and share experiences, (Akoto-Baako, 2018). Westbrook et al., (2013) assert that pre-schoolers relate among themselves through environment or culture tools like speech and writing. Initially, pre-schoolers use these instruments (speech and writing) to act mainly as a social means of communicating their needs, but Vygotsky believes that internalising these techniques can lead to a higher level of thinking skills in the classroom among pre-schoolers in ECECs (Akoto-Baako, 2018; Appiah-Essuman, 2019).

In support of ZPD Furrer, Skinner and Pitzer (2014) who revealed that ignoring pre-schoolers, disregarding their feedback can undermine their value. Therefore, a positive relationship between the preschool teacher helps to direct the pre-schoolers when he/she faces multiple learning difficulties in order to access the ZPD. When preschool teachers support and influence ZPD, this leads to good classroom management where preschool teachers can handle disturbances or disruptive behaviours in classroom but failure to support of the proper ZPD results in the pre-schoolers being disruptive in class (Torkorny, 2019).

The ZPD was applicable to the research because it encourages social interaction with more experienced persons such as preschool teachers to manage pre-schoolers in classroom. The core mandate of the preschool teacher was to educate the pre-schoolers, to help them reach their academic potential. With this support from the more knowledgeable person, the pre-schoolers may complete the task. Nevertheless, pre-schoolers ZPD need active guidance from this more knowledgeable person to clarify concepts in the classroom to construct their skills and their ZPD is impacted by the support they receive. The more knowledgeable person assists in maintaining discipline in ECECs. In the classroom, preschool teachers clarify, model and use directed practice to maintain discipline to promote effective delivery of teaching. Pre-schoolers model what their teacher wants them to do.

2.3.1.3 Scaffolding

Hausfather (2016) holds that scaffolding is an effective approach for gaining access to the zone of proximal growth. Scaffolding necessitates that the preschool teacher allows the pre-schoolers to improve their abilities and knowledge. The preschool teacher must share the interests of the pre-schoolers, simplify the activities to make them manageable and inspire them to achieve the educational aim (Hausfather, 2016). As a result, a healthy relationship between pre-schoolers and teachers can serve as a scaffold in the classroom, assisting pre-schoolers in achieving positive social, emotional, and academic outcomes. Nevertheless, Mcleod (2014) suggests that scaffolding, depends on verbal narration and allowing the pre-schoolers to observe and practice.

In a large class size where there is a higher TLR, scaffolding would be difficult to achieve compared to a smaller class size where preschool teachers can provide individual assistance to pre-schoolers. Scaffolding in smaller classes is effective because it allows the preschool teacher to provide pre-schoolers the opportunity to exhibit their skills, talent and knowledge on classroom activities. Classroom management would be more effective in smaller classes because it enables preschool teachers to support pre-schoolers until they are able to perform or grasp a concept alone which makes classroom management easier (Akoto-Baako, 2018).

In conclusion, social constructivist theory enhances how more knowledgeable persons (preschool teachers) exhibit social interaction, scaffolding and zone of proximal development to ensure effective classroom management and achievement of instructional objectives. The effectiveness of Vygotsky's theory exists when the more knowledgeable persons are able to perform the key concepts to satisfaction in class.

For instance, classroom management and how preschool teachers are able to communicate learning goals play a significant role in the learning process if pre-schoolers understand what was expected of them during and after the instructional period. The preschool teacher may give learning activities and assignment during instructional period to the pre-schoolers so that managing them may be easy. In larger classes where there is higher TLR, communicating learning goals will be difficult

because preschool teachers need extra time to explain learning goals and provide social interaction, scaffolding and zone of proximal development to ensure effective classroom management and delivery of learning activities. For instance, in large classes not all pre-schoolers may be able to participate in class activities but in smaller classes pre-schoolers may have the opportunity to participate in class activities. Hence communication of learning goal may be effective in smaller classes than in large classes.

Hausfather (2016), on the other hand, supported Vygotsky's hypothesis with traditional teaching approaches. According to Vygotsky's theory, for a preschool teacher to maintain good classroom management, they must work with one another in non-traditional positions during the teaching and learning process. For instance, to ensure effective classroom management preschool teachers should create an enabling environment where pre-schoolers can interact with the teachers. In a similar perspective, Westbrook et al. (2013) state that pre-schoolers-teacher interaction should be prioritised in pedagogical approaches.

Vygotsky's principle of the use of the more knowledgeable person has a significant contribution to how class size and TLR affect classroom management. A preschool teacher with more experience in handling pre-schoolers may be more effective in managing pre-schoolers in large classes. Again, preschool teacher with less knowledge or experience in handling pre-schoolers may find it difficult in managing pre-schoolers because he/she may not have the rudimentary knowledge in classroom management.

Another vital principle of Vygotsky's theory was on the ZPD. The learning principal emphasis is on the fact during classroom activities the skilled or knowledgeable person should be closer and supervise pre-schoolers learning activities. Since ECE was the pre-schoolers' first point for education. Learning tasks become difficult for pre-schoolers to accept and understand unless there is a more knowledgeable person to guide them with understanding the learnable bit. The support levels from preschool teachers may be very minimal in a large class size. This is so because there are too many pre-schoolers and the preschool teacher may not have enough time to attend to them individually. A good preschool teacher helps pre-schoolers in achieving effective

ZPD for effective classroom management. For instance, in large classes preschool teachers tend to support only pre-schoolers who are really interested in the classroom activities and those who ask questions during interaction session. In smaller classes, the preschool teachers may be able to support all pre-schoolers and have control over their dealings. The researcher may conclude that social constructivist theory by Lev Vygotsky was the most effective theory to underpin the extent of how large class size and TLR affect classroom management in ECECs in Ghana.

2.4 THE CONCEPTUAL FRAMEWORK

The Conceptual framework defines how researchers describe the research problem, and how they establish a theoretical review using variables that help the researcher to achieve the aim of the study (Berman, 2013). Maxwell (2013) concludes that the conceptual framework is a diagram that explains how various variables link with the scientific investigation of phenomena. Ngulube (2018) states that when writing empirical research, it is important for the researcher to have either a conceptual or a theoretical framework or having both is inconceivable. The conceptual framework is a model used in every study to classify variables. This framework primarily shows how Vygotsky's learning concepts can be used as moderating variables to achieve effective classroom management. The aim of this framework shows that large class size and TLR could be present, but some moderating variables may help the preschool teachers to manage the classroom. Figure 2.2 shows the framework of the study.

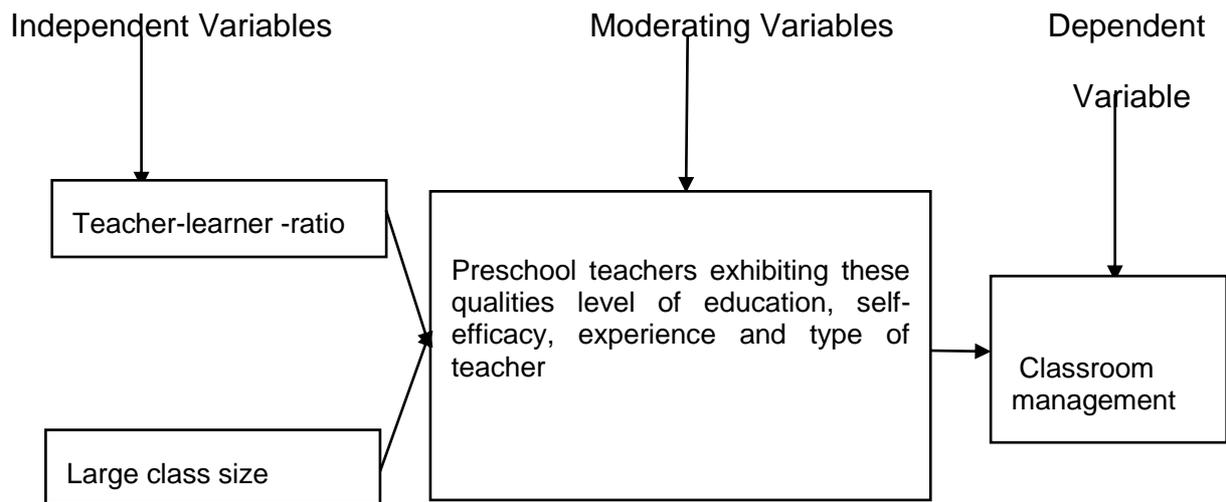


Figure 2.2 Conceptual framework of large class size and TLR on classroom management

Source: Researcher's construct (2020)

The research conceptualised that all of the ECECs in the country have well trained teachers with experience to manage pre-schoolers in large class size and have the required TLR. Again, the study can conceptualise that ECECs were established to educate or cater for pre-schoolers' abilities, interests so that they could develop their full potential unless certain variables are controlled. Example of such variables are the number of pre-schoolers in classroom, TLR, lack of physical space, unforeseen high enrolment, insufficient infrastructure, classroom interaction, more knowledgeable person, scaffolding and inadequate classroom. The conceptualisation of the study focused on these qualities from a preschool teacher exhibiting these qualities (level of education, self-efficacy, experience and type of teacher) to ensure their performances in scaffolding, social interaction and ZPD to promote effective classroom management.

Figure 2.2 shows that in ECECs where the teacher was trained and has gone through the necessary long schooling with the experience and high efficacy. The preschool teacher may be able to exhibit good interpersonal relationship or interaction and also allow the pre-schoolers to scaffold. However, in applying this to large class size with high TLR, the preschool teacher may not be able to ensure good classroom

management. If the preschool teacher was not trained or has no rudimentary knowledge, training or experience, the more knowledgeable person cannot exhibit these qualities (scaffolding and social interaction) to ensure effective classroom management.

In conclusion, Figure 2.2 shows that even in the presence of large class size and less TLR with the existence of more knowledgeable person exhibiting these qualities (level of education, self-efficacy, experience and type of teacher) to ensure their performance on scaffolding, social interaction & ZPD then effective classroom management may be promoted.

2.5 EMPPIRICAL REVIEW

In this section, the researcher offers a conceptualisation of how large class size and TLR affect classroom management in ECECs in Ghana. The organisation of the empirical review corresponds with the research questions of this study as outlined in chapter one (1):

- Patterns of behaviour exhibited by pre-schoolers in large size classes.
- Challenges preschool teachers face in managing pre-schoolers in large class size.
- Large class size and TLR affect teaching and learning in ECECs in Ghana
- Preschool teachers' self-efficacy beliefs in managing pre-schoolers in large size classes.
- Strategies do preschool teachers adapted to enhance effective classroom management in ECECs.

Peer-reviewed scholarly publications, curriculum, educational, and instructional literature were used to enhance the researcher's empirical review. These were available in either electronic or hard copy format. Citations from individual studies, dissertations, and theses, on the other hand, were analysed.

2.5.1 Patterns of behaviour exhibited by pre-schoolers in large size class

This section investigates the behaviour pattern exhibited by pre-schoolers in large class size. Edjah (2018) explains behaviour as the way organisms or human beings respond to stimuli and further asserts that behaviour can be positive or negative due to the way the individual's response to the situation. However, positive behaviour comes with praise or reinforcement and negative behaviour comes with punishment. Pre-schoolers' behaviour can have a negative impact on the classroom environment. Edjah (2018) suggests that disruptive or negative behaviour impedes teacher's ability to provide good instructional activities. In the classroom, pre-schoolers activity displays are as follows: out of seat, verbal aggression, talking out in turn, doing something in private and disrespecting teachers.

2.5.1.1 Out of seat behaviour

Torkornyó (2019) defines out of seat behaviour as any incident or behavioural pattern exhibited by pre-schoolers for leaving their class seat without asking permission from their class teacher. Out of seat constitutes a critical component of pattern of behaviour exhibited by pre-schoolers in large class. In order to understand the concept of pattern of behaviour exhibited by pre-schoolers, it is essential to have understanding of what constitutes out of seat. The discussion therefore focuses on changing seats during lesson, wandering/disturbing during lesson and jumping from one place to another.

Leung and Ho (2011) studied disruptive classroom behaviour perceived by Hong Kong kindergarten teachers with the sample size of 120 pupils. The finding suggested that 80 pupils out of the 120 sampled were frequently leaving the classroom or seat without asking permission from their class teachers. However, Robinson and Griesemer (2016) on *Helping individual students with problem behaviour*, in the Handbook of "Classroom Management: Research, Practice, and Contemporary Issues" shows that dealing with pre-schoolers to acquire discipline in classroom takes time to adjust or understand.

Frimpong (2018) confirms that pre-schoolers between the ages of 4-6 years like motor activities so to confine them in class or asking them to sit quietly becomes a challenge

for them. Likewise, Frimpong's (2018) study shows that private kindergarten schools were more disciplined than public kindergarten schools in terms of paying attention in class, pre-schoolers sitting in their right places in class and asking permission while visiting their school facilities were more predominantly practiced. From the finding of Frimpong (2018), an interviewee stated that attaining good classroom management where teachers would be able to confine pre-schoolers well was difficult with a class that exceeded the class size of twelve (12). The interviewee further argued that in early childhood stage, pre-schoolers engage in more psycho-motor activities like running and jumping. If a teacher supervises/handles more pre-schoolers, it may be difficult to pay attention to all instructional and non-instructional activities happening in class which may include out of seat behaviour exercised by pre-schoolers.

Another behavioural pattern exhibited under out of seat was wandering around jumping and disturbing colleagues during lessons. However, Torkorny's (2019) conducted a study on kindergarten teachers' perceptions and uses of classroom management strategies in kindergarten classroom in the Hohoe municipality in the Volta Region of Ghana. A sampled 152 pupils was used, which in the study revealed that pre-schoolers were frequently roaming in class while lesson was on going or disturbing their colleagues in class. Leung and Ho (2011) had earlier suggested that order and discipline are less in kindergarten schools in Hong Kong. This was so because schools in Hong Kong allow pre-schoolers to engage in pure discovery learning than passively receiving knowledge from teachers in class. This form of learning ensures pre-schoolers moving or roaming from one place to another to seek clarification of ideas from colleagues.

Sun and Shek (2012) assert that it is annoying and hassling when serious instructional demonstration is ongoing, and pre-schoolers are playing or doing things in private while Johnson and Fullwood (2016) stresses that wandering around was stress-provoking. In the same vein, Appiah-Essuman (2019) on six (6) sampled ECECs in Effutu Municipality shows that pre-schoolers who were males frequently misbehaved or disturbed their peers than female counterparts. Appiah-Essuman (2019) further present that disruptive behaviours such as wandering around, jumping and out of seat impede the preschool teacher's delivery in classroom. The study concludes that because pre-schoolers are in the exploration stage and are full of adventure controlling

or managing distractive behaviour like jumping, out of seat and wandering around may be difficult to achieve. The next point on pattern of behaviour was on verbal aggression.

2.5.1.2 Verbal and physical aggression

Rajan, Namdar and Ruggles (2015) define aggression as the intentionally hurting or harming individual. Similarly, Powers, Bierman and Karen (2013) say that aggression is a behaviour that intentionally causes pain to another person. Aggression can broadly be grouped into two types, namely verbal and physical aggression. Research by Datta, Cornell and Huang (2016) recognise that the possible signs of social withdrawal, impulsive attitude, intimidating friends, bullying, prejudicial attitudes, expression of violence in writings and drawings; uncontrolled anger exhibited by pre-schoolers at the early stages may manifest while growing up.

2.5.1.2.1 Verbal aggression

Sun and Shek (2012) define verbal aggression as repeatedly uttering provoking words of insults that tarnish pre-schoolers' self-image. Appiah-Essuman (2019) view verbal aggression as the exchange of words or message between two pre-schoolers that inflict psychological pain. However, Sun and Shek's (2012) study on "*students' classroom misbehaviour: an exploratory study based on teachers' perceptions*" present forms of verbal aggression as insulting classmate, laughing, teasing classmate, maledictions, ridicule, profanity, nonverbal emblems and using offensive language in classroom which tarnishes pre-schoolers' self-image.

Olson (2012) reported that verbal aggression had a negative impact on pre-schoolers relationships because those who experience such form of abuse like insulting laughing and teasing lack self-confidence in class when answering questions. Appiah-Essuman (2019) revealed that abusers of such form of abuse undermined themselves and have low self-esteem. Appiah-Essuman (2019) further states that the abusers go a step further of inflicting pain to themselves and others. However, Leung and Ho (2011) confirm that in Hong Kong kindergarten centres attacking and use of foul language was normal among the native Hong Kong children. The reason was that most of the

children there joined martial art groups which exposed them to attacking and ridiculing their peers in class.

In the same vein, Hyman (2017) says that in large class size mature pre-schoolers often scream, threaten, and ridicule to control the younger ones. He further explained that the negative effects of this verbal aggression are that it interferes with the pre-schooler's development of self-esteem and self-efficacy, and even affects their psychological and physical development. On the contrary, Chapell et al., (2014) posit that verbal aggression was more predominant in middle and high schools. Hyman (2017) disagreed that verbal aggression was predominant in middle and high school but ridiculing, teasing and calling out names are behaviours found among pre-schoolers of the same age group. But, Koffi (2019) argues that verbal aggression was a learnt behaviour. If the individual was exposed to it from their immediate family or environment, the person lives with it for life unless there is a change in environment.

Research by Heins (2013) on *raising kids: bullied by the teacher* confirms that pre-schoolers' intention often errs and victimize colleagues by making fun of them, joking and speaking sarcastically to them. Heins (2013) further elaborates in ECECs pre-schoolers yelling at their colleagues to seek physical or psychological supremacy over them. Similarly, Torkorny (2019) states that name-calling and laughing at peers are commonly found among pre-schoolers in ECECs. The next point on pattern of behaviour was on physical aggression.

2.5.1.2.2 Physical aggression

Appiah-Essuman (2019) defines physical aggression as the deliberate attack, kick, hit and bite in the quest for supremacy. A comparative study by Kohli and Malik (2019) showed that male subjects scored higher scores when it comes to physical aggression than females who recorded higher score in verbal aggression. However, Ghosh (2012) found that pre-schoolers' physical aggression behaviour may have manifested from the home or environment. Ghosh (2012) study further shows that there was significant difference between pre-schoolers' physical aggression and situation of parental aggressive behaviour found in the home or environment. Chamandar, Fateme and Susan's (2017) work on component of aggression suggest that pre-schoolers who

were exposed to aggressive movies or activities were physically abusing their peers in class than those who were not exposed to aggressive movies or activities.

However, Sun and Shek (2012) provided forms of physical aggression as biting, hitting and kicking which tarnish and suppress pre-schoolers' psychologically in the classroom. Olson (2012), reported that physical aggression had a negative impact on self-confidence while Appiah-Essuman (2019) concluded that physical aggression undermined pre-schoolers self-esteem and self-efficacy. Leung and Ho (2011) confirmed that the native Hong Kong pre-schoolers like kicking and attacking peers due to the "martial art" environment they lived in. A book by Koffi (2019) "Toward positive classroom discipline" said that physical aggression exhibited by pre-schoolers are learnt behaviours by the child's immediate family or environment they live in. In a large class size, mature pre-schoolers' physical attack or are hostility with the young ones; this therefore affect their self-esteem and self-efficacy in class (Hyman, 2017). Heins (2013) presents that in ECECs pre-schoolers physically attack or kick their peers to seek physical or psychological supremacy over them. The next point on pattern of behaviour was talking out of turn.

2.5.1.3 Talking out of turn

Talking out of turn is behavioural challenge exhibited by pre-schoolers when shouting or speaking loudly in class. Appiah-Essuman (2019) confirms that talking out of turn disturbs or disrupts teacher's attention in class and pre-schoolers concentration on class activities while Ntim (2019) concludes that talking out of turn was second most frequent disruptive behaviour exhibited by pre-schoolers in large classes.

Other factors which affect the teacher's ability to control the class is classroom noise in general (Wearmouth & Connors, 2004). Pupils who are always chatting during teaching sessions (Sun & Shek, 2012) and have personal conversations among themselves disturb the daily instructional activities (Ntim, 2019). Similarly, Torkonyo (2019) also presents speaking loudly in order to let other pre-schoolers hear their answers is very irritating. Teachers also find children who laugh at fellow children's answers to also be very worrying (Torkonyo, 2019).

2.5.1.4 Disrespecting teachers

Sun and Shek (2012) cite that pre-schooler exhibited the behaviour of refusal to follow instruction in class, talking back when teachers cautioned them and sometimes attacking teachers. However, Torkorny (2019) said that pre-schoolers exhibited disruptive behaviour such as refusal to carry out instructions in class. This behaviour was third most frequent behaviour exhibited by pre-schoolers due to the fact that pre-schoolers were over pampered in the house. At the qualitative phase of Torkorny (2019), a participant posits that pre-schoolers exhibited irrelevant drawing or playing with pencil, toys and games when the instructional period for such activities is not due.

Another behaviour exhibited by pre-schoolers in large class size was rudeness and talking back at teachers in class. Ntim (2019) suggested that most pre-schoolers spoke rudely back to their teachers when they were cautioned in the class for misbehaviour. Wearmouth, Richmond, Glynn and Berryman (2014) found that most of the chitchat in the class when pre-schoolers are given instructions or activities to perform in class. The next section explains challenges preschool teachers face in managing pre-schoolers in large class size.

2.5.2 Challenges preschool teachers face in managing pre-schoolers in large class size

Research has showed that small class size provides better effective teaching delivery than large class size (Akoto-Baako, 2018; Bamba, 2012). Again, their studies highlighted that small class size had influence on teachers' classroom management skills. The issue of challenges preschool teachers face in managing pre-schoolers in large size class was discussed under these sub-topics. These include the issue of the participation of pre-schoolers in the instructional process, large class size and classroom management of pre-schoolers, assessment of pre-schoolers learning and feedback in large class, affective problems faced by teachers and challenges of resources and facilities in large class.

2.5.2.1 Participation of pre-schoolers in the instructional process

A study on kindergarten teachers' perceptions and uses of classroom management strategies showed that preschool teachers found it difficult to seek pre-schoolers participation or paying attention to teaching when they are found in large class size (Torkorny, 2019). However, Torkorny (2019) further asserts that preschool teachers found it difficult to exercise scaffolding and zone of proximal development in a large class population. In addition, Akoto-Baako (2018) states that large class size affect pre-schoolers' psychological environment which limit the opportunities for pre-schoolers to take part in classroom events.

However, preschool teachers' instructional choice of techniques used in large class size prevent pre-schoolers from answering questions (Renaud, Tannenbaum and Stantial, 2007). If teachers allow all pre-schoolers in class to ask questions, they may not finish the educational objective after the term. Again, Appiah-Essuman (2019) asserts that ECE teaches pre-schoolers how to recite poems and teach them the basic principles of life so allowing all pre-schoolers to participate in activities may delay the instructional period.

A study on pupil-teacher interaction and questioning, class size and academic performance of bilingual pre-schoolers found that there was a significant difference in strength of linguistic exchange between pupil-teacher between small classes and large classes (Ozerk, 2011). However, Torkorny (2019) found that in small class pre-schoolers developed more innovative skills because they have enough time to ask questions as compared to large class. Again, the study concluded that preschool teachers were stressed and frustrated when more divergent questions had prevented them from finishing their instructional period on time. The researcher believes that due to large number of pre-schoolers, fewer questions are asked by preschool teachers and pre-schoolers have limited opportunity to express themselves or answer questions.

A study found that pre-schoolers play less active role in teaching and learning in large classes as well as being less attentive or lack concentration to their teacher's communication (Blatchford, Moriarty, Edmonds & Martin, 2002). Blatchford et al.

(2002) further found that larger class sizes limit preschool teachers' attention to pre-schoolers, where their concentration is mainly on active pre-schoolers or those who participate in class activities than shy ones. Akoto-Baako (2018) said that in large class size pre-schoolers show more off-task actions when they are placed in groups as compared to small class size. Due to large number in class, teachers may fail to ensure every pre-schooler participate in classroom activities separately (Akoto-Baako, 2018).

2.5.2.2 Class size and classroom management of pre-schoolers

The problems associated with large class size was management of pre-schoolers in the classroom and maintaining order to facilitate effective and efficient teaching delivery (Appiah-Essuman, 2019). Mosteller (2015) explains that the reducing of classes from 23 to 15 was flexible for teachers to manage pre-schoolers and also allow more time to devote to each pre-schooler and reduce indiscipline. However, Finn, Pannozzo and Achilles (2003) opine that smaller class size ensures effective class management while larger class size results in distraction of instructional period. Finn et al's. (2003) study further elaborated on antisocial behaviours such as disruptive behaviour and harassment. They found that in well managed classroom, pre-schoolers participate in classroom activities and have more time for social interactions with their preschool teachers. As compared to unwell classroom management where pre-schoolers fool around and have less social interaction with teachers. In addition, Torkorny (2019) revealed that preschool teachers in large classes found it difficulties in maintaining discipline in their classrooms.

In addition, Al-Jarf (2006) noted that noise level in large class size distracts the preschool teachers' attention to focus on instructional delivery. Al-Jarf (2006) further posits that lack of space in classroom affects preschool teachers' ability to perform scaffolding during instructional period. The situation preschool teachers found themselves in large class size affects their ability to move about to inspect pre-schoolers work during instructional period. However, preschool teachers in smaller class size have the ability and liberty to manage pre-schoolers and also monitor their classroom activities. The literature reviewed clearly showed that there was a relationship between class size and classroom management. This was affirmed by

Finn et al's., (2003) work on how smaller class size influences classroom management. However, Mulryan-Kyne (2010) concluded that there was a weak interaction between pre-schoolers and preschool teachers on large class size.

2.5.2.3 Assessment of pre-schoolers learning and feedback in large class

Assessment on class size has shown that teachers found teaching smaller class provide immediate feedback to pre-schoolers than teachers found in teaching large class size (Torkorny, 2019). However, researchers like Blatchford et al., (2002, 2003, 2007) and (Torkorny, 2019) highlight that large class sizes provide a less effective teaching and learning atmosphere for teachers to conduct prompt feedback to pre-schoolers.

In support of this, Akoto-Baako (2018) discovered a positive association between class size and teachers' responsiveness to pre-schoolers' input. Torkorny (2019) states that in large classes preschool teachers found it difficult to recognise or attend to individual pre-schoolers needs to provide relevant and immediate feedback. Darasawang and Srimavin (2016) referred to feedback as the important tool for mediating teaching and learning processes.

Shamim, Negash, Chuku and Demewoz (2007) add that preschool teachers are unable to consistently provide feedback due to the large class size. However, Akoto-Baako (2018) posits that preschool teachers have the problem of identifying pre-schoolers to know their developments and give them appropriate feedback on time. Blatchford et al., (2007) added that providing immediate and appropriate feedback help in problem solving and evaluation of learning outcomes.

2.5.2.4 Affective problems faced by preschool teachers in large class size

In large classes, it was found by Bamba (2012) that there was less rapport and pre-schoolers receive less sufficient attention from their class teachers. Akoto-Baako (2018) revealed that in large class size preschool teachers do not pay enough attention to each pre-schooler for their affective challenges they may face in

classroom. The researcher believes that some pre-schoolers may be marginally left behind because they do not draw closer to their preschool teachers.

In the same vein, Jimakorn and Singhasiri (2016) confirmed that in large class sizes teachers may not be able to notice all pre-schoolers who do not pay attention when teaching in classroom. With this, the pre-schoolers may lose interest in the lesson provided by the preschool teacher due to lack affection. Appiah-Essuman (2019) reveals that large class size affects preschool teachers' professional interest in instructional delivery.

Studies reviewed by Bamba (2012) showed that preschool teachers' workload affects their affective skill which result in negative attitudes towards pre-schoolers' in large classes. On the contrary, Torkorny (2019) asserts that in small class size preschool teachers can detect pre-schoolers' challenge and provide them with affective feedback which gear towards teaching to meet their needs. In support, the researcher believes that in small class size the preschool teacher seems to be more flexible with time which enables them to use different teaching styles to build pre-schoolers' affective challenges.

2.5.2.5 Problems of resources and facilities in large class

Studies by a cohort of researchers (Al-Jarf, 2006; Bamba, 2012; Shamim et al., 2007) revealed that class space in ECECs were not corresponding with the number of pre-schoolers found in class. However, Bamba (2012) confirms that pre-schoolers were squeezing themselves in the small available seats and benches preschool classroom. Again, the permeability between increase in class size and resource available had negative impact on the preschool teachers' ability to mediated teaching and learning in schools.

Hyman (2017) concluded that in large class size where pre-schoolers sit on the floor, the preschool teacher found it difficult to interact with pre-schoolers due to lack of resource to support teaching and learning activities. Shamim et al., (2007) agreed lack of resource and facilities to promote learning stressed on preschool teachers' ability to provide active teaching and learning in schools.

However, in addition to lack of physical space found in large class size (Bamba, 2012), availability of books which influence positive teaching and learning environment were not enough in ECECs (Michaelowa, 2001). However, Michaelowa's (2001) findings show that there were no books available in the pre-schoolers' home to improve their achievement score and ECECs have limited facilities for teaching and learning.

Furthermore, Shamim et al's., (2007) study pinpointed resources that are fundamental tools for effective instructional delivery in large classes. Materials like textbooks, storybooks and other accessories should be available to ensure effective teaching and learning in large classes. Lack of these resources which affect effective teaching and learning process and therefore, impact negatively on pre-schoolers' social and academic accomplishment impose constraints on the preschool teachers (Bamba, 2012).

2.5.3 Influence of large class size and TLR on teaching and learning in early childhood education centres

This section presents literature on how large class size and TLR influence how teaching and learning are mediated at the ECECs. Akoto-Baako (2018) posits that effective delivery teaching are the core mandate for measuring preschool teachers' achievement. It was essential for teachers to create enabling environment to mediate effective teaching and learning (Akoto-Baako, 2018). However, large class size and TLR may ensure effective teaching and learning when preschool teachers are able to accomplish classroom discipline, classroom interaction and communication, pre-schoolers behaviour and observing the essence of non-instructional tasks in the classroom.

2.5.3.1 Classroom discipline

Studies have shown that the increase in class size affects how teachers manage classroom environment regarding pre-schoolers' discipline and how teachers spent instructional time handling non-instructional activities (Vandenberg, 2012). For instance, a study by Blatchford, Russel, Bassett, Brown and Martin (2007), on how preschool teachers revealed supervising large class size affect their instructional

delivery and classroom management. The sample size used for the research was 800 preschool teachers.

However, the teacher survey data showed that whenever, pre-schoolers' population increases, or class size increases, pre-schoolers misbehaviour or indiscipline also increases which affects preschool teachers mediated teaching and learning in classroom. Again, the study revealed that ECECs which contain more than (90 or more pre-schoolers) were difficult for the preschool teacher to manage and handle indiscipline than classes with (18 or fewer pre-schoolers). The teacher's responses were that pre-schoolers misbehaviour occurred a lot in large classes than smaller classes, where the teacher spent time controlling rather than teaching (Vandenberg, 2012).

For instance, utilising instructional time for handling pre-schoolers' misbehaviour would affect pre-schoolers' achievement (Blatchford et al., 2007). In the same vein, Cakmak (2009) asserts that large classes have more indiscipline instance and teachers waste instructional time to correct pre-schoolers behaviours. Again, TLR in smaller classes allow preschool teachers to prevent misbehaviour than in large classes. Also, in smaller classes, teachers have the opportunities to socially interact with pre-schoolers, scaffolding and employ the ZPD would also prevent pre-schoolers to misbehaviour in classroom (Cakmak, 2009; Vandenberg, 2012).

A study conducted in Tennessee, with the sample size of 330, by Finn and Achilles (1999) show that smaller classes between (13-17 pre-schoolers per teacher) improve pre-schoolers behaviour than larger classes with (22-25 pre-schoolers per teacher). Their results further show that smaller classes recorded fewer indiscipline referral cases than large classes. However, Akoto-Baako (2018) observe that fewer indiscipline was found in smaller classes because preschool teachers had enough time for instructional engagement or interaction.

2.5.3.2 Classroom interaction and communication

Walker (2019), revealed that increase in class size in a limited physical space for pre-schoolers affect the behaviour and safety issues in classroom. However, Deutsch

(2003) posits that increase in class size affect preschool teachers' engagement or interaction with the pre-schoolers in the classroom. In addition to Akoto-Baako (2018) and Walker (2019), research regarding class size or TLR on classroom management has been analysed on how they affect pre-schoolers to teacher engagement or interaction in classroom.

A survey on 140 preschool teachers from Burke County, North Carolina revealed that grouping pre-schoolers in classroom (15 or fewer pre-schoolers) helps the teachers to interact or engage in instructional or non-instructional activities. However, the survey suggested that preschool teachers are able to attend to every pre-schooler's needs on time and teachers help in preventing indiscipline through personal interaction and relationship they had with the pre-schoolers (Walker, 2019). However, the findings from Burke County, North Carolina were replicated in ECECs in New York and fewer discipline problems were recorded (Finn et al., 2003).

Large class size and less TLR affect how pre-schoolers engage themselves in the classroom would have implications on teacher classroom management (Finn et al., 2003). Akoto-Baako (2018) suggests that in large classes preschool teachers have challenges in building rapport or establishing good relationship with pre-schoolers as compared to smaller class. The researcher agreed that because in smaller class size, the preschool teachers would have time to delve in pre-schoolers' problems or challenges that confront them during instructional period. However, it is believed that in smaller classes the preschool teacher would be able to interact effectively with the pre-schoolers and also decrease the amount of time teachers spent or devote for managing classroom.

Walker (2019) confirms that pre-schooler-to-pre-schooler interaction and pre-schooler-to-preschool teacher interaction were found to affect the way preschool teachers manage their instructional activities in the classroom. The findings from Walker (2019) showed that classes which have population of 33 pre-schoolers per teacher was engaging or interacting on social issues unrelated to the instructional lesson than pre-schoolers in smaller classes with the average population (19 pre-schoolers per teacher). Furthermore, pre-schooler-to-pre-schooler interaction was highly engaged in large class size than in small class size. It was also observed that

pre-schooler-to-pre-schooler interaction was on social matter and were more likely to distracted instructional activities in classroom (Walker, 2019).

Walker (2019), indicated that preschool teachers who were found in smaller classes provided quick and frequent feedback. The increase in feedback contributed to a successful learning environment. In the same vein, smaller classes facilitate the pre-schooler learning through engagement, building of good rapport and building a deeper pre-schooler-to-pre-schooler interaction and teacher-to-pre-schooler interaction (Blatchford et al., 2003).

2.5.3.3 Non-instructional task activities

Akoto-Baako (2018) concluded that non-instructional task activities are conditions that do not conform with the learning goals but are present in class to ensure a smooth and effective delivery of learnable bit in classroom. The increase in non-instructional tasks in class helped pre-schoolers to relax for instructional activities. For instance, teachers asking pre-schoolers to observe 30-minute sleeping (Akoto-Baako, 2018). On the contrary, Cakmak (2009) confirms that non-instructional activities are part of the instructional tasks because breaktime, sleeping time and worship observed in school form part of the curriculum activities.

Again, Akoto-Baako (2018) states that non-instructional tasks do not affect teaching delivery and classroom management in smaller classes. The reason was that teachers may have time to observe off-instructional interest or behaviour by the pre-schoolers. However, in large class size, the teacher may not have time to study pre-schoolers off-instructional interest or behaviour due to workload. Pre-schoolers exhibit more off-task behaviours like roaming during lesson and talking to peers which disrupt teachers' attention to finish instructional activities (Cakmak, 2009; Finn & Achilles, 1999).

Non-instructional tasks are normally found in large class size than small class size because in a class where TLR was (1-60) the teacher may loss control in scaffolding, performing a ZPD and social interaction at all times to ensure proper classroom management (Akoto-Baako, 2018). Cakmak (2009) and Finn and Achilles (1999) posit that non-instructional task waste instructional time for teachers because time for

instructional delivery may be used for solving problems and managing classes. The researcher concluded that in a small class size preschool teachers may have time to manage class to ensure that non-instructional tasks are organised not to interfere instructional activities in class. Again, the preschool teacher may be able to manage off-task behaviour exhibited by pre-schoolers in small class size than in large class size. These reasons may enhance how large class size and TLR influence how teaching and learning are mediated in class. The next sub-topic discusses how preschool teachers' self-efficacy belief in managing pre-schoolers in large class size.

2.5.4 Preschool teachers' self-efficacy beliefs in managing pre-schoolers in large size classes

Kagan (1992) describes teachers' efficacy belief as the implicit assumptions on students' learning, classroom management and how subject matter is being delivered in classroom. However, Fenstermacher (1978) indicates that teachers' self-efficacy belief is important to ensure classroom effectiveness. Tschannen-Moran and Hoy (2001) concluded that teacher's efficacy belief provides judgment for teacher's capabilities to ensure desired outcomes for unmotivated students in classroom.

The belief of managing pre-schoolers in large class size research on preschool teacher's efficacy can be grouped into personal teaching effectiveness and overall teaching effectiveness. Cobbold and Boateng (2015) found a link between preschool teacher classroom management practices and teachers' perception of effectiveness (i.e., the expectation that they can have a beneficial impact on pre-schoolers learning in ECECs), whether personal or general. Emmer and Hickman (1991) expanded on this research by identifying teacher effectiveness as a third component in classroom management and discipline. Researchers like Brouwers and Tomic (2000) and Cobbold and Boateng (2015) indicated that high efficiency in teachers field study would be predicted preferences for techniques used in handling circumstances, such as motivating pre-schoolers to extend more effort, providing support and helping pre-schoolers to build targets for success.

Brouwers and Tomic (2000) describe preschool teacher self-efficacy as the beliefs and capability to organise and implement essential action to maintain order in the

classroom. Cobbold and Boateng (2015) have noted that preschool teacher's self-efficacy was based on their confidence that they can maintain an efficient, structured, non-distractive classroom environment. From this viewpoint, the researcher believes that preschool teachers who doubted their skill to maintain order or lacked confidence in their classroom management would face challenges in maintaining peace and order in their classroom. Brouwers and Tomic (2000) add that preschool teachers understand that the value of ability cannot be ignored if they want to assist preschoolers achieve their educational goals. They further mention that internal conflict may cause distress and affect preschool teachers teaching strategies used in their classrooms to maintain order.

Cobbold and Boateng (2015) suggest that preschool teachers who have high self-efficacy use variety of methods, techniques and tools to track and control their preschoolers in classroom. Preschool teachers who believe in their competence to teach and deal successfully with classroom problems are more motivated and diligent in their work with their students than low-efficiency preschool teachers who appear to give up easily (Cobbold & Boateng, 2015). Teachers with low self-efficacy are more likely to utilise poor instructional approaches and be inefficient in the classroom (Hoy & Spero, 2015). They are also more likely to experience unpleasant emotions such as stress, anger, annoyance, humiliation, or shame (Hoy & Spero, 2015). (Ross & Bruce, 2017).

Appiah-Essuman (2019) found that when a preschool teacher lacks the abilities to control or manage pre-schoolers disruptive behaviours in classroom it may lead to waste of instructional time. Brouwer and Tomic (1999) supported that when preschool teachers are unable to manage disruptive behaviours they lead to stress and burnout. Dibapile (2012) commented that efficacious preschool teachers ensure that a classroom that is well organised also guides pre-schoolers behaviour towards success. From Bandura's theoretical assumption, Dicke, Parker, Marsh, Kunter, Schmeck, and Leutner (2014) assumed that preschool teachers' efficacy does not only influence classroom behaviours but also influence how teachers are able to ensure scaffolding, social interaction and zone of proximal development in the classroom.

Moreover, preschool teachers' source self-efficacy can be influenced by vicarious experiences (Bandura, 2001). From this source Bandura (2001) believes that through

the use of modelling and vicarious experience individuals are able to make judgments about their abilities to succeed when performing a task. The researcher believes that during practicum or off-campus teaching preschool teachers could observe his or her mentor and imitate their style of teaching and classroom management. Usher and Pajares (2009) confirm that vicarious experience measured when students are asked to rate the degree of their exposure to models to ensure if they are capable of performing such tasks. Another source of teachers' self-efficacy belief is verbal persuasion. Bandura (2001) asserted that through verbal feedback from external agent increase the performance of individual for putting up their maximum best or effort to accomplish the task. Verbal persuasion could be measured when you ask students to report the positive feedback they received from their peers, parents and teachers (Usher & Pajares, 2009).

2.5.5 Strategies adapted by preschool teachers to enhance effective classroom management

Classroom management strategies entail the learnable activities organized by preschool teachers to achieve specific goals. Torkorny (2019) defined classroom management tactics as the steps taken by preschool teachers to regulate their classes and pre-schoolers' behaviour. However, (Appiah-Essuman, 2019; Emmer & Stough, 2001) asserted that preschool teachers actions encompass the ability to establish directive in classroom, pre-schoolers behaviour, recommending appropriate instructional activities, and caring for pre-schoolers' emotional, social and cognitive needs. The researcher adapted acceptance approach, assertive discipline, behaviour modification and business academic approach as the classroom management strategies used in the study.

2.5.5.1 Acceptance approach

Humanistic psychology maintains the assumption that each individual has a primary responsibility for acceptance (Edjah, 2018). From the acceptance approach preschool teachers offer guidance or put measure in place for rule and regulations (Appiah-Essuman, 2019) and also allow pre-schoolers to take part in decision and make choices (Edjah, 2018). Rudolph Dreikurs was the principal representative of

acceptance approach. Dreikurs (1968) believes that pre-schoolers and teachers' approval was the prerequisite for acceptable school rules and regulations. People are trying to get respect and praise for all sorts of behaviour. When they fail to be accepted by socially acceptable approaches, they turn to be misguided by the expectations that contribute to antisocial behaviour (Emmer & Stough, 2001).

The punishment model of Dreikurs (1968) is based on understanding why pre-schoolers are misbehaving in the classroom. Dreikurs described four reasons why pre-schoolers may misbehave, including attention-getting, power seeking, revenge, and inadequacy. Attention-getting pre-schoolers are described by Dreikurs as children who often fail miserably in life when they do not earn praise and recognition because they are actually self-centred and only work for their own glory. If they shine, they cannot collaborate. If these pre-schoolers do not receive the attention, they feel they deserve praise, they sometimes turn to violence in order to attract attention. Preschool teachers need to be mindful of the fact that encouraging such actions causes the pre-schoolers to be influenced by external influence rather than internal influence. Pre-schoolers who are not noticed by their teachers by care-giving activities frequently escalate to the next stage of misbehaviour, which is to obtain the classroom's power and control (Cowherd, 2008).

Pre-schoolers who are exposed to constant criticism often use the power to control their situations. The description of these pre-schoolers by Dreikurs (1968) is that "they do not value order and discipline and defy authority and may become truant." Such pre-schoolers goals were to win in the classroom. If the teacher wants to disagree with them, they will win. If students lose these struggles of control, they often go on to vengeance for claim. Pre-schoolers using strategies of revenge also hurt others in exercising their control. These pre-schoolers set up for punishment and find it an unfair victory. Though these pre-schoolers portray themselves as strong and uncaring, Dreikurs claimed that they felt worthless and unlovable (Cowherd, 2008).

Another level of abuse is the display of inadequacy and worthlessness by pre-schoolers. These pre-schoolers were described by Dreikurs as "discouraged to such an extent that they see little hope of success." In this culture, pre-schoolers sometimes

claim to be dumb under order to leave others alone. In training, they are extremely passive and fail to respond to techniques of motivation. Pre-schoolers use all of these misguided techniques to obtain meaning in the environment of the classroom. Through identifying and implementing appropriate responses to these behaviours, preschool teachers may not only regain control over the classroom but may also promote and communicate acceptable behaviours (Cowherd, 2008).

2.5.5.1.1 Application of Acceptance approach in classroom

- Preschool teachers should understand and accept pre-schoolers' behaviour so that they can move to a more democratic form of classroom management.
- Dreikurs encouraged preschool teachers and pre-schoolers to decide upon classroom rules and consequences together to avoid unexpectable behaviours.
- Dreikurs and Cassel (1972) provided a summation for the discipline model. They revealed that preschool teachers should learn to talk less, act more, and respect pre-schoolers as individuals with enormous potential. Again, they also encourage preschool teachers to involve pre-schoolers in classroom decision-making strategies make pre-schoolers feel accepted.
- The model encourages pre-schoolers and preschool teachers to approve prerequisite acceptable rules and regulation enhance classroom management.

2.5.5.2 Assertive discipline

Assertive discipline is a classroom management strategy in which preschool teachers take responsibility of the classroom environment and prevent discipline issues. Lee Canter (1976) developed assertive discipline as a leadership programme to improve classroom management. It is a behaviour approach that falls under the banner of authoritarian behavioural philosophy. As stated by Ivanov (2005), it aims to improve classroom management strategies by creating mutual respect and equality between preschool teachers and pre-schoolers in order to proportion pre-schoolers 'learning abilities (Peneva & Mavrodiev, 2013). The basis for this objective is basically the

development of preventive strategies for harassment among pre-schoolers through initial guidance based on the expectations of preschool teachers. Through this, assertive discipline attempts to avoid circumstances where preschool teachers are left alone in the classroom to deal with pre-schoolers misbehaviours (Etheridge, 2010). Inadvertently, this strategy leads to a reduction in time spent on handling the classroom by resolving distracting pre-schoolers' problems and attention (Canter & Canter, 1976).

Swinson and Cording (2002) mentioned how the assertive approach can be applied in classroom settings. These include 1) established rules to be followed by pre-schoolers in the classroom; 2) measures to ensure the provision of positive feedback to pre-schoolers who follow the preschool teacher's instructions and 3) to consistently establish disciplinary measures for pre-schoolers who do not cooperate with the preschool teacher's requirements. However, the nature of these characteristics provided by (Swinson & Cording, 2002) stress more on authority within the classroom setting. Moreover, Lyons, Ford and Arthur-Kelly (2013) stressed that effective and continuous communication between preschool teachers and pre-schoolers help to understand certain behavioural pattern within the classroom.

2.5.5.2.1 Application of assertive discipline in classroom

- Effective communication of learning goals should be established between the pre-schoolers and preschool teachers to ensure discipline in classroom.
- Rules governing how pre-schoolers should behave should be pasted or clearly stated in the classroom to prevent pre-schoolers misbehaviour.
- Consistent praise should be applied if pre-schoolers follow preschool teachers' rules to encourage active learning (Emmer & Stough, 2001).

2.5.5.3 Behaviour modification approach

Classroom management is defined by proponents of the behaviour modification approach as a series of activities used by preschool teachers to promote proper pre-schooler behaviour and eradicate unsuitable pre-schooler behaviour (Weber, 1977). The advocates of behavioural modification suggested these theoretical assumptions:

- All pre-schoolers' behaviour, both proper and inappropriate, is learned. Three basic processes, including reinforcement and extinction, would be employed in this study to account for all learning for pre-schoolers at all levels.
- Events in the environment influence learning. Preschool teachers, according to Perrone (1994), must be enthusiastic about learning and respectful of pre-schoolers' perspectives on the learning process. Although, in order to promote active learning in preschoolers, preschool teachers must build classroom management and surrender authority.

The study reviews some behaviour modification strategies and how preschool teachers used the variety of techniques for classroom management in ECECs. A brief discussion of terms associated with behaviour modification strategies was explained to understand behavioural principles as they apply to the classroom. These terms associated with behaviour modification strategies include reinforcement and extinction.

2.5.5.3.1 Reinforcement

In Skinnerian learning, the most single principle in the learning process is reinforcement. Edjah (2018) defines reinforcement to be any stimulus and all stimuli that increase(s) the probability of a response occurring. In the act of classroom management, it is important that the preschool teachers have knowledge pre-schoolers' behaviour performance acquired. The researcher suggested that positive reinforcement is the introduction of a pleasurable sensation, event, or object by the preschool teacher in response to the performance pre-schoolers of a specific behaviour, which increases the likelihood of that behaviour being repeated in the future. Positive reinforcement is one of the essential tools used by preschool teachers to modify pre-schoolers behaviour in the classroom. For instance, if the response is followed immediately by a reward, for example a nod or a smile, or a statement, then the probability of the pre-schooler making a similar response in the future is increased.

Edjah (2018) defines positive reinforcement is any action that increases the probability of behaviour occurring. The stimulus which is added to the situation to increase the

behavioural patterns is referred to as positive reinforcement. Positive reinforcement can be used by the preschool teacher to gain and maintain discipline in the classroom. However, positive reinforcement can be clapping for pre-schoolers, free time, food and special privileges are some of the most important positive improvements used by preschool teachers to maintain order in classroom (Misiowiec, 2016).

Negative reinforcement is the process of removing something from a situation in order to increase the likelihood of more desired behaviours occurring in the future. This suggests that negative reinforcement interferes with pre-schoolers' capacity to perform well in the classroom (Bellon, Bellon & Blank, 2012). The researcher believes that an effective use of negative reinforcement in the classroom would be a situation in which pre-schoolers are unable to participate in any activity they prefer due to their performance on a test, but may be able to participate in that activity if they perform better on a test in the future. In such a situation, the pre-schooler has been negatively reinforced and the aversive stimulus of not participating in an activity he/she feel happy in doing. The chances that the pre-schoolers may perform on future tests may increase.

2.5.5.3.2 Extinction

It is the process though which withholding the unconditioned stimulus gradually reduces the probability (and often the strength) of a conditioned response (Edjah, 2018). Extinction can be the selective withholding of pre-schoolers' anticipated rewards for a specific behaviour to occur in the classroom. The researcher believes that extinction procedure is based on the theoretical assumption that a behaviour is maintained when the pre-schooler perceives there is a supportive consequence attached to the outcome (Torkorny, 2019). As a result, if the consequences of a behaviour are withheld, it is reasonable to predict that the behaviour will be diminished or eliminated. Furthermore, preschool teachers must recognise that when pre-schoolers learn that their behaviours are no longer profitable, they begin to break them. Only when positive reinforcers are present will a pre-schooler intentionally create a certain behaviour pattern (Torkorny, 2019).

2.5.5.3.3 Application of behaviour modification in classroom

- Reinforcement remains the powerful tool in controlling behaviour the preschool teachers should constantly be aware of the consequence it provides. However, in the classroom there are a variety of positive reinforcers that can increase the frequency of desirable pre-schoolers behaviour in class (Edjah, 2018). Concrete reinforcers (toys, toffees, and snacks), social reinforcers (a gesture or sign given by one person to another in response to a recently performed response (e.g., a smile, a hug, attention, and praise), and activity reinforcers (an opportunity to engage in a favourite activity) are all examples (Edjah, 2018). However, with effective reinforcers in place, pre-schoolers may not do anything to gain praise and attention that may help preschool teacher manage the class.
- Preschool teachers must keep in mind that expecting pre-schoolers to modify their behaviour dramatically overnight is generally unrealistic. When we want them to respond in a way that is very different from what they are currently doing, we may need to mould their behaviour by reinforcing one little step at a time until the intended terminal behaviour is attained. For example, preschool teachers can use shaping to teach pre-schoolers to work independently on classroom assignments. This method can be used for classroom management (Edjah, 2018).
- If a pre-schooler participates in disruptive behaviour, the teacher should not promote it; instead, he or she should attempt to inform the student of the serious repercussions of his or her actions (Edjah, 2018).

2.5.5.4 Business academic approach

This approach emphasises how to manage pre-schoolers as they engage in work tasks. This classroom management approach ensures that pre-schoolers are free from emotional disruption and also emphasise that pre-schoolers and preschool teachers are engaged in dialogue whereby they follow specific conditions to maintain order in class (Akoto-Baako, 2018). The main assumption was to organise and manage pre-schoolers to engage in instructional activities to prevent them from misbehaving. With business academic approach, the main assumption can be

categorised in three parts. These are establishments of clear communication of instructions, monitoring of pre-schoolers instructional work and feedback to pre-schoolers (Akoto-Baako, 2018; Torkorny, 2019).

2.5.5.4.1 Establishments of clear communication of instructions

Before the preschool teacher can manage pre-schoolers in classroom. He/she should be able to establish a clearly defined instructional goals which clearly explain assignments, procedure to be followed to meet the expected outcome (Donkor, 2011; Torkorny, 2019). The researcher explained how the establishment of communication of assignment and work requirement could be applied to classroom management is explained as follows:

- **Instruction for pre-schoolers' assignments:** Preschool teachers would succeed in implementing effective classroom management strategies if they possibly explain learnable bit in either oral or written form to the pre-schoolers. Aside from communicating the learnable bit to the pre-schoolers verbally. The preschool teachers should post the assigned task or expectation on the board (Evertson & Emmer, 2013; Torkorny, 2019).
- **Standard for forms, neatness, and due dates:** The preschool teacher should give learning activities to the pre-schoolers before they start any classroom management. The given guidelines would help pre-schoolers follow classroom procedures and work in independently. The guideline should be written material, pagination, form for headings, and due dates. Pre-schoolers should know what was expected of them (Evertson & Emmer, 2013).
- **Procedures of absent pre-schoolers:** There should be some provisions for make-up work for pre-schoolers who absent themselves from classroom. However, the preschool teacher should meet briefly with the pre-schoolers to set time and place for the assignment (Evertson & Emmer, 2013).

2.5.5.4.2 Monitoring pre-schoolers' instructional work

Monitoring pre-schoolers' instructional work helped the preschool teacher to detect difficulties and related problems pre-schoolers have on instructional work and to encourage them to keep on working (Donkor, 2011; Torkorny, 2019). The researcher explained how monitoring pre-schoolers instructional work would be applied in the classroom is explained as follows:

- **Monitoring group work in classroom:** When assisting pre-schoolers with their instructional task, the preschool teacher should make sure that all pre-schoolers have started the work. Again, preschool teachers should scaffold in classroom to ensure that the assignments are completed (Donkor, 2011; Evertson & Emmer, 2013).
- **Monitoring individual work in classroom:** The preschool teachers should monitor the pre-schoolers assignment by going around the room and giving feedback when needed to the pre-schoolers.
- **Monitoring completion of work:** Procedures for turning in work of the pre-schoolers must be established and enforced to save time.
- **Maintain records of pre-schoolers accomplishments:** The preschool teacher should record pre-schoolers' accomplishments. The record should include class work, projects and homework organised in school (Evertson & Emmer, 2013; Torkorny, 2019).

2.5.5.4.3 Feedback to pre-schoolers

The last assumption by Evertson and Emmer (2013) to ensure effective classroom management was prompt feedback. Evertson and Emmer (2013) suggested that effective feedback from preschool teacher enhances how to ensure classroom management. Again, if feedbacks are given in appropriate time, it enhances pre-schoolers abilities and interest to progress in the given activities and enhance pre-schoolers classroom behaviour (Torkorny, 2019). However, given appropriate feedback on expected outcomes enhance the pre-schoolers spirit of commitment to perform well and engage well with their peer in classroom (Donkor, 2011). Edjah (2018) confirms that attention to assignment or quiz should give appropriate feedback

to encourage pre-schoolers to do more or perform well. Again, providing appropriate reinforcer when pre-schoolers perform or exhibit good behaviour enhances or encourages them to repeat the appropriate behaviour in expected time or event (Edjah, 2018).

One idea effectiveness of the business-academic approach was that when pre-schoolers are busy working on their instructional tasks, it may be difficult for indiscipline situation to arise (Donkor, 2011). When classroom activities are well structured, the pre-schoolers may be seriously working to achieve expected outcome than roaming in class (Torkornyo, 2019). However, Torkornyo (2019) further asserts preschool teachers should keep pre-schoolers on task, monitors their work, giving them feedback, and holds them accountable by providing rewards and penalties helped for effective classroom management in ECECs. In effect, when all pre-schoolers are busy on instructional task and therefore, academic productivity level would be high so they may not have time for pre-schooler-to-pre-schooler misbehaviour in class (Donkor, 2011; Torkornyo, 2019).

2.5.5.4.4 Application of business academic approach in classroom

- Instructional activities in classroom should be appropriately organised to prevent pre-schoolers from roaming and disrupting other pre-schoolers.
- Instructions on expected outcome should be communicated to the pre-schoolers in appropriate time to prevent pre-schoolers from misbehaving.
- The preschool teachers should monitor instructional activities to make sure pre-schoolers are on track to prevent them from disrupting others.
- However, appropriate and prompt feedback should be given to pre-schoolers to prevent them from misbehaving or disrupting others in classroom.

2.6 SUMMARY OF CHAPTER TWO

The chapter started with general introduction where the meaning of literature and reason for reviewing literature were discussed. The chapter also discussed the general overview of ECE in Ghana. At this stage, the origin of how ECE began in the

world and in Ghana were discussed. The chapter provided literature map (Figure 2.1) which gives a visual description on how discussion or review was done under various sub-headings. A top-down structure presentation was done to explain the literature review. The literature review was grouped into three (3) phases. These include theoretical review, conceptual framework and empirical review of the study were all discussed.

The social constructivist theory (1962) by Lev Vygotsky underpinned the study. In relation to this theory, the key learning concepts or principles were used to explain how preschool teachers' interaction or managing pre-schoolers in large class size within ECE context. These principles were social interaction, zone of proximal development and scaffolding.

In view of the theoretical review, a conceptual framework was drawn to check how sociodemographic information of preschool teachers (level of education, self-efficacy belief, experience and type of teacher) can help the preschool teachers operating in large class size and high TLR can manage the classroom of ECECs in Ghana.

The review of literature was done based on various research questions. This review of literature section started with the pattern of behaviour exhibited by pre-schoolers in ECECs. The review highlighted on out of seat behaviour, verbal aggression, physical aggression, talking out of turns and disrespecting teachers. The next phase of the empirical review focuses on the challenges preschool teachers encounter when managing pre-schoolers in large class size. The study revealed that participation of pre-schoolers in the instructional process, classroom management, assessment, feedback affective problem and resource were seen as challenges preschool teachers encounter in managing large class size.

Again, literature was reviewed on how large class size and TLR influence teaching and learning in ECECs. At this stage, the literature review shows that classroom discipline, non-instructional activities and classroom interaction and communication were viewed as factors that may influence how teaching and learning was mediated in the classroom. The next phase checks how preschool teachers' self-efficacy may enhance effective classroom management.

The last review of literature focused on classroom management strategies used by preschool teachers in ECECs. The classroom management strategies explained in the study was based on acceptance approach, assertive discipline, behaviour modification and business academic approach. Moreover, various classroom implications were drawn as how these classroom management strategies were used in ECECs. Finally, the researcher concluded the chapter with summary of the literature review.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

Research methods are the systematic scientific procedures for collecting and analysing data to arrive at conclusions, evaluate research goals and/or answer research questions (Patten & Newhart, 2017). However, Plonsky (2017) suggests that research methodology is the procedure that is conducted in response to a research issue during data collection and data analysis. The methodology, therefore, is an important approach that describes the process by which researchers map the technique of defining, explaining and predicting phenomena (Neuman, 2011). This chapter covers population, sampling methods, data collection technique and data analysis. The chapter also presents detailed descriptions of the instruments, trustworthiness of the research procedure as well as the methodological outline of the study which was followed.

3.1.1 Methodological outline

Creswell and Creswell (2018) believe that the main purpose of the methodological outline is to help guide the researchers in the research process. The methodological outline describes how the researcher was able to achieve data collection and data analysis. Table 3.1 below presents a methodological outline of this study.

Table 3.1: Methodological outline of the study

SECTION	DISCUSSION
Introduction	This section explained the procedure and process used throughout the study where the outline of research process was discussed.
Philosophical foundations	This section explained the epistemology, ontology and methodology underlining various paradigms. However, the researcher aligned himself with pragmatism philosophical

	assumption because he wants to combine both positivist and interpretive assumptions.
Research approach	The section explained mixed method approach used in the study. However, justification was made for the selection of mixed method approach because the philosophical foundation of the study was on pragmatism paradigm.
Research design	The plan of the study was to involve concurrent triangulation mixed methods. The researcher was interested in collecting and analysing both quantitative and qualitative data simultaneously and merge them in the discussion section. It was effective because the weakness of one design was complemented by the strength of other designs. Descriptive survey was used for the quantitative phase while case study was used for the qualitative phase.
Population	This section explained the element used for the study. These are ECECs, preschool teachers, head teachers and pre-schoolers.
Sample size	The section discusses the specific numbers selected for quantitative and qualitative phases. The sample for the quantitative phase was 216 while 12 was sampled for the qualitative phase.
Sampling procedure	The technique used in selecting participants were discussed in this section. The technique was multi-stage sampling procedure where cluster, purposive, stratified, convenient, simple random and Gay and Diehl, 1992 way of determining sample size was also adopted.
Data collection tools	The tools used for data collection were questionnaires, a semi-structured interview guide and observations.
Data collection procedure/methods	The researcher ensured that permission, informed consent, confidentiality, anonymity and harm to participants were discussed with the participants before data collection. With the help of six (6) research assistants' the questionnaires were distributed to participants within three (3) weeks. The interviews were conducted

	within four (4) weeks while observation was done within three (3) weeks.
Pilot testing of instruments	The researcher ensured that pilot testing was done before data collection. Both instruments were piloted in Sekondi-Takoradi Metropolis in the Western Region of Ghana and the necessary adjustments were made to the instrument.
Trustworthiness, reliability and validity	This refers to how the researcher ensured that trustworthiness of the study for the qualitative phase and reliability and validity for the quantitative phase was discussed.
Data processing and analysis	Procedures for analysing quantitative and qualitative data were discussed.
Evaluation of research methodology	Overall account was made concerning the research approach, design, instrumentation, process for data collection and analysis were all discussed.
Summary of methodology	This section discussed all sub-topic presented in the chapter three.

Source: Researcher's Construct (2020)

3.2 PHILOSOPHICAL STANCE OF THE STUDY

The philosophical stance was based on the pragmatist paradigm assumptions concerning how knowledge was obtained and the methodological procedure adopted by the researcher in the study. Creswell (2014) argues that the research philosophy is a belief in how to capture, interpret and use information. The philosophical position is significant, especially in higher degree research, because it informs the research paradigm that must be used for the study (Kivunja, 2016). The ideological leaning from which a researcher addresses a research problem is defined as paradigm (Cartwright & Montuschi, 2014). Creswell (2014) considers the research paradigm as the general philosophical perspective on the essence of what the researcher brings to a study. There are different paradigms in research, which include positivism, constructivism

and pragmatism (Jarvie & Zamora-Bonilla, 2011). These paradigms have their interpretations of reality and knowledge construction (Patten & Newhart, 2017). Thus, the paradigms have their philosophical stance regarding what constitutes reality (ontology) and how to interpret reality (epistemology) and the best way to research reality (methodology) (Tashakkori & Teddlie, 2008). The discussion of the paradigms was based on their ontology, epistemology and methodology.

The positivist paradigm is associated with the objectionists' epistemological perspective and belongs to the normative school of thinking. Positivism claims that research truth is fixed and thus should be researched objectively using quantitative methods (Cartwright & Montuschi, 2014; Patten & Newhart, 2017). All subsequent philosophical debates were founded on positivism's ontological, epistemological, and methodological principles. Therefore, using only the positivists' paradigm was not suitable to achieve the stated aim for this present study.

The constructivism paradigm is linked with the realist school of thought and situated within the subjectivists' epistemology. Constructivism researchers believe that participants can create their knowledge. Constructivism researchers also dismiss the objectionists' epistemology and argue that knowledge was not discovered through scientific phenomenon (Creswell, 2014). However, unlike the objectivity in the positivist paradigm, the constructivism paradigm suggests that if human beings know they are being observed, they may change their behaviour. Constructivists' believe that if researchers want to understand social action, they need to look into the way it takes place. Thus, constructivism associated with qualitative research which helps in understanding participants' world is not appropriate to achieve the stated aim for this present study.

However, the researcher chose the pragmatist paradigm because it encourages mixed-methods research and so ensures that the contextual realities of the people being investigated are taken into account (Davies & Fisher, 2018) in ways that allow researchers to compare and contrast findings (Cartwright & Montuschi, 2014). Jarvie and Zamora-Bonilla (2011) suggest that there is the potential of a single social reality under the pragmatic philosophical perspective, but that this common social reality is experienced differently by different individuals. Therefore, instead of adopting the far-

right (positivism) or far-left (interpretive) paradigms, pragmatism takes the middle ground to make the best use of both paradigms (Cartwright & Montuschi, 2014). This means that, rather than positivism's fixed reality assumption or interpretivism's strictly subjectively created assumption, pragmatism accepts inter-subjectivity, in which a single reality can be assumed while keeping in mind that it appears differently in different circumstances (Cartwright & Montuschi, 2014).

The researcher's proposal of using the pragmatist paradigm was to ensure numerical values for generalisation and interpretative view of making an in-depth assessment of how large class size and TLR affect classroom management in ECECs. This means that the contextual realities about large class size and TLR were taken into consideration in the knowledge construction and also allow the researcher to compare and contrast with the findings of the study. This helped the researcher to quantify quantitative and qualitative data which enhance the generalisation of research findings. The next section highlights the approach used by the researcher to achieve aim of the study.

3.3 RESEARCH APPROACH

Patten and Newhart (2017) define the research approach as the method used for data collection. Plonsky (2017) claims that the research approach includes the overall plan that is chosen to integrate various parts of the study coherently to address research questions or hypotheses. Creswell and Creswell (2018) also describe the research approach as the procedure for data collection and analysis. The basic approaches that exist in research are qualitative, quantitative and mixed methods (Creswell & Creswell, 2018).

The quantitative approach describes the proponents of being realistic or positivist (Snelson, 2016). In the same vein, Saunders and Tosey (2015) contend that the quantitative approach is underpinned by the positivist research paradigm, whose basic assumption is based on single reality, has no place for subjective values, and therefore, uses numbers as the route to objectivity. The strength of the quantitative approach is reliable in facilitating a critical analysis of numerical data for larger groups of people, and it also ensures a short time for administering questionnaires (Choy, 2014). To ensure the validity of the quantitative approach, data were collected and

analysed to assess the accuracy of an instrument before data collection (Creswell & Clark, 2017; Ofori & Dampson, 2012). Nonetheless, the weaknesses of the quantitative approach show that there might be no human understanding and conviction, lack of resources for large scale research may compromise the quality of research as quantitative research requires large numbers of people and that it does not offer depth or interrogative experience (Choy, 2014).

On the other hand, the qualitative research approach uses a smaller sample size where participants data are collected through narratives or observations (Creswell & Creswell, 2018; Plonsky, 2017). Again, qualitative researchers hold subjectivists' views that "the process of our observation of reality changes and transforms it, and is never definitive, as the quantitative researchers claim" (Kusi 2012, p.78). The drawback indicates that the interview process is time-consuming and does not provide objectively viable results. To enhance the trustworthiness of qualitative data, several methods (for example triangulation, thick description, inquiry audit amongst others) were designed to check for credibility, transferability, dependability and conformability of results (Shenton, 2004; Silverman, 2015).

However, it is possible to combine both quantitative and qualitative methods to form a mixed-method approach to collect research data (Mbila, 2017). The mixed method approach underpinned by pragmatism, uses both qualitative and quantitative methods to collect and analyse data (Creswell & Creswell, 2018). In recent years, the mixed-method approach has emerged as a distinct third tradition, with its own philosophical foundations and nomenclature (Creswell & Clark, 2017). The research paradigm employed, the research questions under inquiry, and whether the topic could be adequately explored within the setting of the study all influence which approach is used (Plonsky, 2017).

3.3.1 Justification of the mixed-method approach

The researcher selected a mixed-method approach to be able to reveal the complexities of social reality (Davies & Fisher, 2018; Jarvie & Zamora-Bonilla, 2011). However, combining both quantitative and qualitative investigation was appropriate to achieve that aim (Creswell & Creswell, 2018; Kusi,2012). The researcher considered

the issue being studied and the context within which the research was being conducted; that is, the issue of large class size and TLR within the context of ECECs.

The mixed method was important to unearth how peculiar socio-cultural norms, beliefs and practices influence how preschool teachers manage pre-schoolers in large classes. With this, the qualitative phase offers the opportunity for the researcher to dig deeper into how preschool teachers use classroom management strategies in ECECs in Ghana. Again, the same mixed-method approach offers the opportunity to gather large quantitative data from participants to enable the generalisation of research findings of the study. In conclusion, the weakness of the quantitative approach is strengthened by the qualitative approach which could help make an in-depth assessment into how large class size and TLR affect classroom management in ECECs in Ghana.

3.4 RESEARCH DESIGN

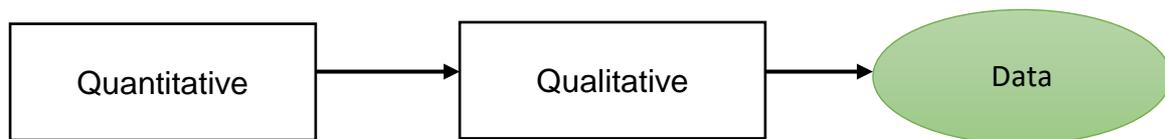
Dawson (2019), describes research design as the specific plan used to collect and analyse data based on the choice of the research approach. Creswell (2014) refers to research design as the shaping plan or strategy. In the mixed-method approach, there are two main designs. These are sequential and concurrent mixed-method designs where each has three parts (Dawson, 2019).

The sequential mixed method has a two-phase design that collects different data in each step (Tashakkori & Teddlie, 2010). There are three dimensions of the sequential mixed-method design, depending on which data were collected first. The sequential explanatory involves the procedure where the researcher collects and analyses quantitative data first before qualitative data, sequential transformation involves data collection based on the theoretical review of the researcher and sequential exploratory involves collection and analyse qualitative data first before quantitative data (Creswell & Clark, 2017; Creswell & Creswell, 2018; Saunders & Townsend, 2018).

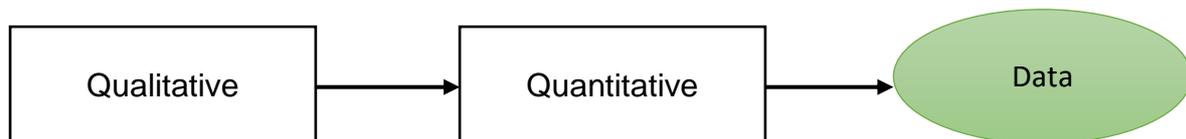
Concurrent mixed-method design is one-phase where both qualitative and quantitative data are simultaneously collected and analysed (Teddlie & Tashakkori, 2011). The concurrent mixed-method design also has three parts. First is concurrently triangulation (where quantitative and qualitative data are collected and analysed

simultaneously). The next design is concurrent nested (where quantitative and qualitative data are collected simultaneously, but the priority was given to either qualitative or quantitative during the analysis). The last is concurrent transformation (quantitative and qualitative data are collected simultaneously but guided by the theoretical perspective or research questions of the study) (Creswell & Clark, 2017; Creswell & Creswell, 2018).

A. Sequential Explanatory Design



B. Sequential Exploratory Design



C. Concurrent Triangulation Design

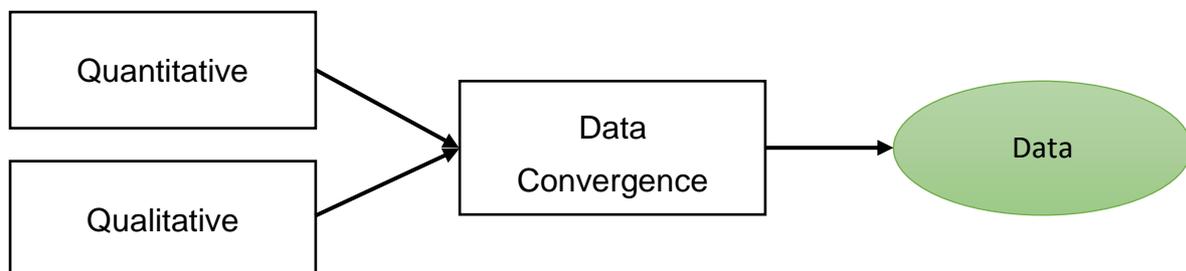


Figure 3.1: Summary of mixed method design

3.4.1 Justification of concurrent triangulation research design

The researcher chose the concurrent triangulation mixed-method design to help explain and explore more human behaviour's richness and complexity (Creswell, 2014; Kusi, 2012) and to help with the collection of qualitative and quantitative data simultaneously (Creswell & Creswell, 2018). The qualitative data and the quantitative data were gathered and analysed at the same time and merged at the end to provide a holistic understanding of the research questions.

The quantitative data was gathered using a descriptive survey. In this study, the researcher conducted a descriptive survey, where the questionnaire was used to collect data. Descriptive survey studies are structured to obtain information about the current status of phenomena (Creswell, 2014). Seidu (2006) also defines descriptive survey as the analysis of an existing condition, prevalent views, perceptions, ongoing processes and patterns to obtain information that can be evaluated and interpreted to produce a report on the current status of the topic or phenomenon being studied. This design was found to be suitable because it offers an in-depth explanation of the phenomena in their current setting and was cost-effective in gathering data from a large sample with high data return (Kothari, 2004, Ofori & Dampson, 2012).

Descriptive surveys determine the way things are and report them (Gay, 1992). Fraenkel and Wallen (2000) note that the essence of the descriptive survey was to elicit answers from a large group of people to a set of questions carefully designed and administered. The researcher, therefore, used a detailed descriptive survey in his analysis because he was interested in the views of a large group of preschool teachers and headteachers to find out how large class size and TLR affect classroom management in ECECs in Ghana. The descriptive survey was deemed the most appropriate design for the quantitative process because the researcher wants to collect data and make inferences to the general public.

Again, a case study was performed at the qualitative phase where data was obtained from interviews and observations. A case study requires an investigation, usually over a limited period, of the real-life event or in-depth analysis undertaken from different research sites and focuses on a small number of subjects (Yin, 2011). The case study procedure helped the researcher to advance the field of study and the knowledge in the research area. Analysing data in this form of design provides a rich summary of the findings. Punch (2005) indicates that the objective of the case study is to understand the subject in detail and its natural environment, understanding its complexity and meaning. It also has a systematic perspective on maintaining and recognizing the case's wholeness and cohesion.

To achieve the concurrent triangulation mixed-method design, the researcher spends sufficient time gathering data in the study area. The researcher plans to use a case

study to examine in detail how large class size and TLR affect classroom management in the current situation. This was done to confirm outcomes in both quantitative and qualitative phases. The strength of one data collection method helped complement the weakness associated with another data collection method with this approach. Concurrent triangulation mixed-method design added trustworthiness to the results obtained and provides a variety of results as well. The quantitative data provided a numeric description that may be generalised to the specific population while the qualitative data was important to provide first-hand observable information on how preschool teachers manage large class size in their ECECs.

3.5 POPULATION

A study's population is defined as the collection of all individuals who have comparable traits and hence qualify to be included in the study depending on what the researcher was interested in (Creswell, 2014). For the purpose of this research, the population was selected using registered ECECs in the study areas. Table 3.2 represents the targeted population of the study.

Table 3.2: Distribution of targeted population of the study

Variables	Estimated Population
Tamale metropolis	
ECECs	54
Preschool teachers	268
Head teachers	54
Kumasi metropolis	
ECECs	87
Preschool teachers	402
Head teachers	87
Cape Coast metropolis	
ECECs	42

Preschool teachers	230
Head teachers	42

Source: Ministry of Education (MoE) School Profile (2018)

The targeted population was made up of registered ECECs, preschool teachers and head teachers within Tamale, Kumasi and Cape Coast metropolises. Specifically, the target population includes (183) ECECs, (900) preschool teachers and (180) headteachers from Tamale, Kumasi and Cape Coast Metropolises. The researcher was interested in headteachers and preschool teachers because he believes they share a similar intention to the implementation of good classroom management strategies in ECECs in Ghana. The targeted population was heterogeneous because it includes preschool teachers and headteachers from different types of ECECs, educational level, age groups and level of experience. With this, the researcher wants to investigate how large class size and TLR affect classroom management in respondent ECEC context.

3.6 SAMPLE SIZE AND SAMPLING PROCEDURE

The section highlights the steps taken by the researcher to arrive at the sample size and the procedure used in selecting the participants of the study. However, since the study was concurrent triangulation mixed-method design, different sample size and sampling procedures were used for both quantitative and qualitative phase. Section 3.6.1 explains how a portion of the population was used to represent the study.

3.6.1 Sample size

Patten & Newhart (2017) define a sample as the proportion of the population of interest to the study. However, Creswell (2014) believes that a sample is a subset or portion of the population whose findings can be applied to the population as a whole. For the rigorous nature of the study, it was important to ensure that the characteristics of the population that guide the sample selection adequately reflect the entire population. As a result, Creswell and Creswell (2018), Nardi (2018), and Plonsky (2017) agree that if the population of interest is small and easily accessible, all characteristics should be included in the study, particularly if the study includes a survey component. The

different sample size was used for the quantitative and qualitative phase because the research was concurrent triangulation mixed-method design. Table 3.3 and Table 3.4 show the distribution of samples used for the study.

Table 3.3: Distribution of quantitative sample

Variables	Estimated Sample
Tamale metropolis	
ECECs	11
Preschool teachers	54
Head teachers	11
Kumasi metropolis	
ECECs	17
Preschool teachers	80
Head teachers	17
Cape Coast metropolis	
ECECs	8
Preschool teachers	46
Head teachers	8

Source: Field data, Kissi-Abrokwah (2020)

Table 3.3 shows the distribution of the quantitative sample for the study. The quantitative data was specifically collected from ECECs (36), preschool teachers (180) and headteachers (36) situated within the Tamale, Kumasi and Cape Coast Metropolises in Ghana. Therefore, the participants sampled for the quantitative phase was two hundred and sixteen (216). This ensured that the quantitative data was gathered from a large sample so that the findings can be easily generalised. Table 3.4 represents a qualitative sample of the study.

Table 3.4: Distribution of qualitative sample

Variables	Qualitative Sample Interview	Qualitative Sample Observation
ECECs (Public & Private)		6
Preschool Teachers	6	
Head teachers	6	

Source: Field data, Kissi-Abrokwah (2020)

Table 3.4 shows the qualitative sample of the study. In total six (6) preschool teachers and six (6) headteachers were selected from the six (6) ECECs from Tamale, Kumasi and Cape Coast Metropolises of Ghana for the interview phase. However, the observation was done among three (3) ECECs public and three (3) private ECECs, one each from the three (3) study areas (Tamale, Kumasi and Cape Coast Metropolises) in Ghana. Therefore, the qualitative sample of the study was twelve (12) participants for the interview and six (6) ECECs for the observations. The total sample size selected for the study was two hundred and thirty-four (234) which include 216 participants for quantitative, 12 participants for qualitative and 6 ECECs where the observation was conducted. The next section shows how representations were drawn for the sample.

3.6.2 Sampling procedure

Gravetter and Forsano (2018) define sampling as the processes of selecting a section of a population. In research, probability and non-probability sampling are the two main sampling procedures. Probability sampling denotes an equal chance of participants being chosen (Plonsky, 2017). However, probability sampling involves simple random, systematic, cluster and stratified (Patten & Newhart, 2017). The non-probability sampling procedure involves selecting participants from a population where individuals do not have equal chances of being selected (Gravetter & Forsano, 2018). For Instance, non-probability sampling procedure includes convenience, purposive, quota and snowball (Patten & Newhart, 2017). The researcher adopts the multistage sampling procedure for the study. The multistage sampling procedure was used because different selection criteria were used in selecting participants for both

quantitative and qualitative phases. The next section represents how the quantitative sampling procedure was used for the study.

3.6.2.1 Quantitative phase

It was essential for the researcher to show readers the procedure used in arriving at quantitative sample. Table 3.5 shows the sampling procedure for the quantitative phase.

Table 3.5: Quantitative sampling procedure

Variables	Descriptions	Procedure	Number Selected
Zones	Northern, Middle, Southern	Cluster	
Regions	Northern, Ashanti, Central	Purposive	
Metropolise	Tamale, Kumasi, Cape Coast	Purposive	
ECECs	Public	Stratified/Purposive	18
	Private		18
Preschool Teacher	Gay &	Proportionate sampling/simple random	180
	Diehl (1992)		
Head Teachers	Gay &	Proportionate sampling/simple random	36
	Diehl (1992)		

Source: Field data, Kissi-Abrokwa (2020)

Considering the state of Ghana and judging the proximity, the researcher restricted the study to three metropolises. Ghana can be grouped into three geographical zones. Where the region within the zones has their commonalities among them. At the first stage, the researcher adopted the cluster sampling procedure to group Ghana into the already existing clusters (Northern zone, Middle zone and southern zone).

In the second phase of the sampling, the researcher selected these regions: Northern,

Ashanti and Central for the study. The researcher purposively selected these regions because the regions found in each zone have the highest number of ECECs. For this reason, purposive sampling was appropriate for the selection.

At the third phase of the sampling, the researcher again used the purposive sampling procedure to select either district, municipal or metropolitan assembly which has the highest and oldest ECECs within the regions. For the purpose, the researcher selected Tamale metropolis, Kumasi metropolis and Cape Coast metropolis for the study. These metropolises were selected because within each region, these metropolises have the highest number of ECECs in their region.

To select both public ECECs and private ECECs for the study, the researcher adopted the stratified sampling procedure where ECECs were divided into smaller groups known as strata. At the fourth phase of the sampling, stratified sampling was used to divide ECECs into two (2) groups. Group A consisted of public ECECs and group B consisted of private ECECs and purposive sampling was used to select ECECs with the highest number of pre-schoolers found in the classroom.

In the next phase, the researcher adopted the Gay and Diehl (1992) way for determining the sample. The researcher proportionately sampled 20% of preschool teachers and headteachers from the target population from each metropolis. Using 20% of the target population would help attain a fair representation from the population to make a statistical inference for generalisation (Kusi, 2012).

A simple random sampling method was used to select preschool teachers and headteachers. However, YES or NO was written on a piece of paper and put in a box as part of conducting the random sampling. Participants were asked to pick and remove one paper from the box to ensure fairness in the process of selection. This method was carried out until one hundred and eighty (180) preschool teachers and thirty-six (36) headteachers were selected for the study. The simple random sampling allows the researcher to remove the skewed choice of individuals/ elements and draw objectively valid conclusions of the sample and helps to reduce sampling errors (Ofori & Dampson, 2012). The next section represents the qualitative sampling procedure used for the study.

3.6.2.2 Qualitative phase

This section explains participants' selection at the qualitative phase. Since the study was concurrent triangulation mixed method design, it was essential to show readers the procedure used in selecting the qualitative participants for the study. Table 3.6 shows the sampling procedure used for the qualitative phase.

Table 3.6: Qualitative sampling procedure

Variables	Interview	Procedure	Observation	Procedure
ECECs				
Public	3	Purposive	3	Purposive
Private	3	Purposive	3	Purposive
Preschool Teacher				
Public	3	Convenient		
Private	3	Convenient		
Head teachers				
Public	3	Convenient		
Private	3	Convenient		

Source: Field data, Kissi-Abrokwah (2020)

To select respondents for the interview, a convenient sampling technique was used for qualitative data. However, convenient sampling involves selecting respondents for a study based on their availability and willingness (Gravetter & Forsano, 2018). The convenient sampling was used to select the preschool teachers and headteachers who were available and willing to be interviewed for the study.

Again, the purposive technique was used to select highly populated ECECs from the three study areas. McMillan and Schumacher (2010) argue that purposive sampling was based on the assumption that the researcher wants to explore, understand and

gain knowledge in the phenomenon being study. Purposive sampling described as the process of selecting study participants based on their specific roles (Gravetter & Forsano, 2018). With this, the observation was done to check the patterns of behaviour exhibited by the pre-schoolers and how preschool teachers can manage them in classes. A smaller sample was selected for the observational qualitative phase because it was manageable. However, Kusi (2012) asserts that in observational studies, it could be appropriate to select a small sample that would enable the researcher to make an in-depth review about the phenomenon and to explore situations better. The next section explains the instruments used for data collection.

3.7 DATA COLLECTION INSTRUMENTS

The data collection tools were questionnaires, semi-structured interviews and an observational guide. In section 3.7.1, 3.7.2 and 3.7.3 the researcher explains how the researcher used and described the data collection instruments of the study. The instruments for data collection were self-designed. In the first phase, the researcher determined questions that were used for the study. This was done in line with the research questions. At the next phase, lecturers and curriculum developers who know ECE and research were given the questions to review to determine the problems that may be characterised with them. After the experts' review, pilot testing was done, and the researcher reported for modification before data collection.

In the concurrent triangulation mixed method, it was necessary to indicate the tools that were used for collecting data in the quantitative and qualitative phases. Following a thorough examination of the research questions and the type of information the researcher seeks, it was determined that a questionnaire would be appropriate for the quantitative phase, and a semi-structured interview schedule and observational schedule would be appropriate for the qualitative phase.

3.7.1 Quantitative phase: Questionnaire

Pattern and Newhart (2017) define a questionnaire as a research instrument that contains different question items which are to solicit information from research respondents. However, Nardi (2018) concludes that a questionnaire provides wide variety of questions which help to collect data from participants in a study. There was

one questionnaire used in the study. The participants who answered the questionnaires were preschool teachers and headteachers. The questionnaire was mostly used by researchers because the results can be quantified by researchers or with the help of software.

In research, the questionnaire is either closed-ended or open-ended. A closed-ended questionnaire was used for the study. The researcher uses close-ended questions because it is relatively easier, and the questions can be easily coded. However, open-ended questions require extensive writing, which researchers spend time coding and which participants often spend time answering (Kusi, 2012). The close-ended questionnaire consists of question items that provided a range of responses from which participants are restricted to choose. For instance, closed-ended questions require no extended writing from the researcher and save the participants' time (Kusi, 2012).

The questionnaire was divided into six (6) sections. The questionnaire contains seventy-five (75) items which were found in six (6) different sections. In section A, closed-ended questions were used to sample participants' background information. Section A, (1-9) elicits background information on region, age, gender, type of preschool teachers, type of school, years of experience, educational level and the number of pre-schoolers in class. For closed-ended questions, participants were introduced to a set of designed answers which they chose to agree or disagree on the statement (Kusi, 2012).

The remaining section from the questionnaire was the Likert scale. Kusi (2012), describes the Likert scale as a series of register questions that respondents are to either agree or disagree with the statement. A four-point Likert-type scale was employed in the study. The scale was scored as follows: strongly disagree (SD)-1, disagree (D)-2, agree (A)-3, and strongly agree (SA)-4. Section B (10-28) solicits information on the pattern of behaviour exhibited by pre-schoolers in large class size. Section C (29-38), dwells on the challenges preschool teachers face in handling pre-schoolers in a large class. Section D (39-50) was designed to solicit information on the influence of large class and TLR on how teaching and learning were mediated in the classroom. Section E (51-59) looks for information on the teachers' self-efficacy

belief in managing pre-schoolers in large class size. Finally, section F (60-75) considers the measures ensured to promote effective classroom management in ECECs.

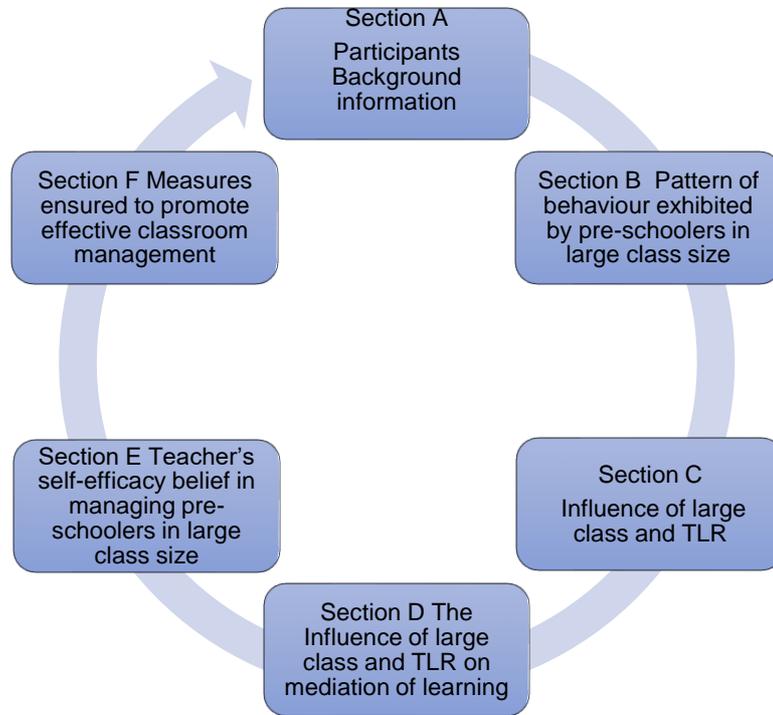


Figure: 3.2 Summary of questionnaire

3.7.2 Qualitative phase: Semi-structured interview

A semi-structured interview was used for qualitative data. Ritchie, Lewis, Nicholls and Ormston (2013) define an interview as the interaction between two or more people where one individual (referred to as the interviewer) asks questions to others (interviewee or interviewees) to extract information. However, interviews could be conducted through different media such as face-to-face, telephone and internet (Silverman, 2015) and can be categorised into unstructured, structured and semi-structured (Creswell & Creswell, 2018; Kusi, 2012). With the structured interview, an interview guide could be developed and strictly followed when interviewing different participants, such that issues not listed in the guide are not discussed (Silverman, 2015). In semi-structured interviews, an interview guide was used, but there could be room for probing questions to unearth issues not listed in the interview guide (Dawson, 2019). In an unstructured interview, there was no interview guide to control the

interview, but the context of the interaction determines the direction of the interview (Clarke & Braun, 2013). For an in-depth assessment, it was appropriate to use a semi-structured interview schedule to investigate how large class size and TLR affect classroom management in ECECs.

The semi-structured interview schedule was an opened conversations design to address issues on the research questions, which included the pattern of behaviour exhibited by pre-schoolers in large class size, identify the challenges preschool teachers face in managing pre-schoolers in large class size; investigate how large class size and TLR affect teaching and learning in ECECs in Ghana and assess strategies adapted by preschool teachers to enhance effective classroom management in ECECs in Ghana. The semi-structured interview helped the researcher to probe questions that were asked based on responses from the participants. The probing questions helped the researcher to delve deeper or make an in-depth assessment into how large class size and TLR affect classroom management.

3.7.3 Qualitative: Observation

Creswell (2014) defines observation as key tools used for collecting qualitative data. However, in observation, researchers are required to take notes, directly observe the object and make analytic memos that provide an in-depth assessment of the case. During the observation, the researcher checked the behaviour patterns exhibited by pre-schoolers in large class size and how preschool teachers manage pre-schoolers in large class size. The researcher spent time with the participants in the ECECs and was involved in the daily routine activities in the ECECs.

The researcher spent six (6) weeks observing pre-schoolers and preschool teachers. The observation assisted the researcher to learn about the activities of the pre-schoolers understudy in their natural setting and observed how preschool teachers managed pre-schoolers in large class size. In all, six (6) ECECs which included three (3) public and three (3) private were observed. The next section explains the procedure used for ensuring the ethical consideration of the study.

3.8 ETHICAL CONSIDERATION

Ethics are critical in research because they ensure that research participants are protected at all phases (Plonsky, 2017). Research ethics, according to Patten and Newhart (2017, p.68), aid in the protection of participants, the development of trust with them, the integrity of the research process, the prevention of misbehaviour, and the building of public confidence. While conducting academic research, researchers are advised to follow professional ethical rules and regulations. Informed consent, autonomy, ensuring privacy and confidentiality are all hallmarks of ethical considerations in research (Nardi, 2018). The following ethical consideration and how they are linked to the study were discussed before the data collection process began: permission, anonymity, informed consent, confidentiality and harm to respondents.

3.8.1 Permission

The authenticity of research largely depends on permission to access the study (Chikutuma, 2013). Researchers need approval from research participants before data collection (Majoko, 2013). All letters requesting ethical clearance have been included in the appendices (Appendices A to E). To secure the approval for data collection, the following measures were taken.

- Ethical clearance was first sought from the Institutional Review Board of the University of South Africa before carrying out the study.
- Permission was requested from the Ministry of Education and Metropolitan Education Units in Ghana to approach the (36) ECECs within the Tamale, Kumasi and Cape Coast Metropolises.
- Permission was requested from the headteachers from each ECEC to include them in the research.
- Permission was requested from each preschool teacher who was willing to take part in the study. They granted interviews, questionnaires and observation.
- Permission was sought from parents for the researcher to only observe their children in the classroom.
- Assessment was sought from children to observe them in the classroom.

- Covid-19 hygiene protocols were also discussed with authorities before permission was granted for data collection. Protocols were adhered to during data collection.

3.8.2 Informed consent

After securing consent from the Ministry of Education, Metropolitan Directorate of Education and Headteachers in charge of the ECECs, it was important for participants to give their consent before the data collection process began. However, Magwa and Magwa (2015) define informed consent as ethical consent, which allows participants to participate or not to participate after the purpose of the study has been given to them. In this study, the researcher observes informed consent and participants were given the liberty to choose to participate or not after the purpose of the study was explained to them.

3.8.3 Confidentiality

The researcher ensures the participants on the obligation to keep their identities and responses private (Creswell, 2014). The researcher ensures participants that the data provided was not to be shared with other users. The information obtained was mainly for academic purposes.

3.8.4 Anonymity

Chikutuma (2013) defines anonymity as the right of a participant to remain not identified. In the same vein, Christians (2005) asserts that in research, the researchers should preserve the participants' identity and responses private. Anonymity was used to protect participants' 'right to privacy'. At the quantitative phase, participants data were presented in groups rather than individual data to ensure anonymity while qualitative data were presented using codes to ensure the identity of respondents were kept away from the public.

3.8.5 Harm to participants

Patton (2002) highlights that participants must be protected against physical, social and emotional harm during the research process. In this study, the questions asked were not sensitive to provide psychological, social and physical harm to them. Due to the covid-19 situation, the researcher ensures the participants of social distance, regular wearing of nose mask and regular hand washing before observation and administration of the questionnaire to the headmasters in ECECs. The procedure for data collection is explained in the next section.

3.9 METHODS FOR DATA COLLECTION

The section describes the procedure used for the data collection in the study. The procedure used for data collection was not fixed because concurrent triangulation mixed-method design required different procedures for data collection (Creswell & Creswell, 2018). The quality of the information obtained for the analysis depends on the fieldwork during data collection. Due to the large scope of the study, the researcher hired six (6) field assistants to help him with procedures for data collection. The training of field assistants was to explain the study intent, ethical obligations, sampling procedure and Covid-19 hygiene protocols. During the training, the researcher explained how to ensure informed consent, confidentiality, anonymity, participant harm, privacy to the participants and how covid-19 hygiene protocols should be observed. The method of collecting data was divided into three (3) steps.

3.9.1 Quantitative phase

At the quantitative phase, the researcher and field assistants administered the questionnaire to respondents in various selected ECECs in the study areas. Two field assistants were selected from each study area. Again, two (2) field assistants were assigned to each study area. Due to the Covid-19 situation, the researcher and the field assistants sent the questionnaires to the headteachers of the various ECECs to administer the questionnaire on their behalf. The questionnaire was administered by the headteachers of various ECECs to the two hundred and sixteen (216) respondents

with the support of the researcher and six (6) field assistants. The fieldwork for the quantitative phase lasted for three (3) weeks, that is, between 13 June to 5 July 2020.

3.9.2 Qualitative phase

It is very important that the researcher and the participants have initial interaction before the interview. This helped the respondents to open up during the interview schedule. At the qualitative phase, the researcher personally schedules a day with the participants to conduct the interviews. Due to the Covid-19 situation, the researcher booked an appointment with the participants on when to conduct the interviews. There was a series of communication between the researcher and the participants. Communication influences the effective and efficient procedure for data collection. However, introducing myself as a PhD student at the University of South Africa made them view me as one of the 'leading' academics. My relationship with them made them to cooperate with me particularly during the interview stage. Before the online interview session, series of interactions and contact with the participants made them professionally close to me, providing them with a sense of security and independence, to know what the study was meant for.

The researcher employed the use of a semi-structured interview schedule for the data collection after establishing rapport with the participants. The researcher personally conducted the interviews to gain first-hand information on the pattern of behaviour exhibited by pre-schoolers in large class size, identify the challenges preschool teachers face in managing pre-schoolers in large class size, investigate how large class size and TLR affect teaching and learning in ECECs, examine preschool teachers' self-efficacy beliefs in managing pre-schoolers in large class size and assess strategies to enhance effective classroom management in ECECs.

During the online interview, notes and audio recordings were made. The researcher expressed gratitude to the participants for their support and involvement at the end of each interview session. Some of them expressed interest in the study's findings, so the researcher promised to send them papers from this dissertation to all interested participants. During the interview session, the average time of 25 minutes was spent

on each respondent. The fieldwork lasted for four (4) weeks between 21st August to 18th September 2020.

The next qualitative phase explained how observational data were collected. The researcher was present at the ECECs when the observation was being made. For the ethical purpose, before the observation was carried out, all Covid-19 hygiene protocols were observed by the researcher before he was allowed to enter the ECECs. These Covid-19 hygiene protocols were observed and involve in wearing of face masks, washing of hands before entry to ECECs and using of hand sanitisers. The naturalistic observation was used to gather information from participants in their classroom setting (Creswell, 2014). The researcher had the chance to observe how preschool teachers manage pre-schoolers in the classroom and the pattern of behaviour exhibited by pre-schoolers in the classroom.

The observation was done during the instructional lesson and non-lesson hours. The researcher observed the situations based on the spreadsheet and it was done during the morning and afternoon. The researcher spent two (2) hours in each class and the observation was done on Monday and Wednesday. The observational instrument was designed according to the related literature and research questions. An observational checklist was done on the two research questions used for the observation. The observational instrument was reviewed by experts in the field of ECE. Table 3.7 shows the schedule of classroom observation.

Table 3.7: Observational schedule

	Monday	Time	Wednesday	Time
1 ST Session	KG1	2 hours	KG2	2 hours
2 ND Session	KG2	2 hours	KG1	2 hours

Source: Field data, Kissi-Abrokwah (2020)

These naturalistic observations were conducted in ECECs to check how preschool teachers manage their pre-schoolers and pattern behaviour exhibited by pre-

schoolers in these classes. In each of the ECECs, the researcher spent four (4) hours in each classroom and was completed within two (2) working days (Monday and Wednesday). At the first session, the researcher observes KG 1 pre-schoolers in the morning and KG2 pre-schoolers in the afternoon. The researcher observed KG2 pre-schoolers on Wednesday during the morning session and KG1 pre-schoolers were observed at the second session in the afternoon. The classroom observational session took approximately 2 hours and it was done on Monday and Wednesday. The total time spent on each ECECs the researcher visited was eight (8) hours within the week. The observation lasted for three (3) weeks between 11th January to 27th January 2021.

3.10 PILOT TESTING OF INSTRUMENTS

The instrument for data collection was pretested among two purposively selected ECECs in the Sekondi-Takoradi metropolis in the Western Region. The quantitative sample for the pilot testing of the instrument was twenty (20) respondents consisting of sixteen (16) preschool teachers and four (4) headteachers whereas four (4) respondents were selected for the qualitative interview. The purpose of piloting the instrument was to check for consistency, accuracy and applicability of the instrument.

The test-retest procedure for checking reliability was used in the study. With this procedure, respondents were given a questionnaire to answer and fourteen (14) days later, the same respondents were given the questionnaire to answer to check for similarities. The Cronbach's alpha was used to determine the internal consistency or average correlation of items in the study. However, Creswell (2014), indicates that if an instrument yields an alpha level less than 0.7, then the indication was that the instrument has low reliability and all the items do not meet practical standards of internal reliability. Table 3.8 shows the distribution of the scale of pilot test results for the questionnaire.

Table 3.8: Distribution of scale of pilot testing results

Scale	Alpha 1	Alpha 2
Section B	0.83	0.85
Section C	0.83	0.81
Section D	0.74	0.75
Section E	0.87	0.87
Section F	0.89	0.88

Source: Field survey, Kissi-Abrokwah (2020)

Table 3.8 shows a summary of the scale of the pilot test results of the study. The results in alpha 1 and alpha 2 showed that there was a consistency in how the respondents answered the instrument. For instance, section B, D, E and F showed a consistent result (0.83, 0.74, 0.87, 0.89 and 0.85, 0.75, 0.87, 0.88) for both tests. The first test yielded a Cronbach Alpha level of 0.83 while the alpha level for the second test was 0.83. However, the overall alpha level for the instrument was 0.83. This was done by finding the average for alpha level 1 and 2. The alpha level 0.83 showed that the instrument was reliable.

The researcher conducted the interview at the respondents' place of convenience. The interview session lasted for 25-30 minutes. The researcher adapted Castillo-Montoya's (2016) procedure for preparing an interview protocol. The interview protocol was developed with the guide from research questions. Before the researcher conducted the interviews, an introduction was completed /undertaken to describe the nature of the research, purpose, type of participants and procedure to ensure anonymity and confidentiality. The following procedure was followed during the pilot testing of instruments:

- Restructuring and rewording of interview questions: The initial interview questions were ambiguous, verbose and too complex for the respondents to understand. More concise interview questions were developed.

- Identification of new knowledge on class size, TLR and classroom management to focus on the development of the initial interview questions was in line with the research question and literature review.
- Sharpening of interview skills: For instance, listening to the interview tapes the researcher realized that most of the sentences were not completed by interviewees.
- The review of the interview questions was done before data collection on the main data from the study area.

3.11 TRUSTWORTHINESS, RELIABILITY AND VALIDITY OF THE STUDY

This section shows how issues on trustworthiness, reliability and validity were discussed in the study. The criteria for measuring trustworthiness of issues, reliability and validity are a fundamental requirement for ensuring the value of truth in research studies. Criteria for measuring quantitative, qualitative and mixed-method approach were explained.

3.11.1 Criteria for ensuring the trustworthiness of the qualitative phase

Issues of trustworthiness were arguably fundamental critical issues that need to be addressed in research, particularly in mixed-method studies (Montuschi, 2014). The core reason was based on the argument that qualitative research was subjective and value-laden (Montuschi, 2014). The traditional ways of checking the rigour of research studies are normally validity and reliability (Creswell & Creswell, 2018; Teddlie & Tashakkori, 2011). However, there are fundamental ways of ensuring rigour research. These are dependability, confirmability credibility and transferability (Silverman, 2015).

3.11.1.1 Transferability

The first element adapted to ensure trustworthiness was the transferability of findings in the qualitative phase which was equivalent to external validity in the quantitative phase (Silverman, 2015). In concurrent triangulation mixed-method design, the generalisation of quantitative findings was not difficult but for the qualitative finding

was difficult. For example, the problem under study may be similar to that of other countries. The purpose of the study was not to generalise the finding but to show readers about the current state or situation of how class size and TLR affect classroom management in ECECs. However, if readers find commonality between the contexts and their context of the study, then they can transfer the findings to their contexts.

3.11.1.2 Credibility

Credibility refers to the extent to which trustworthiness and believability of finding are often associated with the internal validity of quantitative studies (Teddlie & Tashakkori, 2011). The researcher adapted Kusi's (2012) procedures for checking the credibility of the study.

- The instruments were conducted using a language that was understood by both the researcher and research participants to avoid misunderstanding.
- The researcher ensured that no distortion took place while the interview was conducted to allow the free flow of information.
- My supervisors' regular checks helped the researcher to correct errors and problems that arose during data collection and analysis in the study.
- Lastly, three (3) scholars with knowledge about the research area, administration and data analysis were given the research instruments to check for mistakes in the procedure for reporting the findings and research process in general.

3.11.1.3 Dependability

The first step the researcher used in checking dependability was the request that the participants approve or disapprove of their comments after the interview session. Secondly, the researcher gave the work to three (3) independent raters who are not connected to the present study. After comparing the notes from these independent raters, their agreement on the questions, themes and findings could be rated as 85%. The researcher presumes that the work was consistent and similar results were

obtained when the instruments were pre-tested between five (5) public and private ECECs in the Sekondi-Takoradi metropolis.

3.11.1.4 Confirmability

Confirmability was also defined as the measure of objectivity in evaluating research results (Teddlie & Tashakkori, 2011). Credibility refers to the extent of trustworthiness and believability of the findings, and it was often associated with internal validity (Creswell, 2014). The confirmability of qualitative data corresponds with the objectivity of data in the quantitative phase. The principle highly depends on evaluation techniques such as assessment of the research process at all times and checking for background knowledge of the researcher. The researcher remains unbiased and ensures that his constructions of research findings that emerged directly from the data were presented without altering the results.

3.11.2 Criteria for ensuring reliability and validity of the quantitative phase

Reliability and validity are fundamental elements in measuring how instruments were used to gathered data (Creswell, 2014; Tavakol & Dennick, 2011). The terms validity and reliability may appear identical, but they have entirely different meanings when it comes to the measurement of concepts in research (Bryman, 2012).

3.11.2.1 Reliability

Silverman (2015) defines reliability as the degree to which research produces the same results when repeated by different researchers or in a different context. However, Kusi (2012) asserted that the essence of reliability was replicability of research findings. In the study, a test-retest reliability procedure was used during pilot testing. The researcher collected two (2) sets of data within fourteen (14) days from the same respondents to check if the result was consistent. Test-retest criteria gave the instrument consistent scores when taken by the same participants at different times (Creswell & Creswell, 2018; Teddlie & Tashakkori, 2011).

3.11.2.2 Validity

Tashakkori and Teddlie (2010) define validity as the degree to which a concept or the values of the questionnaire accurately or truly measured what was supposed to measure (Tashakkori & Teddlie, 2010). Cohort researchers like Creswell and Creswell (2018); Creswell (2014) and Kusi (2012) asserts that validity represents the degree to how test results accurately reflect the social phenomena under study. In this study, validity was checked when pretest instruments were given to experts in research to assess the questions. Based on the feedback received from experts, the questions were modified to suit the content of that study (Creswell & Creswell, 2018; Welman & Kruger, 2001).

3.11.3 Criteria for ensuring trustworthiness of the mixed-method phase

There are three ways of ensuring trustworthiness for mixed-method studies. These criteria are data triangulation or respondent triangulation, reflexivity and analytical adequacy (Creswell & Creswell, 2018; Kusi, 2012 Pattern & Newhart, 2017). The choice of the concurrent triangulation mixed-method design was underpinned by the pragmatism research paradigm. There was fidelity in the research process because during data collection, multiple source or participants were involved in the study. These include respondents (preschool teachers and headteachers) and methods (questionnaire, interview and observation). However, data triangulation was used to cross-check findings from the method used to ensure trustworthiness (Creswell & Creswell, 2018; Kusi, 2012; Smith, 2005).

Reflexivity refers to understanding the researcher's feedback in consciously co-constructing the situation to be analysed (Creswell & Creswell, 2018; Pattern & Newhart, 2017). In the research process, the subjectivity of the researcher and those being examined were important. The researcher's training in education, psychology, supervisor of private ECEC, guidance and counselling gave him the knowledge to assess how large class size and TLR affect classroom management in ECECs. The researcher was familiar with the situation of ECECs in Ghana. The background of the researcher helped in exploring the issue of large class size and TLR on classroom management in ECECs. However, the researcher did not relate his knowledge and

opinions but allowed the voice of the respondents to reflect in the data. The researcher's background knowledge was only drawn on probing questions during the interview session to make an in-depth assessment of the case.

After a successful data collection, the way and manner by which the data were analysed had implications on the rigour of both quantitative and qualitative components (Creswell & Creswell, 2018). Analysis of data had strong implications, especially on the internal validity or credibility of the research (Silverman, 2015). If the data was analysed correctly, it ensures that the findings are accurate and credible. In this study, the first strategy used by the researcher to achieve validity, reliability and trustworthiness was providing a detailed procedure in the analytical process (Silverman, 2015). This ensures that readers are left with no doubt in their minds as to who did the qualitative analyses and how the data analysis was done (Creswell & Creswell, 2018). Another strategy that was also used was that of inter-rater reliability, where two lecturers who are experienced in data analysis were given the data and their results were compared and this has helped reduce subjectivity in the analysis whereby increasing credibility and dependability (Creswell & Creswell, 2018; Pattern & Newhart, 2017).

3.12 DATA PROCESSING AND ANALYSIS

Data analysis is defined as refined findings that expand knowledge, influence policy and practice, and also broadens theory and literature (Creswell & Creswell, 2018). In the case of concurrent triangulation mixed-method design, different analytical procedures were used in analysing both quantitative and qualitative data and merged during the discussion.

3.12.1 Quantitative phase

The quantitative data was analysed using descriptive and inferential statistics. The statistical package for social sciences (SPSS) version 25.0 software assisted the researcher in the analysis process. The background section from the questionnaire was analysed using frequency, percentages and was presented in tables. Mean and standard deviation was used in analysing research questions 1, 2, 3, 4 and 5.

For hypotheses 1, 2, 3 and 6, the researcher was interested in comparing the mean scores for more than two different groups so One-way analysis of variance (ANOVA) was the appropriate method used for analysing such data. The researcher used ANOVA to analyse the hypotheses because the data was collected from more than three (3) independent groups to predict one dependent variable. Again, ANOVA was a suitable analytical tool because it helped compare results between the three (3) groups.

With hypotheses four (4) and five (5), the researcher aimed at comparing the mean score for two different groups, so the Independent Sample T-test was the appropriate method for the data analysis. The T-test was used to check if there is a significant difference between the mean score of two unrelated groups.

Hypotheses seven (7) and eight (8) were tested using Pearson product-moment correlation coefficient (PPMCC) because the researcher was investigating the relationship between two quantitative variables which were measured in continuous form.

3.12.2 Qualitative phase

The first qualitative data was a semi-structured interview. The semi-structured interview was analysed using thematic analysis. The researcher followed five steps of thematic analysis as suggested by Kusi (2012).

3.12.2.1 Familiarisation and immersion

At the first phase, the researcher began by getting acquainted with the information. The researcher read the information several times before becoming thoroughly familiar with the data. The researcher read the data again to make or note ideas that piqued his interest.

3.12.2.2 *Inducing themes*

The researcher tried to use the verbal explanation of ideas from research participants rather than abstract language to tag the categories. Again, the researcher went beyond the summary of content but tried to find meaning to functions and other contradicting statements.

3.12.2.3 *Coding*

In coding, the researcher developed themes and codes at the same time. This was done by grouping sentences and marking similar meaning to words by way of emergent themes. The researcher coded phrases, lines, sentences, and paragraphs, identifying contextual material that pertains to the themes.

3.12.2.4 *Elaboration*

At this phase, the researcher attempted to group themes under a single theme or all kinds of sub-issues under one umbrella themes. Elaboration was done to help the researcher explore themes closer to other themes.

3.12.2.5 *Interpretation and checking*

Reports and write ups were performed on each theme that was identified and how the themes fit into the study. The researcher was able to explain themes with sentences using research participants' own words as used during the interview session.

At the second qualitative phase, observation data were analysed using counting and frequency to confirm or disconfirm certain behaviour pattern that occurred in a given classroom and classroom management strategies by preschool teachers. The researcher was present at the ECECs, so other pictorial evidence was added to support the claims.

3.13 EVALUATION OF THE METHODOLOGY

Based on the systematic scientific enquiry of data collection and analysis, the researcher started with a methodological outline, where a brief description on how the research was conducted was discussed. The philosophical stance of the study was the pragmatism paradigm (Javie & Zamora-Bonilla, 2011). The approach used was concurrent triangulation mixed-method design to help the researcher investigate the effect of large class size and TLR on classroom management in ECECs. Specifically, a descriptive survey was used for the quantitative phase while a case study was used for the qualitative phase.

The population consisted of all ECECs, preschool teachers and headteachers found in the Tamale, Kumasi and Cape Coast metropolises in Ghana. The sample for both quantitative and qualitative phase were classified where a multi-stage sampling technique was used for the study. Since the study was a concurrent triangulation mixed-method, different sampling techniques were used for both quantitative and qualitative phase.

For an in-depth assessment of the study, the researcher decided to use questionnaire for the quantitative phase while interview and observation were used for the qualitative phase. The questionnaire consists of closed-ended questions with six (6) different scales. In addition, the interview which obtained rich descriptive data consists of seven (7) items which were linked to the research questions. The observational tool was designed to check the daily routine activities at ECECs based on the pattern of behaviour exhibited by pre-schoolers and classroom management strategies used by preschool teachers.

To ensure proper ethical procedure before the data collection commenced, the various ethical considerations were discussed with the research participants. The ethical considerations discussed was confidentiality, permission, anonymity, informed consent, withdrawal without prejudice and harm to the respondents. The data collection was conducted in three (3) phases. The administering of the questionnaire was administered with the help of trained field assistants, but the researcher conducted the interview and observational data personally.

The instruments used for data collection were pilot tested and criteria for measuring reliability, validity and issues of trustworthiness were all discussed in the study. However, analysis and data processing for the quantitative phase were done using descriptive and inferential statistics where a five-step thematic analysis as suggested by Kusi (2012) was used for the qualitative phase.

3.14 SUMMARY OF RESEARCH DESIGN AND METHODOLOGY

This chapter discussed the method and design used in the study. The section also explained the procedure for data collection and analysis. In addition to that information on how the researcher ensures the trustworthiness of the study were also discussed. By way of simplifying the research process, a summary of how instruments and analytical tools were used to answer research questions and hypotheses are stated below. Table 3.9 shows a summary of instruments and analytical tools used for the study.

Table 3.9: A brief summary of instrumentation and analytical tool used for research questions and hypotheses

Research Questions and Hypotheses	Instruments	Analytical Tools
What patterns of behaviour are exhibited by pre-schoolers in large size classes?	Questionnaire, interview and observation	Mean & Standard, Thematic Analysis Deviation, Frequency and Counting
What challenges do preschool teachers face in managing pre-schoolers in large size classes?	Questionnaire and interview	Mean & Standard, Thematic Analysis
How does large class size and TLR affect teaching and learning in ECECs in Ghana?	Questionnaire and interview	Mean & Standard, Thematic Analysis

What are preschool teachers' self-efficacy beliefs in managing pre-schoolers in large size classrooms?	Questionnaire and interview	Mean & Standard, Thematic Analysis
What strategies do preschool teachers use to enhance effective classroom management in ECECs in Ghana?	Questionnaire, interview and observation	Mean & Standard, Thematic Analysis Frequency and Counting
There is no significant difference between preschool teachers' work experience and classroom management strategies.	Questionnaire	ANOVA
There is no significant difference between the educational level of preschool teachers and classroom management strategies.	Questionnaire	ANOVA
There is no significant difference between TLR and classroom management strategies.	Questionnaire	ANOVA
There is no significant difference between type of teachers with respect to self-efficacy belief in classroom management strategies	Questionnaire	Independent Sample T-test
There is no significant difference between class size and teachers self-efficacy belief to manage pre-schoolers in large class.	Questionnaire	Independent Sample T-test
There is no significant difference	Questionnaire	ANOVA

between class size and teacher's self-efficacy belief to manage pre-schoolers in large class.		
There is a positive strong relationship between challenges teachers face in handling pre-schoolers in large class and classroom management strategies they adopt.	Questionnaire	Pearson correlation
There is a positive strong relationship between influence of class size and TLR on teaching and learning in ECECs and teachers' self-efficacy belief to manage pre-schoolers in large class.	Questionnaire	Pearson correlation

Source: Researcher's construct (2020)

CHAPTER FOUR

ANALYSIS AND INTERPRETATION OF THE DATA

4.1 INTRODUCTION

This chapter presents how quantitative and qualitative findings were analysed in the study. Since the study was concurrent triangulation mixed method design, it was appropriate to show readers the findings for quantitative and qualitative phases. The analysis of data was grouped into three sections. The first section presented data on the quantitative phase while the second section presented data on qualitative phase. The last section presented the comparative analysis of both quantitative and qualitative data. The research questions and hypotheses are presented as follows:

4.1.1 Research questions

The research questions and hypotheses are presented as follows:

- What patterns of behaviour are exhibited by pre-schoolers in large class size?
- What challenges do preschool teachers face in managing pre-schoolers in large class size?
- How does large class size and TLR affect teaching and learning in ECECs in Ghana?
- What are preschool teachers' self-efficacy beliefs in managing pre-schoolers in large class size?
- What strategies do preschool teachers use to enhance effective classroom management in ECECs in Ghana?

4.1.2 Research hypotheses

This study aimed to test the following hypotheses:

H1: There is no significant difference between preschool teachers' working experience and classroom management strategies.

- H2: There is no significant difference between the educational level of preschool teachers and classroom management strategies.
- H3: There is no significant difference between TLR and classroom management strategies.
- H4: There is no significant difference between ECECs and classroom management strategies.
- H5: There is no significant difference between type of teachers with respect to self-efficacy belief in classroom management strategies
- H6: There is no significant difference between class size and teachers' self-efficacy belief to manage pre-schoolers in large class.
- H7: There is a positive strong relationship between challenges teachers face in handling pre-schoolers in large class and classroom management strategies they adopt.
- H8: There is a positive strong relationship between influence of class size and TLR on teaching and learning in ECECs and teachers' self-efficacy belief to manage pre-schoolers in large class.

4.2 ANALYSIS OF QUANTITATIVE DATA

The quantitative data was gathered using descriptive survey where questionnaires were used as a data collection tool. The analysis was carried out based on the research questions in (sub-section 1.6.1) and research hypotheses (sub-section 1.6.2) in chapter one. The analysis was done to investigate how large class size and TLR affect classroom management in ECECs in Ghana. However, the instrument (questionnaire) was designed for preschool teachers and head teachers in ECECs.

The overall survey of 216 respondents were used for the quantitative phase. These involve one hundred eighty (180) preschool teachers who were randomly sampled and thirty-six (36) headteachers who were purposively selected from ECECs within Tamale, Kumasi and Cape Coast metropolises in Ghana. The researcher used descriptive and inferential statistics to analyse the data. The inferential statistics selected was Independent Sample T-test, PPMCC and ANOVA used to analyse the hypotheses. The descriptive statistics was used to analyse the research questions.

For the background section, the researcher analysed data using frequency, percentage and data were presented in tables while the remaining questions were analysed using means and standard deviation. The quantitative findings have been arranged in Appendix (F). The questionnaire consisted of seventy-five (75) questions which were arranged in six (6) scales. The first section of the quantitative phase was the respondents' sociodemographic profile. Followed by section two which highlights data analysis from the research questions while the last section presented data analysis on hypotheses of the study.

4.2.1 Statistical analysis of respondents' sociodemographic profile

This section presents findings from respondents' sociodemographic profile of the study. Respondents' sociodemographic profile was collected from thirty-six (36) ECECs within the Tamale, Kumasi and Cape Coast metropolises in Ghana. The sociodemographic data of respondents include type of metropolis, type of ECECs, gender, type of preschool teacher, age, educational level, number of pre-schoolers in class and years of experience. Tables were used to present the analysis. Table 4.1 represents response rate for the quantitative instrument.

Table 4.1: Response rate of quantitative instrument

Sample (n)	Response	Percentage (%)
Preschool teachers (180)	180	100
Head teachers (36)	36	100
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

As presented in Table 4.1, one hundred and eighty (180) preschool teachers and thirty-six (36) headteachers were selected for the study. These respondents answered the questionnaire correctly and were returned to the researcher. The researcher ensured a 100% return rate of questionnaire. This means, the two hundred and sixteen (216) respondents completed the questionnaire and were returned for coding and

analysis. The next section explains how respondents were distributed in their respective metropolis.

4.2.1.1 Distribution of respondents by metropolis

This section presents information on how respondents were distributed in the study. Question one represents how respondents were distributed according to metropolis. The respondents were asked to tick the metropolis which they represent in the study. Table 4.2 shows the distribution of respondents by metropolis.

Table 4.2: Respondents distribution by study area

Metropolis	Frequency (N)	Percentage (%)
Kumasi	97	44.9
Tamale	65	30.1
Cape Coast	54	25.0
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.2 shows that respondents were proportionately distributed according to the population of the study. The researcher selected 97 respondents from kumasi metropolis representing (44.9%). However, Tamale and Cape Coast metropolis also recorded 65(30.1%) and 54(25.0) respectively. The distribution of respondents to their metropolis shows a fair representation in the study. The next section discusses how respondents were grouped according to the type of ECECs.

4.2.1.2 Type of early childhood education centres

The section reveals the type of ECECs in the study. This was in relation to question two on the quantitative instrument. The respondents were asked to tick the type of ECEC, they found themselves considering both public and private ECECs in Ghana. Table 4.3 shows the distribution of type of early childhood education centres (ECECs).

Table 4.3: Distribution of type of early childhood education centres

Element	Frequency (N)
Tamale metropolis	
Public ECECs	6
Private ECECs	5
Kumasi metropolis	
Public ECECs	9
Private ECECs	8
Cape Coast metropolis	
Public ECECs	4
Private ECECs	4
Total	36

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.3 represents the distribution of type of ECECs in the study. A total of 36 ECECs were selected, out of which six (6) were selected from both public and private ECECs across the metropolises of the regions selected. The next section presents distribution of respondents by gender.

4.2.1.3 Distribution of respondents by gender

The section shows how respondents were grouped in terms of gender. This was in relation to question three (3) from the questionnaire. Respondents were asked to tick (✓) against their gender. Table 4.4 shows the gender of respondents in the study.

Table 4.4: Distribution of respondents by gender

Gender	Frequency (N)	Percentage (%)
Female	192	88.9
Male	24	11.1
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.4 shows the distribution of respondents by gender in the study. A total of Two hundred and sixteen (216) respondents were present to answer questions on the instrument. Out of this, 192 (88.9%) were females while 24 (11.1%) were males. The result on Table 4.4 shows that females form the majority in early childhood education. The next section presents type of respondent.

4.2.1.4 Type of respondents

This section discusses the type of respondents used for the study. This section corresponds to question four (4) from the questionnaire. However, there were two types of respondents used in the study. Respondents were either trained or untrained. In this section, respondents who have received training on ECE were termed as trained and those that have not received any training on ECE represented untrained. For instance, in this section, a respondent can be a degree holder but if his/her qualification does not match or reflect on ECE, then, such a respondent may be classified as untrained. Table 4.5 shows how respondents are distributed in the study.

Table 4.5: Distribution by type of respondents

Type of respondent	Frequency (N)	Percentage (%)
Untrained	132	61.1
Trained	84	38.9
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.5 shows the distribution by type of respondents. The untrained respondents 132(61.1%) representing the majority while trained respondents recorded 84(38.9%) forms the minority. Table 4.5 shows that untrained respondents form the majority in teaching pre-schoolers in ECECs compared to trained respondents who have certificates in early childhood education. The subsequent section explains the distribution of respondents by age.

4.2.1.5 Age distribution of respondents

This section explains the age distribution of respondents. This section corresponds to question five (5) from the questionnaire. With question five (5) respondents were asked to tick (√) against their age grouping. Table 4.6 shows the age distribution of respondents in the study.

Table 4.6: Age distribution of respondents

Age	Frequency (N)	Percentage (%)
31-40	90	41.7
21-30	76	35.2
41-50	36	16.7
Below 20	8	3.7
51-60	4	1.9

61-above	2	0.9
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.6 shows that the majority of the respondents (90) constituting 41.7% representing 31-40 years age group while age group 21-30 years representing 76(35.9%) was second. However, the age group below 20 years had 8(3.7%) while age group 51-60 and 61-above recorded 4(1.9%) and 4(0.9%) respectively. The next section describes educational level of respondents.

4.2.1.6 Educational level of respondents

This part discusses the educational level of respondents in the study. This section represents research question six (6) from the questionnaire. In question six (6), respondents were asked to tick (✓) against their educational level they have attained. Table 4.7 shows the distribution of the educational level of respondents in the study.

Table 4.7: Distribution of educational level of respondents

Qualification	Frequency (N)	Percentage (%)
Diploma	96	44.44
First Degree	62	28.7
Certificate A	52	24.1
Master's Degree	6	2.8
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.7 shows that the majority of the respondents 96(33.4%) were diploma holders, 62(28.7%) had first degrees, 52(24.1%) had certificate A and 3(2.8%) held master's

degree. The researcher can conclude that the respondents were literate. The subsequent section presents the class size in the study.

4.2.1.7 Class size

This section discusses the class size in the study. The section corresponds with question seven (7) from the questionnaire. Respondents were asked to tick (√) against the class size in ECECs. Table 4.8 shows the distribution of respondents by class size.

Table 4.8: Distribution of pre-schoolers by class size

Class size	Frequency (N)	Percentage (%)
41- 50	82	38.0
31-40	68	31.5
20-30	42	19.4
Above 51	24	11.1
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.8 shows that the class size between 41-50 was the majority with the respondents' rate of 82(38.0%) while class size between 31-40 was second with 68(31.5%). However, class size between 20-30 and above 51 recorded 42(19.4%) and 24(11.1%) respectively. The subsequent section explains the years of experience by respondents.

4.2.1.8 Years of working experience for respondents

This part explains the year respondents have taught in ECECs. The section corresponds with question eight (8) from the questionnaire. Respondents were asked to tick (√) against their years of experience in teaching in ECEC. Table 4.9 shows the distribution of respondents by their years of teaching experience.

Table 4.9: Distribution of respondents by years of teaching experience

Experience	Frequency (N)	Percentage (%)
6-10	126	58.3
Less 5	62	28.7
11-15	16	7.4
Above 16	12	5.6
Total	216	100

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.9 shows years of teaching experience by respondents. It was revealed that 126(58.3%) had gained teaching experience between 6-10 years while 62 respondents representing (28.7%) had gained teaching experience less than 5 years. There was 16(7.41%) of respondents who had teaching experience of between 11-15 years while 12(5.6%) had gained teaching experience above 16 years. The next section shows the TLR in ECECs.

4.2.1.9 Teacher-to-learner ratio

The section was in line with question nine (9) from the questionnaire. Respondents were asked to tick (√) against the number of pre-schoolers they supervise or manage in the classroom. Table 4.10 shows the distribution of TLR in the study.

Table 4.10: Distribution of teacher-to-learner ratio in class

Pupil-to-teacher ratio	Frequency (N)	Percentage (%)
1-45	88	40.7
1-30	68	31.5
1-15	36	16.7
1-above 45	24	11.1

Total	216	100
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Source: Field survey, Kissi-Abrokwah (2020)

It was revealed that TLR of (1-45) formed the majority of the respondents of 88 (40.7%) while TLR of (1-30) recorded 68(31.5%). However, with regards to TLR (Table 4.10), (1-15) and (1-45 above) recorded 36(16.7%) and 24(11.1%) respectively. The next section explains how the research questions were analysed.

4.2.2 Statistical analysis of research questions

This section provides the analysis on research questions. The descriptive survey data from the questionnaire was coded and analysed with the help of statistical package for social sciences (SPSS) version 25.0. The SPSS was used to compute the descriptive statistics (mean and standard deviation) of the study. Descriptive statistics is the form of statistics where numerical data about respondents are computed (Salkind, 2017). The mean represents the average from a set of numbers (Mcmillan & Schumacker, 2010; Ofori & Dampson, 2012; Tredoux & Durrheim, 2013). The mean score can be calculated by the sum divided by the number of scores (Mcmillan & Schumacker, 2010; Ofori & Dampson, 2012; Tredoux & Durrheim 2013). Ofori and Dampson (2012) confirms that standard deviation measures the variability of scores from a group.

The researcher adapted the scoring format proposed by Ofori and Dampson (2012) when interpreting a four Point Likert-type scale. From the purpose of study, the test value below 1.99 was indicated as “low response rate” from respondents. Whereas the test value between 2.00 - 2.99 represented “moderate response rate” from respondents while the test value between 3.00 - 3.99 indicated a “high response rate” from respondents. Ofori and Dampson (2012) explain that on a four Point Likert-type scale, the highest mean value a respondent can obtain was 4.00 while the lowest score that can be attained was 1.00.

Table 4.11: Patterns of behaviour exhibited by pre-schoolers in large class size

Statement	Mean	St.D
Out of seat behaviour		
Changing seats during lessons.	3.91	0.29
Jumping from one place to the other in the classroom.	3.86	0.35
Wandering around in classroom.	3.82	0.38
Mean of means	3.86	0.34
Physical aggression		
Biting peer in classroom.	3.63	0.54
Using pencils or objects to pinch peer during lesson.	3.62	0.68
Kicking peer in classroom.	3.59	0.72
Hitting peer during lessons.	3.57	0.85
Mean of means	3.60	0.70
Talking out of turn		
Having disruptive conversation with peer.	3.41	0.90
Interfering others when they are answering questions in class.	3.30	0.95
Shouting when answering questions in classroom.	3.20	0.99
Talking or answering question when not called.	3.01	1.16
Mean of means	3.23	1.00
Verbal aggression		
Using abusive language.	3.08	1.22
Insulting peer in classroom.	3.06	1.16
Laughing at peers during lessons.	2.91	1.22

Teasing classmates during lesson.	2.81	1.14
Mean of means	2.97	1.19
Disrespecting teachers		
Attacking teachers when offended.	3.17	1.00
Leaving class without permission.	2.86	0.98
Talking back at teacher.	2.61	1.30
Refusing to carry out instructions.	2.19	1.24
Mean of means	2.71	1.13

Source: Field survey, Kissi-Abrokwah (2020)

N=216

Table 4.11 indicates that the underlisted patterns of behaviour were frequently exhibited by pre-schoolers in large class size. The overall mean of means value from the “out of seat behaviours” recorded (M=3.86, SD=0.34) which shows a high response rate of behaviour exhibited by pre-schoolers in large class size. However, from the scale under out of seat behaviours, respondents suggested that “changing seats during lesson” was the highest frequent behaviour exhibited by pre-schoolers in large class size with the mean and standard deviation score of (M=3.91, SD=0.29). On the same theme referring to seat behaviour on Table 4.11. The mean and standard deviation score of (M=3.86, SD=0.35) and (M=3.82, SD=0.38) representing “Jumping from one place to the other in the classroom” and “Wandering around in classroom” score second and third highest frequent behaviour exhibited by pre-schoolers in large class size respectively.

Table 4.11 also recorded the mean of means value of (M=3.60, SD=0.70) representing physical aggression. Analysis under “physical aggression” shows that biting peers in the classroom was the first behaviour exhibited by pre-schoolers in large class size with the mean and standard deviation score of (M=3.63, SD=0.54). Again, respondents comment on “Using pencils or objects to pinch peer during lesson” recorded (M=3.62, SD=0.68) was the second behavioural pattern under physical aggression. Table 4.11 further recorded M=3.59 (SD=0.72) and M=3.57 (SD=0.85)

representing “kicking peer in classroom” and “hitting during lessons” respectively and that recorded third and fourth behavioural patterns categorised under the physical aggression theme.

Another, theme that produced a high response rate from Table 4.11 was talking out of turn. The mean of means value recorded under this theme was (M=3.23, SD=1.00). The response from scale under talking out of turn scored a mean above (3.00). These were represented by “Having disruptive conversation with peer” scored M=3.41 (SD=0.90) while “Interfering others when they are answering questions in classroom” also recorded M=3.30 (SD=0.95). Again, the third highest response rate from the scale under talking out of turns was on “Shouting when answering questions in classroom” which recorded (M=3.20, SD=0.99) and the last scale had a mean and standard deviation value of (M=3.01, SD=1.16) representing “Talking or answering question when not called”.

Table 4.11 recorded a moderate value representing “verbal aggression” with the overall mean and means value of (M=2.97, SD=1.19). Respondents comment on “Using abusive language” recorded (M=3.08, SD=1.22) which represent a high response rate under verbal aggression. This was followed by (M=3.06, SD=1.16) representing respondents comment on “Insulting classmates during the lessons”. Again, Table 4.11 further reported that “Laughing at peers during lessons” and “Teasing classmates during lesson” recorded (M=2.91, SD=1.22) and (M=2.81, SD=1.14) and this respectively shows a moderate rate of response on a behaviour pattern exhibited by pre-schoolers in large class size.

Disrespecting teachers was the last theme recorded under Table 4.11. The theme scored a moderate response rate with the overall mean and means value of (M=2.71, SD=1.13). From the individual scale under disrespecting teachers, only one scale recorded a high response rate. This was on “Attacking teachers when feeling offended” which recorded a mean and standard deviation value of (M=3.17, SD=1.00). It was also revealed that, “Leaving class without permission” scored (M=2.86, SD=0.98) which was moderately practiced in classroom. However, Table 4.11 further shows a moderate value of (M=2.61, SD=1.30) and (M=2.19, SD=1.24) representing “Talking back at teacher” and “Refusing to carry out instructions”. The next section

explains the challenges faced by preschool teachers when handling pre-schoolers in large class size.

4.2.2.2 Challenges preschool teachers face managing pre-schoolers in large class size

This section presents the analysis of research question two (2). The research question was stated as “What challenges do preschool teachers face in managing pre-schoolers in large size class?”. The aim of this section was to find out the challenges preschool teachers encounter when handling pre-schoolers in large class size. However, a list of statements was provided to the respondents on what they think are the challenges they encountered when handling pre-schoolers in classroom. Table 4.12 presents these challenges.

Table 4.12: Challenges preschool teachers faced in managing pre-schoolers in large class size

Statement	Mean	St.D
Teachers do not have enough time to pay attention to each pre-schooler.	3.90	0.29
Teachers’ inability to manage classroom.	3.81	0.39
Inability to organise exercise and class tests regularly.	3.61	0.49
Difficulty in marking pre-schoolers’ scripts and providing feedback on time.	3.42	0.50
Use of TLMs (teaching and learning materials) becomes a problem since teachers do not have many TLMs for individual pre-schoolers.	3.05	0.77
Interactions with pre-schoolers in order to know their problems and offer assistance were difficult.	2.71	1.02
Inadequate seats and tables for pre-schoolers to sit and feel		

comfortable.	2.28	1.12
Contributions in classroom are done by a few pre-schoolers while other pre-schoolers disturb.	2.16	1.07
Difficulty in identifying truant pre-schoolers in the classroom.	2.08	0.97
Pre-schoolers found it difficult to hear the teachers.	1.85	0.75
Mean of means	2.89	0.74

Source: Field survey, Kissi-Abrokwah (2020)

N=216

The results from Table 4.12 shows that preschool teachers were moderately challenged when handling pre-schoolers in large class size. The overall mean and means score were (M=2.89, SD=0.74). This shows that preschool teachers found in ECECs were experiencing moderate challenges. Respondents' comments stated as "Teachers do not have enough time to pay attention to each pre-schooler" recorded (M=3.90, SD=0.29) shows highest response rate among challenges preschool teachers faced in handling pre-schoolers in large class size.

Further, Table 4.12 reported that "Teachers' inability to manage classroom" was recorded as (M=3.81, SD=0.39) which was the second most frequent challenges preschool teachers go through while handling pre-schoolers in large class size. With respect to high response, respondents suggested that, they faced challenges in organising exercise and class tests regularly for pre-schoolers and this recorded a mean score of 3.61 and standard deviation value of 0.49. Again, respondents reported they face challenges in marking scripts and providing feedback on time for pre-schoolers which scored a mean score of (M=3.42, SD=0.50). The use of TLMs is problematic as teachers do not have many TLMs for individual pre-schoolers as the mean recorded is M=3.05 and the SD=0.77.

Moderate response rates are recorded in Table 4.12. For instance, respondent's comments on "Interactions with pre-schoolers in order to know their problems and offer assistance become difficult" recorded (M=2.71, SD=1.02) while respondents suggested that they also have challenges with inadequate seats and tables for pre-

schoolers to sit on and feel comfortable which recorded (M=2.28, SD=1.12). One issue namely, only a few pre-schoolers contributing in classroom while other pre-schoolers disturb the others scored (M=2.16, SD=1.07). Table 4.12 further shows that respondents were facing difficulties in identifying truant pre-schoolers in the classroom and only a mean score of (M=2.08) and (SD=0.97). Finally, Table 4.12 recorded a low response that “Pre-schoolers found it difficult to hear teachers in large class size” and therefore only recorded a mean value of (M=1.85) and a standard deviation of (SD=0.75). The analysis of scales from Table 4.12 shows that preschool teachers were moderately challenged in handling pre-schoolers in large class size.

4.2.2.3 Influence of class size and TLR on teaching and learning in early childhood education centres

This part examines research question three (3) which asked: “How does large class size and TLR affect teaching and learning in ECECs in Ghana?” This section shares insight on how classroom discipline, non-instructional tasks, classroom interaction and communication factors influencing class size and TLR on teaching and learning in ECECs. The description of class size and TLR on teaching and learning in ECECs can be found in Table 4.13.

Table 4.13: Influence of class size and TLR on teaching and learning in early childhood education centres

Statement	Mean	St.D
Classroom interaction and communication		
I always have a firm grasp of the class when teaching.	3.78	0.41
I found it difficult to hold pre-schooler’s attention during lessons due to class size.	3.77	0.42
I always write on the blackboard to explain concepts because pre-schoolers cannot hear my voice very well during classroom sessions due to class size.	3.70	0.71

I found it difficult to speak or communicate clearly during classroom sessions due to class size.	3.68	0.67
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Mean of means	3.73	0.55
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Non-instructional tasks

Non-instructional task activities exhibited by pre-schoolers affect preschool teachers to waste instructional time in classroom.	3.60	0.52
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Non-instructional task activities exhibited by pre-schoolers affect preschool teachers' abilities to perform scaffolding, zone of proximal development and social interaction in classroom.	3.56	0.74
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Off-tasks behaviour like roaming during lesson affect teaching and learning in classroom.	3.34	0.89
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Observe break for sleeping and eating disrupts pre-schooler's attention to concentrate in classroom.	3.30	0.90
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Mean of means	3.45	0.76
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Classroom discipline

I am not able to attend to two events simultaneously in class without being diverted unduly by disruptions.	3.02	1.00
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I easily ensure that transition from one learning activity to another is done but due to class size I always loss instructional time.	2.98	1.05
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I hardly start lessons on time and continue previous lesson due to interruption (pre-schoolers disruptive behaviour such as noise) in class.	2.93	1.50
I consistently enforce the classroom rules and procedures, to ensure discipline but due to class size it is difficult to enforce it.	2.79	1.77
Mean of means	2.93	1.33

Source: Field survey, Kissi-Abrokwa (2020)

N=216

The analysis in Table 4.13 shows that classroom interaction and communication was the first most frequent influence of large class size and TLR on teaching and learning in ECECs while non-instructional tasks and classroom discipline came second and third. However, from classroom interaction and communication section, the result shows mean and means value of (M=3.73, SD=0.55) which shows the respondents are of the view that large class size and TLR on teaching and learning was influenced by classroom interaction and communication. The various scale under classroom interaction and communication recorded a mean value more than (3.30) scale. However, respondents comment on “Always have a firm grasp of the class when teaching” scored (M=3.78, SD=0.4) was the highest response rate under classroom interaction and communication. This was followed by (M=3.77, SD=0.42) representing respondents comment on “Difficult to hold pre-schoolers’ attention during lessons due to class size”. Again, Table 4.13 reported respondents’ views that on “always write on the blackboard to explain concepts because pre-schoolers cannot hear my voice very well during classroom session due to class size” and “it was difficult to speak or communicate clearly during classroom session due to class size” these concepts recorded (M=3.70, SD=0.71) and (M=3.68, SD=0.67) respectively.

On the issue of non-instructional tasks, the analysis from Table 4.13 shows a mean and deviation standard value of (M=3.45, SD=0.76) which represents a high response rate on the manner in which non-instructional task behaviour influences teaching and

learning. From this section the response to comment on “non-instructional task activities exhibited by pre-schoolers affect preschool teachers to waste instructional time in classroom” scored second highest response rate with the mean and standard deviation (M=3.60, SD=0.52). However, on how “non-instructional task activities exhibited by pre-schoolers affect preschool teachers’ abilities to perform scaffolding, zone of proximal development and social interaction in classroom” recorded (M=3.56, SD=0.74) and this represents third highest response rate. Again, Table 4.13 shows that “off-tasks behaviour like roaming during lesson affecting teaching and learning in classroom” and “observe break for sleeping and eating disrupts pre-schooler’s attention to concentrate in classroom” both scored high response rate with the mean and standard deviation score of (M=3.34, SD=0.89) and (M=3.30, SD=0.90) respectively.

The last comment on Table 4.13 was classroom discipline which recorded an overall mean of means score of (M=2.93 , SD=1.33) representing a moderate rate response rate. The respondent’s response to “They are not able to attend to two events simultaneously in classroom without being diverted unduly by disruptions” score a high response rate with mean and standard deviation value of (M=3.02, SD=1.00). The remaining three scale under classroom discipline recorded a moderate response rate with the mean and standard deviation values of (M=2.98, SD=1.05), (M=2.93, SD=1.50) and (M=2.79, SD=1.77) respectively. The narration was on “They easily ensure that transition from one learning activity to another is done but due to class size I always loss instructional time” followed by “They hardly start lessons on time and continue previous lesson due to pre-schoolers disruptive behaviour such as noise in class” and “They consistently enforce the classroom rules and procedures, to ensure discipline but due to class size it was difficult to enforce it”. The subsequent section explains how the preschool teacher’s self-efficacy belief helps in managing pre-schoolers in large class size in ECECs.

4.2.2.4 Teachers’ self-efficacy belief in managing pre-schoolers in large class size

The section discusses preschool teacher’s self-efficacy belief in managing pre-schoolers in large class size. This section corresponds with research question four

(What are preschool teachers' self-efficacy beliefs in managing pre-schoolers in large class size?). Table 4.14 shows preschool teachers self-efficacy belief in classroom management in ECECs.

Table 4.14: Teachers self-efficacy belief in classroom management

Statement	Mean	St.D
I can put in adequate measures to keep activities running in classroom.	3.91	0.29
I am able to communicate to pre-schoolers the expected behaviour required of them.	3.71	0.45
I am able to calm a pre-schooler who is disruptive or noisy.	3.54	0.50
I am able to control disruptive behaviour in the classroom.	3.28	0.82
I am able to implement alternative strategies in your classroom.	3.13	0.77
I am able to establish a classroom management system with each group of pre-schoolers.	2.95	0.74
I can do much to get pre-schoolers to follow classroom rules.	2.65	1.05
I can motivate pre-schoolers who show low interest in instructional activities.	2.59	0.97
I can get pre-schoolers to believe they can do well in instructional activities.	2.32	1.07
Mean of means	3.12	0.74

Source: Field survey, Kissi-Abrokwa (2020)

N=216

From Table 4.14 respondents asserted that “They can put in adequate measures to keep activities running in classroom” was identified as the most frequent self-efficacy belief by the preschool teacher in managing classroom and recorded (M=3.91, SD=0.29). However, it was observed that “respondents were able to communicate to

pre-schoolers the expected behaviour required of them” which scored the second most frequent self-efficacy belief in classroom management with the mean and standard deviation score of (M=3.71, SD=0.45). For instance, respondents commented that “they are able to calm a pre-schooler who are disruptive or noisy” which also recorded high efficacy belief in classroom management with mean and standard deviation score of (M=3.54, SD=0.50). The respondents exhibited high self-efficacy belief with (M=3.28, SD=0.82) that shows respondents are able to control disruptive behaviour in the classroom. Again, other respondents exhibited high self-efficacy belief on the behaviour that “They are able to implement alternative strategies in their classroom” this was recorded as (M=3.13) and (SD=0.77).

However, other respondents gave a moderate response rate on self-efficacy belief in classroom management. To confirm this, the item recorded (M=2.95, SD=0.74) which shows that “respondents are able to establish a classroom management system with each group of pre-schoolers”. This scale also recorded a moderate response rate “they can do much to get pre-schoolers to follow classroom rules” this was scored as (M=2.65, SD=1.05). Again, the Table 4.14 shows that “They can motivate pre-schoolers who showed low interest in instructional activities” recorded as (M=2.59, SD=0.97) shows moderately self-efficacy belief in classroom management. Finally, on moderate self-efficacy belief in classroom management, respondents commented that: “They can get pre-schoolers to believe they can do well in instructional activities” also recorded (M=2.32, SD=1.07). In conclusion, the analysis from Table 4.14, it was evident that respondents have high self-efficacy belief in classroom management. The next section explains classroom management strategies used by preschool teachers in ECECs.

4.2.2.5 Classroom management strategies used in early childhood education centres

This section explains the procedure used by preschool teachers in managing pre-schoolers in ECECs. This section corresponds with research question five (What strategies do preschool teachers use to enhance effective classroom management in ECECs in Ghana?). The explanation of the classroom management used by preschool teachers can be found in Table 4.15. The classroom management strategies focus on

an acceptance approach, assertive discipline, behaviour modification and business academic approach.

Table 4.15: Classroom management strategies

Statement	Mean	St.D
Behaviour modification		
Positive behaviour by pre-schoolers is reinforced immediately it happens.	3.94	0.23
I gradually shape pre-schoolers till the terminal behaviour is performed before reinforcement.	3.85	0.36
I try to get pre-schoolers to behave well by changing negative classroom conditions that make them misbehave such as furniture arrangement and sitting places.	3.79	0.41
I often use a variety of rewards and punishment to keep the pre-schoolers from misbehaving in class and also model appropriate behaviour.	3.62	0.48
Mean of means	3.80	0.37
Assertive approach		
Images are posted on the wall to serve as preventive measures for a pre-schooler to behave well in class.	3.73	0.64
I strongly implement rules and regulations to prevent pre-schoolers from misbehaving in class.	3.67	0.47
Mostly, I make pre-schoolers know I am in charge by specifying behaviours and their consequences.	3.56	0.49
I indicate the consequence of behaviour to pre-schooler by specifying the actions associated with it.	3.52	0.96
Mean of means	3.62	0.64

Acceptance approach		
I maintain that every individual needs to feel accepted and have the sense of belongingness.	3.73	0.63
I respect the dignity and worth of every individual.	3.33	1.03
I try to prevent pre-schoolers from misbehaviour by giving them attention and accepting their individual differences.	3.31	0.75
I relate well to every individual in the classroom by attending to their needs on time.	3.04	1.37
Mean of means	3.35	0.94
Business academic approach		
Keeping records of the pre-schooler's accomplishments and gives prompt feedbacks after assignment.	3.43	1.06
I give clear instructions to every classroom activity to prevent a pre-schooler from disturbing.	3.19	0.72
I often keep the pre-schoolers busy by giving them exercises to prevent them from misbehaving.	3.11	1.08
I have a clear standard of procedure and monitor pre-schoolers work to avoid disturbance in the classroom.	2.68	1.46
Mean of means	3.10	1.08

Source: Field survey, Kissi-Abrokwah (2020)

N=216

The rationale behind Table 4.15 was to assess how frequent respondents practice these classroom management strategies in ECECs. From Table 4.15, behaviour modification recorded a mean and means score of (M=3.80, SD=0.37) which represent high response rate. The result recorded (M=3.94, SD=0.23) found under the behaviour modification section on classroom management strategies show that

“positive behaviour by pre-schoolers is reinforced immediately it happens” was the highest response rate. The second statement that respondents identify as the most frequent strategy was that “they gradually shape pre-schoolers till the time terminal behaviour was performed before reinforcement” recorded (M=3.85, SD=0.36). Again, the result shows that “respondents try to get pre-schoolers to behave well by changing negative classroom conditions that make them misbehave such as furniture arrangement and seating places etc.” was also frequently practiced with a mean and standard deviation score of (M=3.79, SD=0.41). The last strategy reported under behaviour modification was that “respondents often use a variety of rewards and punishment to keep the pre-schoolers from misbehaving in classroom and also model appropriate behaviour” recorded (M=3.62, SD=0.48).

The next frequent classroom management strategy used by preschool teachers was the assertive approach. This theme recorded mean and means score of (M=3.62, SD=0.64) which shows that this strategy was highly practiced among preschool teachers in ECECs. Respondents highlighted that “images are posted on the wall to serve as preventive measures for a pre-schooler to behave well in classroom” was the most frequent strategy used under the assertive approach. This theme recorded a mean and standard deviation value of (M=3.73, SD=0.64). Again, the mean and standard deviation score of (M=3.67, SD=0.47) gives an indication that implementing rules and regulations help prevent pre-schoolers from misbehaving in classroom. The respondents’ respond that “they make pre-schoolers know they are in charge by specifying behaviours and its consequences to them” recorded (M=3.56, SD=0.49) while “the consequence of behaviour is indicated to pre-schooler by specifying the actions associated with it” also recorded (M=3.52, SD=0.96). The scales found under the assertive approach all recorded a mean score above 3.00.

The third frequently used classroom management strategy by the preschool teacher was the acceptance approach. The mean of means value of (M=3.35, SD=0.94) correspond with a high response rate. From Table 4.15, respondents suggested that “they maintain that every individual needs to feel accepted and have the sense of belongingness” (M=3.73, SD=0.63). However, the result also shows that “respondents respect the dignity and worth of every individual” scored (M=3.33, SD=1.03). Again, from the mean value of (M=3.31) and standard deviation score of (SD=0.75) it reflects

respondents' assertion on "trying to prevent pre-schoolers' from misbehaviour by giving them attention and accepting their individual differences". Last on acceptance approach was on "how well preschool teachers provide attention for every individual in the class" the response recorded (M=3.04, SD=1.37).

The mean and means value of (M=3.10, SD=1.08) shows that business academic approach was the least classroom management strategy. Table 4.15 shows that "keeping records of the pre-schoolers' accomplishments and gives prompt feedbacks after assignment" recorded as (M=3.43, SD=1.06) was the most frequent strategy used by preschool teachers under business academic approach. Table 4.15 further revealed that "respondents gave clear instructions to every classroom activity to prevent pre-schoolers from disturbing", this recorded (M=3.19, SD=0.72). This suggests that, clear instructions prevented misbehaviour of pre-schoolers in the classroom. On issues of "keeping pre-schoolers busy by giving them exercises prevented them from misbehaving" recorded (M=3.11, SD=1.08) while "giving a clear standard of procedure and monitoring pre-schoolers work help to prevent disturbance in the classroom" scored (M=2.68, SD=1.46). In conclusion, the assessment in Table 4.15 shows that preschool teachers from ECECs in Ghana were effectively managing pre-schoolers in large class size using behaviour modification, the assertive approach, acceptance and business academic approach.

4.2.3 Statistical analysis of research hypotheses

This section explains how the research hypothesis was analysed using inferential statistics. For this purpose, the statistical package for social sciences (SPSS) version 25.0 software was used to code and analyse the data. The software was used to compute the inferential statistics of the study. The next section discusses the level of statistical significance used for the study.

4.2.3.1 Level of statistical significance

The significant level of the study allows the researcher to either accept or reject the null hypothesis of the study. However, Cooper and Schindler (2011) concluded that researchers denying the null hypothesis was exclusively determined by probability of

the study. The statistical alpha (α) was associated with test values that are 0.05 or 0.01. This shows that if a researcher selects the significant level of 0.05 or 0.01, there is the probability of rejecting the null hypothesis (Salkind, 2017). However, Table 4.16 shows statistically significant values adopted for the study.

Table 4.16: Values of statistical significance

Probability	Level	Significance
p	0.10	Less significant
p	0.01 to 0.05	Significant
p	0.001 to 0.01	Very significant
p	0.001	Extremely significant

Source: Adopted from (Tredoux & Durrheim, 2013)

In this study, the researcher used the statistically significant level of 0.05 which was chosen as an instruction of thumb to test the null hypothesis of the study. This indicate that the researcher rejects the null hypothesis when the p -value was greater or equal to ($p \geq .05$). The next section explains how various hypotheses were analysed in the study.

4.2.3.2 Hypothesis one

H₀1: There is no significant difference between preschool teachers' work experience and classroom management strategies.

H_A1: There is a significant difference between preschool teachers' work experience and classroom management strategies.

Hypothesis one was tested at the alpha level of confidence 0.05 to find the preschool teachers' work experience (*PTWE*) and classroom management strategies (*CMS*). To be able to analyse the hypothesis on preschool teachers experiences and classroom management strategies, between-groups one-way analysis of variance (ANOVA) was the most appropriate statistical tool. The variables were computed using SPSS

software version 25.0. “The classroom management strategies” which was a dependent variable was computed as the single variable and preschool teachers’ work experience as the independent variable. From the questionnaire preschool teachers’ work experience (Independent variable) was classified as nominal variable while the dependent variable was measured in continuous scale. To perform the ANOVA the researcher tested for normality and homogeneity of variances of the variable. Table 4.17 shows normality test of the variables in the study.

Table 4.17: Normality test of variables (PTWE & CMS)

Year ranges	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig	Statistic	Df	Sig
Less 5	.165	62	.000(s)*	.912	62	.000(s)*
6-10	.153	126	.000(s)*	.921	126	.000(s)*
11-15	.459	16	.000(s)*	.579	16	.000(s)*
16-above	.273	12	.014(s)*	.808	12	.012(s)*
Observed sample	216	216	216	216	216	216

Source: Field data, Kissi-Abrokwah (2020) a. Lilliefors significance Correction

Key words: s*=significant Df*=degrees of freedom PTWE= Preschool teacher working experience CMS= Classroom management strategies

Table 4.17 shows the results for the normality test of variables. The Shapiro-Wilk test assumption would be used when the sample size is greater than 50 ($N > 50$). Shapiro-Wilk test was normal if the sig. value found in Table 4.17 was greater than 0.05. The Shapiro-Wilk test indicated that the dependent variable (CMS) was not normally distributed among preschool teachers’ work experiences. For instance, the preschool teacher with the work experience above 16 years as indicated on Shapiro-Wilk test was not normal (SW = .808, Df=12, $p=.012^{**}$, $p > 0.05$, N=216) and preschool teachers with the working experience between 11-15 years recorded a Shapiro-Wilk test results was not normal at (SW = .579, Df=16, $p=.000^{**}$, $p > 0.05$, N=216). After checking for the normality test of variables, the researcher proceeded to check for homogeneity of variances. Table 4.18 shows the analysis of homogeneity test of variances.

Table 4.18: Homogeneity test of variances (PTWE and CMS)

	Levene Statistic	Df1	Df2	Sig. value
Based on Mean	26.183	4	212	.000 (s)*
Based on Median	26.769	4	212	.000(s)*
Based on Median and with adjusted df	26.769	4	182.577	.000(s)*
Based on trimmed mean	26.652	4	212	.000(s)*

*Significant difference exists at $p \leq 0.05$, N=216

Source: Field data, Kissi-Abrokwah (2020)

Table 4.18 shows homogeneity of variances of the study variables (PTWE & CMS). With respect to the based-on means, the homogeneity of variances test shows that assumption of homogeneity had been violated at [t (Df1=4, df2=212) = 26.183, sig. value = .000, $p > 0.05$, 2-tailed)]. Table 4.19 presents the descriptive statistics of study variables.

Table 4.19: Descriptive statistics of the study variables (PTWE & CMS)

PTWE & CMS	N	M	SD	St.D Error	Rank
Less 5	62	59.84	2.69	.34	1 st
16-above	12	57.83	3.79	1.09	2 nd
11-15	16	57.75	3.17	.79	3 rd
6-10	126	55.10	5.66	.50	4 th

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.19 shows the descriptive statistics of the variables in the study. The analysis of variables from Table 4.19 shows that there were differences that exist between

mean scores of preschool teachers' work experience and classroom management strategies. For instance, preschool teachers with work experience less than 5 years recorded the highest mean of (M= 59.84, SD= 2.69, N=62) as indicated descriptively in Table 4.19. However, preschool teachers with working experience between 6-10 have the least ability to apply classroom management strategies (M= 55.10, SD= 5.66, N=126). Again, the descriptive statistics found in Table 4.19 indicated that preschool teachers with work experience from 16 years and above scored second while 11-15 years scored third with the mean of (M= 57.83, SD= 3.79, N=12) and (M= 57.75, SD= 3.17, N=16) respectively. The researcher needs to conduct more statistical evidence to check whether the difference that occurred at the descriptive statistics section was not by chance. Table 4.20 presents results on the summary of one-way analysis of variance.

Table 4.20: Summary of one-way analysis of variance (ANOVA)

	Sum of Squares	Df	Mean Squares	F	Sig	Rks
Between group	965.922	4	321.974	14.364	.000	Diff existed
Within groups	4751.911	212	22.415			
Total	5717.833	216				

Source: Field survey, Kissi-Abrokwah (2020)

** significant at p=0.05

The overall *F* ratio of the one-way ANOVA was significant. This means that the *F*-ratio (14.364) was significant ($p = .000$) at the .05 alpha level. This shows that, there was a significant difference between the mean scores for preschool teachers' working experience and classroom management strategies. From this reason, the researcher accepts the alternate hypothesis that was stated as: "There is a significant difference between preschool teachers' work experience and classroom management strategies". Due to the difference that existed between preschool teachers' work experience and classroom management strategies, the researcher conducted the Post Hoc test to check where the statistical difference existed. Table 4.21 shows the Post-Hoc tests results.

Table 4.21: Post-hoc tests among preschool teachers experience and classroom management strategies

Dependent Variable: Classroom management strategies				
(I) Experience	(J) Experience	Mean Diff(I-J)	SD Error	Sig. Value
Less 5	6-10	4.743*	.734	.000*
	11-15	2.089	1.327	.396
	16-above	2.005	1.493	.537
6-10	Less 5	-4.743*	.734	.000*
	11-15	-2.655	1.257	.152
	16-above	-2.738	1.430	.225
11-15	Less 5	-2.089	1.328	.396
	6-10	2.655	1.257	.152
	16-above	-.083	1.808	1.000
16-above	Less 5	-2.005	1.493	.537
	6-10	2.738	1.430	.225
	11-15	.0833	1.808	1.000

Source: Field survey, Kissi-Abrokwah (2020)

** significant at p=0.05

Table 4.21 shows the results of the post-Hoc test. The analysis of post-Hoc test shows that there were differences that exists between preschool teachers' work experiences and their classroom management strategies. The significant difference between preschool teachers with work experience less than 5 years and 6-10 years indicates the mean difference and standard error of (MD=4.743*, SR= .734) at Sig value of 0.000* (2-tailed) shows the statistically significant difference. From this assertion the researcher rejects the null hypothesis to accept the alternative hypothesis stated as: "there is a significant difference between preschool teachers' work experience and

classroom management strategies". This means that preschool teachers with work experience less 5 years and between 6-10 years were able to manage their classroom.

Notwithstanding statistically the significance of result found in Table 4.21, the actual magnitude of the effect size in mean scores between the groups was not shown. Cohen's (1988) statistical power approach was adopted to calculate the effect size. Cohen's (1988) stated that when effect size is between 0.1-0.3 it represents low, 0.4-0.7 represents medium and 0.8 and above represents high effect size. The effect size was calculated using Eta squared formula:

$$\text{Eta squared } (\eta^2) = \frac{\text{Sum of squared between groups}}{\text{Total sum of squared}}$$

$$(\eta^2) = \frac{965.922}{5717.833}$$

$$(\eta^2) = 0.17$$

In this example, the researcher divided the sum of squares between-groups (965.922) by the total sum of squares (5717.833). The result (η^2) value is 0.17 has a low effect size.

4.2.3.3 Hypothesis two

H₀2: There is no significant difference between the educational level of preschool teachers and classroom management strategies.

H_A2: There is a significant difference between the educational level of preschool teachers and classroom management strategies.

Hypothesis two was tested at the alpha level of 0.05 to find out if there was difference between educational level of preschool teachers' and their classroom management strategies used in ECECs. The analysis of hypothesis was done with ANOVA because there were four independent variables measuring one dependent variable. The classroom management strategy was the dependent variable while preschool teachers' educational level was the independent variable. To perform the ANOVA, the

researcher tested for normality and homogeneity of variances of the variable. Table 4.22 shows the normality test of the variables in the study.

Table 4.22: Normality test of variables (ELPT & CMS)

ELPT	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig	Statistic	Df	Sig
Certificate A	.146	52	.007(s)	.934	52	.007(s)
Diploma	.153	96	.000(s)	.944	96	.000(s)
Degree	.4252	62	.000(s)	.831	62	.000(s)
Master/PHD	.212	6	.200(ns)*	.847	6	.150(ns)*
Observed sample	216	216	216	216	216	216

a. Lilliefors Significance Correction ** significant at $p=0.05$

Source: Field data, Kissi-Abrokwah (2020)

Key words: s*= significant ns*= not significant Df*=degrees of freedom ELPT= Educational level of preschool teacher CMS= Classroom management strategies

From Table 4.22, the Shapiro-Wilk test was reported based on the assumption that using the sample size greater than 50 ($N > 50$). The Shapiro-Wilk test was said to be normal when the *sig value* was greater than 0.05. The interpretation the Shapiro-Wilk test indicated that the dependent variable (CMS) was normally distributed among the educational level of preschool teachers (ELPT). For instance, preschool teachers with educational levels of masters/PHD scored a Shapiro-Wilk indicating that it was normal (SW = .847, df=06, $p=.150^{**}$, $p < 0.05$, $N=216$). However, between-groups, one-way analysis of variance (ANOVA) test was statistically reasonable because Diploma and Degree recorded the *sig value* below 0.5. After checking for the normality test of variables, the researcher proceeded to check for homogeneity of variances. Table 4.23 shows the analysis of homogeneity test of variances.

Table 4.23: Homogeneity test of variances (ELPT & CMS)

	Levene Statistic	Df1	Df2	Sig. value
Based on Mean	.266	4	212	.850 (ns)*
Based on Median	.153	4	212	.927 (ns)*
Based on Median and with adjusted df	.153	4	146.250	.927 (ns)*
Based on trimmed mean	.232	4	212	.874 (ns)*

Source: Field data, Kissi-Abrokwah (2020) ** significant at $p=0.05$, $n=216$

Table 4.23 shows homogeneity of variances of the study variables (*ELPT & CMS*). With respect to the means, the homogeneity of variances test shows that assumption of homogeneity had not been violated at [t ($Df1=4$, $Df2=212$) = .266, *sig. value* = .850, $p < 0.05$, 2-tailed)]. From this assertion, performing the one-way analysis of variance (ANOVA) test was statistically acceptable. Table 4.24 shows descriptive statistics of study variables.

Table 4.24: Descriptive statistics of the study variables (ELPT & CMS)

ELPT and CMS	N	M	SD	St.D Error	Rank
Diploma	96	59.31	3.01	.31	1 st
First degree	62	59.03	3.69	.47	2 nd
Master/PHD	6	53.67	3.14	1.28	3 rd
Certificate A	52	49.88	3.18	.44	4 th

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.24 shows the descriptive statistics of variables in the study. The analysis of variables from Table 4.24 shows that there were differences that exist between mean scores of educational levels of preschool teachers and classroom management strategies. For instance, preschool teachers with a diploma recorded the highest mean

(M= 59.31, SD= 3.01, N=96) and preschool teachers with a first degree had the second highest mean (M= 59.03, SD= 3.69, N=62). The descriptive statistics indicated that preschool teachers who had masters/PHD and certificate A qualification recorded third and fourth with a mean score of (M= 53.67, SD= 3.14, N=6) and (M= 49.88, SD= 3.18, N=52) respectively. Table 4.25 below presents results on the summary of one-way analysis of variance.

Table 4.25: Summary of one-way analysis of variance (ANOVA)

	Sum of		Mean			
	Squares	Df	Squares	F	Sig	Rks
Between group	3460.632	4	1153.544	108.343	.000	Diff existed
Within groups	2257.202	212	10.647			
Total	5717.833	216				

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

The overall F ratio of the one-way ANOVA was significant. This means that the F -ratio (108.343) was significant ($p = .000$) at the .05 alpha level. This shows that there was a significant difference between the mean scores for the educational level of preschool teachers' and classroom management strategies. For this reason, the researcher accepts the alternate hypothesis that states: "*There is a significant difference between the educational level of preschool teachers and classroom management strategies.*" The researcher conducted post-Hoc test to check where the statistical difference occurred in the study in Table 4.26 below.

Table 4.26: Post-hoc tests among the educational level of preschool teachers and classroom management strategies

Dependent Variable: Classroom management strategies				
(I)	(J)	Mean	SD	Sig.
Educational level	Educational level	Diff(I-J)	Error	Value
Certificate A	Diploma	-9.428*	.562	.000(s)*
	First degree	-9.148	.613	.396(ns)
	Master/PHD	-3.782	1.407	.039(s)*
Diploma	Certificate A	9.428*	.562	.000(s)*
	First degree	.280	.532	.952(ns)
	Master/PHD	5.646	1.373	.000(s)*
First degree	Certificate A	9.148*	.6136	.000(s)*
	Diploma	-.280	.532	.952(ns)
	Master/PHD	5.366	1.395	.001(s)*
Master/PHD	Certificate A	3.782*	1.407	.039(s)*
	Diploma	-5.646*	1.373	.000(s)*
	First degree	-5.366*	1.395	.001(s)*

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Table 4.26 shows the results of the post-hoc test. The analysis of post-hoc test shows there were differences between educational level of preschool teachers and their classroom management strategies. Table 4.26 shows that there was a significant difference between educational level of the preschool teacher with Certificate A and Diploma, with mean difference and standard error of (MD=-9.428*, SR= .562) with a *sig value* of 0.000* (2-tailed) shows the statistically significant difference. However, there was also significant difference between teachers with Certificate A and master/PHD which recorded (MD=-3.782, SR=1.407) at $p=.039$. Again, Table 4.26 shows there was a significant difference between the preschool teacher with Diploma

and Masters/PHD with the mean difference and standard error of (MD=-3.782, SR= 1.407) was significant at *p-value* of (.039).

However, Table 4.26 further recorded significant figures between (First degree and Certificate A) and (First degree and Master/PHD) with mean difference and standard error of (MD=9.148*, SR= .6136) was significant $p=.000$ while (MD=5.366, SR= 1.395) was also significant $p=.001$. From this assertion the researcher accepts the alternative hypothesis stated as: "There is a significant difference between the educational level of preschool teachers and classroom management strategies" with a medium Eta effect size of 0.61.

4.2.3.4 Hypothesis three

H₀3: There is no significant difference between TLR and classroom management strategies.

H_A3: There is a significant difference between TLR and classroom management strategies.

Hypothesis three was tested at the alpha level of confidence 0.05 to find out Teacher -to-Learner Ratio and Classroom Management Strategies. The hypothesis was analysed using one-way analysis of variance (ANOVA). The Classroom Management Strategies which were the dependent variable was computed as a single variable while teacher to learner ratio was the independent variable. From the questionnaire Teacher -to-Learner Ratio was classified as nominal variable while the dependent variable was measured in continuous scale. To perform the ANOVA, the researcher tested for normality and homogeneity of variances of the variables. Table 4.27 shows normality test of the variables in the study.

Table 4.27: Normality test of variables (TLR & CMS)

TLR	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig	Statistic	Df	Sig
1-15	.183	36	.004(s)*	.927	36	.021(s)*
1-30	.239	68	.000(s)*	.810	68	.000(s)*
1-45	.154	88	.000(s)*	.945	88	.001(s)*
1-45 above	.213	24	.006(s)*	.901	24	.023(s)*
Observed sample	216	216	216	216	216	216

Source: Field data, Kissi-Abrokwah (2020) a. Lilliefors Significance Correction

Key words: s*=significant Df*=degrees of freedom TLR= Teacher to learner ratio CMS= Classroom management strategies

Table 4.27 shows the results normality test of variables. The Shapiro-Wilk test results show that based on the assumption of uses a sample size greater than 50 ($n > 50$). The Shapiro-Wilk test was normal if the sig value found in Table 4.27 was greater than 0.05. The Shapiro-Wilk test indicated that the dependent variable (CMS) was not normally distributed among Teacher -to-Learner Ratio. For instance, the preschool teacher who supervised 1:15 pre-schoolers in the classroom was indicated on Shapiro-Wilk test not normal (SW =.183, Df=36, $p=.004^{**}$, $p > 0.05$, N=216) and preschool teachers supervising pre-schoolers above 45 recorded a Shapiro-Wilk test results as not normal at (SW = .213, Df=24, $p=.006^{**}$, $p > 0.05$, n=216). After checking for the normality test of variables, the researcher proceeded to check for homogeneity of variances. Table 4.28 shows the analysis of homogeneity test of variances.

Table 4.28: Homogeneity test of variances (TLR & CMS)

	Levene Statistic	Df1	Df2	Sig. value
Based on Mean	.378	4	212	.769 (ns)*
Based on Median	.580	4	212	.629(ns)*

Based on Median				
and with adjusted df	.580	4	163.216	.629(ns)*
Based on trimmed mean	.448	4	212	.719(ns)*

Source: Field data, Kissi-Abrokwah (2020) *Significant at $p=0.05$, N=216

Table 4.28 shows homogeneity of variances of the study variables (TLR & CMS). With respect to the means, the homogeneity of variances test shows that assumption of homogeneity had not been violated at [t (Df1=4, df2=212) = .378, sig. value = .769, $p<0.05$, 2-tailed)]. Therefore, conducting between-groups one-way analysis of variance (ANOVA) test was statistically acceptable. Table 4.29 presents descriptive statistics of study variables

Table 4.29: Descriptive statistics of the study variables (TLR & CMS)

TLR	N	M	St.D	SD Error	Rank
1:30	68	59.35	3.51	.43	1 st
1:45	88	59.18	3.09	.33	2 nd
1-45 above	24	52.00	3.56	.73	3 rd
1-15	36	49.39	2.91	.49	4 th

Source: Field survey, Kissi-Abrokwah (2020)

Table 4.29 shows that descriptive statistics of variable in the study. The analysis of variables from Table 4.29 shows that there were differences that exist between the mean score of Teacher -to-Learner Ratio and Classroom Management Strategies. For instance, preschool teachers supervising 1:30 pre-schoolers in classroom recorded the highest mean (M= 59.35, SD= 3.51, N=68) while between 1:45 also recorded (M= 59.18, SD= 3.09, N=88). Again, the descriptive statistics found in Table 4.29 further indicated that preschool teachers supervising above 45 pre-schoolers scored third and 1-15 Teacher -to-Learner Ratio scored fourth. The analysis was shown as (M= 52.00, SD= 3.56, N=24) and (M= 49.39, SD= 2.91, N=36) respectively. The researcher

conducted other statistical evidence to check whether the difference that occurred at the descriptive statistics section was not by chance. Table 4.30 presents results on the summary of one-way analysis of variance.

Table 4.30: Summary of one-way analysis of variance (ANOVA)

	Sum of		Mean			
	Squares	Df	Squares	<i>F</i>	Sig	Rks
Between group	3472.657	4	1157.552	109.302	.000	Diff existed
Within groups	2245.176	212	10.590			
Total	5717.833	216				

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

The overall *F* ratio of the one-way ANOVA was significant. This means that the *F*-ratio (109.302) was significant ($p = .000$) at the .05 alpha level. This shows that there was a significant difference between the mean scores for TLR and classroom management strategies. From this reason, the researcher accepts the alternate hypothesis that states: “There is a significant difference between TLR and CMS”. There was a difference that existed between TLR and classroom management strategies, therefore, the researcher conducted the Post Hoc test to check where the statistical difference occurred. Table 4.31 shows the post-Hoc tests results.

Table 4.31: Post-Hoc tests among teacher to learner ratio and classroom management strategies

Dependent Variable: Classroom management strategies				
(I)	(J)	Mean	Std	Sig.
TLR	TLR	Diff(I-J)	Error	Value
1:15	1:30	-9.964*	.671	.000(s)*
	1:45	-9.793*	.644	.000(s)*
	1:45 above	-2.61*	.858	.014(s)*

1-30	1:15	9.964*	.671	.000(s)*
	1:45	.171	.525	.988(ns)
	1:45 above	7.353*	.773	.000(s)*
1:45	1:15	9.793*	.644	.000(s)*
	1:30	-.171	.525	.988(ns)
	1: 45 above	7.182*	.749	.000(s)*
1: 45above	1:15	2.61*	.858	.014(s)*
	1:30	-7.353*	.773	.000(s)*
	1:45	-7.182*	.749	.000(s)*

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Table 4.31 shows the results of the post-Hoc test. The analysis of post-Hoc test shows that there were differences between TLR and classroom management strategies. Table 4.31 shows that there was a significant difference between TLR (1:15-1:30) and (1:15 - 1:45) with a mean difference and standard error of (MD=-9.964*, SR=.671) and (MD=-9.793*, SR=.644) both of which recorded the *sig value* of 0.000* (2-tailed) which shows the statistically significant difference. Again, Table 4.31 recorded a significant difference between (1:15-1:45above) with a mean difference and standard error of (MD=-2.61*, SR=.858) with a *sig value* of 0.014. However, there was also a significant difference between TLR of (1:30-1:45 above) and (1:45-1:45above) which recorded (MD=7.353*, SR=.773) and (MD=7.182*, SR=.749) at $p=.000$ (2-tailed) shows the statistically significant difference. From this assertion, the researcher accepts the alternative hypothesis stated as: "There is a significant difference between TLR and classroom management strategies" with a medium Eta effect size of 0.61.

4.2.3.5 Hypothesis four

H₀4: There is no significant difference between type of ECECs and the preschool teachers' classroom management strategies.

H_{A4}: There is a significant difference between type of ECECs and the preschool teacher's classroom management strategies.

An Independent-Sample T-test was conducted to achieve the stated hypothesis. This was done because two independent variables (type of ECECs) were measuring a dependent variable which was classroom management strategies.

Table 4.32: Group statistics of type of ECECs and classroom management strategies

	Type of ECECs	N	Mean	SD
CMS	Private	108	59.37	2.93
	Public	108	54.24	5.62

Source: Field survey, Kissi-Abrokwah (2020)

N=216

Table 4.32 shows an equal number of ECECs were selected for the study. In private ECECs the respondents were 108 (M=59.37, SD=2.93) while respondents from the public ECECs represent 108 (M=54.24, SD=5.62).

Table 4.33: Independent Sample T-test for type of ECECs and classroom management strategies

		Levene's Test For Equality of Variance				T-test for Equality Means		
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Diff	St.D Error
Total CMS	Equal Variance	65.286	.000	-8.412	214	.000	-5.130	.610
	Assumed Equal variance			-8.412	161.77	.000	-5.130	.610
	Not Assumed							

Source: Field survey, Kissi-Abrokwah (2020)

** significant at p=0.05

An independent-sample T-test was conducted to compare the type of ECECs and classroom management strategies. Table 4.33 shows *sig. value* 0.000 which was smaller than $p=0.05$, and the evidence shows that the data have violated the assumption of equal variance. The researcher used the equal variance not assumed figures to interpret the findings. Table 4.33 shows that there was a significant difference in scores for public ECECs ($M=54.24$, $SD=5.62$) and private ECECs ($M=59.37$, $SD=2.93$; $t(-8.412) = 65.286$, $p = .05$, two-tailed).

From the results found in Table 4.25, the alternate hypothesis stated as “There is a significant difference between type of ECECs and the preschool teacher’s classroom management strategies” provided was accepted. To arrive at the effect size, the researcher adopted Cohen’s (1988) Eta squared (η^2) formula to calculate the difference. The Eta squared helped the researcher to know the magnitude difference between the ECECs. The method for calculating Eta squared is provided below.

$$Eta\ squared(\eta^2) = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

Replacing with the appropriate values from the formula above:

$$\eta^2 = \frac{-8.412^2}{-8.412^2 + (108 + 108 - 2)}$$

$$\eta^2 = 0.25$$

The result shows that magnitude of the (mean difference = -5.130, 95% confidence interval) was small with Eta squared (η^2) value of 0.25 effect size.

4.2.3.6 Hypothesis five

H₀₅: There is no significant difference between trained and untrained preschool teachers concerning self-efficacy belief to manage pre-schoolers in large class size.

H_{A5}: There is a significant difference between trained and untrained preschool teachers concerning self-efficacy belief to manage pre-schoolers in large class size.

An Independent Sample T-test was conducted to achieve the stated hypothesis. This was done because two independent variables (type of respondent) are measuring a dependent variable which was self-efficacy belief in managing pre-schoolers.

Table 4.34: Group statistics of type of respondent and self-efficacy belief in managing pre-schoolers

Type of respondents		N	Mean	St.D
Self-efficacy belief	Trained	83	29.00	4.85
	Untrained	132	27.67	5.21

Source: Field survey, Kissi-Abrokwah (2020)

N=216

Table 4.34 shows that the trained respondents 83 (M=29.00, SD=4.85) recorded the highest value compared to untrained respondents 132 (M=27.67, SD=5.21) which recorded the least value.

Table 4.35: Independent Sample T-test for types of respondents and self-efficacy belief

		Levene's Test For Equality of Variance				T-test for Equality Means		
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Diff	St.D Error
Total CMS	Equal Variance Assumed	3.240	.073	1.882	214	.061	1.333	.708
	Equal variance Not Assumed			1.882	185.990	.057	1.333	.697

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

The significant value was greater than $p .05$, therefore, the data have not violated the assumption of equal variance. The equal variance assumed figures were used to interpret the findings. There was no significant difference in scores for types of respondents who are trained ($M=29.00$, $SD=4.85$) and untrained ($M=27.67$, $SD=5.21$; $t(1.882) = 3.240$, $p = .05$, two-tailed). The magnitude of the differences in the means (mean difference = 1.333, 95% confidence interval). Per the results, the null hypothesis stated, "There is no significant difference between trained and untrained preschool teachers concerning self-efficacy belief to manage pre-schoolers in large class size." was accepted.

4.2.3.7 Hypothesis six

H_06 : There is no significant difference between class size and teacher's self-efficacy belief to manage pre-schoolers in large class.

H_A6 : There is a significant difference between class size and teacher's self-efficacy belief to manage pre-schoolers in large class.

The analysis of hypothesis six was to check the difference that exists between class size (CS) and teachers' self-efficacy belief (TSEB) in managing pre-schoolers. The independent variable that was the class size was nominal scale while the dependent variable was teachers' self-efficacy belief which was measured on continuous scale. The between-groups one-way analysis of variance (ANOVA) was conducted to determine whether there are any statistically significant differences among the means of the independent groups (CS & TSEB). Table 4.36 represents the normality of test of variables in the study.

Table 4.36: Normality test of variables (CS & TSEB)

Class size	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig	Statistic	Df	Sig
20-30	.168	42	.004(s)*	.881	42	.000(s)*
31-40	.183	68	.000(s)*	.943	68	.004(s)*
41-50	.275	82	.000(s)*	.753	82	.000(s)*

51-above	.171	24	.067(s)*	.917	24	.051(s)*
Observed sample	216	216	216	216	216	216

Source: Field data, Kissi-Abrokwah (2020) a. Lilliefors Significance Correction

Key words: s*=significant Df*=degrees of freedom CS= Class size TSEB= Teacher self-efficacy belief

Table 4.36 shows the results of the normality test of variables. Shapiro-Wilk test was normal if the sig value found in Table 4.36 was greater than 0.05. The Shapiro-Wilk test indicated that the dependent variable (TSEB) was not normally distributed among class size. For instance, class size of 51 and above as indicated on Shapiro-Wilk test was not normal (SW = .881, Df=42, $p=.000^{**}$, $p>0.05$, N=216) and 31-40 class size recorded a Shapiro-Wilk test results not normal at (SW =.943, Df=68, $p=.004^{**}$, $p>0.05$, N=216). After checking for the normality test of variables, the researcher proceeded to check for homogeneity of variances. Assumptions of homogeneity of variances of the data distribution was checked which can be found in Table 4.37.

Table 4.37: Results of homogeneity of variances test (CS & TSEB)

	Levene Statistic	Df1	Df2	Sig Value
Based on Mean	27.062	4	212	.000
Based on Median	19.615	4	212	.000
Based on Median and with adjusted df	19.615	4	157.129	.000
Based on trimmed mean	26.480	4	212	.000

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Keywords: TSEB=Teacher Self-efficacy belief CS= Class size Df1- Degrees of freedom 1

Df2- Degrees of freedom 2

Table 4.37 presents the test of homogeneity of variances of the study (CS & TSEB). From Table 4.37, when the based-on means was used, the homogeneity of variances

test results specified that assumption of homogeneity had been violated at [t (Df1=4, Df2=212) = 27.062, sig. value = .000, $p < 0.05$, 2-tailed)]. Performing the between-groups one-way analysis of variance (ANOVA) tested was statistically correct. Table 4.38 shows results on the descriptive statistics of the test (CS & TSEB).

Table 4.38: Descriptive statistics of the study variables (CS & TSEB)

CS and SEB	N	M	SD	Std. Error	Ranking
41-50	82	32.66	1.88	.21	1 st
Above 51	24	28.25	2.54	.51	2 nd
31-40	68	26.82	4.35	.53	3 rd
20-30	42	21.62	2.80	.43	4 th

Source: Field survey, Kissi-Abrokwah (2020)

N=216

Keyword: TSEB-Teacher self-efficacy belief , CS= Class size, M- Mean , SD- Standard deviation

Table 4.38 shows the descriptive statistics of variables used for the study. The analysis was done to check the differences that exists between class size and preschool teachers' self-efficacy belief in managing pre-schoolers in large class size. From Table 4.38 class size between 41-50 recorded 82 (M=32.66, SD=1.88, SR=.21). However, class size above 51 and those between 31-40 scored second and third respectively with the mean score of (M=28.25, SD=2.54, N=24) and (M=26.82, SD=4.35, N=68) which falls within the magnitude of 0.51 and 0.53. Again, the descriptive statistics from Table 4.38 recorded a mean and standard score of (M=21.62, SD=2.80, N=42) which falls on 0.43 standard error. Besides the statistical analysis found in Table 4.38, the One-way analysis of variance (ANOVA) was done to check if the descriptive statistics of the study variables found in Table 4.35 did not happen by chance. Table 4.39 provides a summary of one-way analysis of variance.

Table 4.39: Summary of one-way analysis of variance (ANOVA)

	Sum of Squares	Df	Mean Squares	F	Sig	Rks
Between group	3577.866	4	1192.622	124.751	.000	Diff existed
Within groups	2026.726	212	9.560			
Total	5604.593	216				

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Table 4.39 explains the summary of one-way analysis of variance. The F -ratio for the one-way ANOVA was significant with a p -value 0.000. From Table 4.39 the F -ratio (124.751) was significant ($p=0.000$) at the alpha level 0.05. The researcher accepts the alternate hypothesis stated as “There is a significant difference between class size and teachers’ self-efficacy belief to manage pre-schoolers in large class size”. Although the analysis from ANOVA recorded sig value ($p=0.000$) but the researcher could not specifically tell where the differences came from unless multiple comparisons (Post Hoc Tests) was conducted which can be found in Table 4.40.

Table 4.40: Post-hoc tests on class size and teachers’ self-efficacy belief

Dependent Variable: Teachers self-efficacy belief				
(I)	(J)	Mean Diff(I-J)	Std Error	Sig. Value
20-30	31-40	-5.204*	.607	.000(s)*
	41-50	-11.039*	.587	.000(s)*
	51-above	-6.631*	.791	.000(s)*
31-40	20:30	5.204*	.607	.000(s)*
	41:50	-5.835*	.507	.000(s)*
	51-above	-1.426*	.734	.213(ns)
41-50	20-30	11.039*	.587	.000(s)*

	31-40	-5.835*	.507	.000(s)*
	51-above	4.409*	.791	.000(s)*
51-above	20-30	6.630*	.791	.000(s)*
	31-40	1.426*	.734	.213(ns)
	41-50	-4.409*	.791	.000(s)*

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Table 4.40 shows the analysis of post-hoc test. The Post-Hoc test shows there was significant differences between class size and preschool teachers' self-efficacy belief in managing pre-schoolers. From Table 4.40 there was difference between class size (20-30 & 31-40), (20-30 & 41-50) and (20-30 & 51 above) recorded a mean difference and standard error of (MD=-5.204*, SR=.607), (MD= -11.039*, SR=.587) and (MD = -6.631*, SR=.791) with a Sig value of 0.000* (2-tailed) shows that there was a statistically significant difference between class size and preschool teachers self-efficacy belief in managing pre-schoolers.

Again, Table 4.40 yielded a significant difference ($p=0.000$) while the mean difference and standard error recorded (MD=-5.835*, SR=.507) and (MD=-4.409*, SR=.791) representing the difference between (31-40 & 41-50) and (51 above & 41-50) class size respectively. According to the finding found in Table 4.40, the researcher accepts the alternate hypothesis stated as "There is a significant difference between class size and teachers' self-efficacy belief to manage pre-schoolers in large class" with medium effect size of 0.64 using Cohen's (1988) format.

4.2.3.8 Hypothesis seven

H₀₇: There is no positive strong relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt.

HA7: There is positive strong relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt.

The literature found in sub-section 2.5.2 suggested that there was relationship that exists between challenges preschool teachers faced in handling pre-schoolers in large class size and their classroom management strategies provided in ECECs. From this assertion, the researcher decided to find out if there was a significant relationship between challenges preschool teachers faced in handling pre-schoolers in large class size and their classroom management strategies in Ghanaian ECE context. The researcher used the PPMCC to analyse the data. The PPMCC was used because both challenges faced by preschool teachers in large class size and classroom management strategies are measured on a continuous scale. The correlation was tested at (0.05) level of confidence, 2-tailed. Figure 4.2 shows the result of the normality assumption.

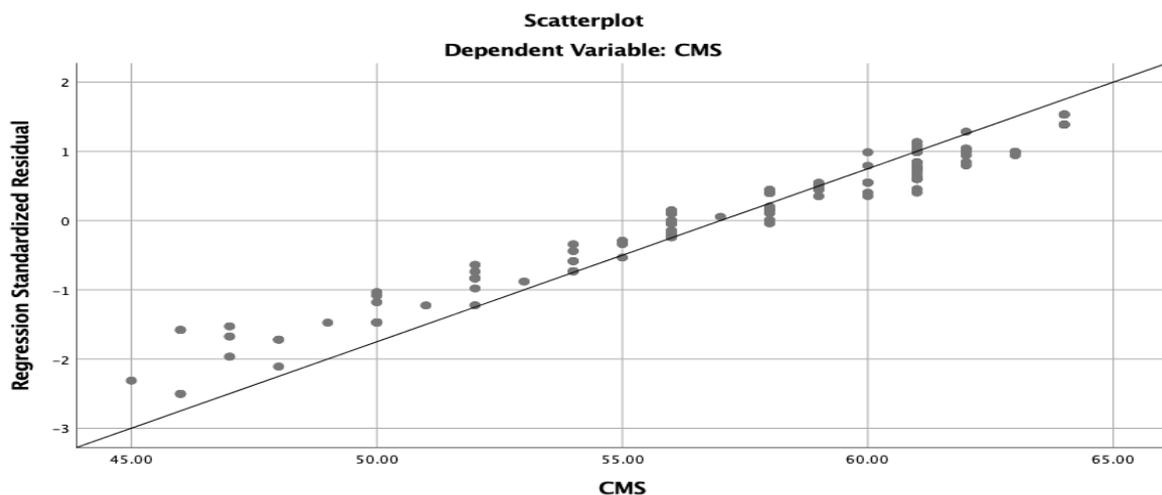


Figure 4.2: Homoscedasticity normality assumption of challenges faced by preschool teachers in large class size and classroom management strategies

Figure 4.2 shows that the gathering of the variables means that the data was assumed normal and as such Pearson Product Moment Correlation Co-efficient (PPMCC) could be deployed in the analysis. Table 4.41 offers the correlations coefficients results between challenges faced by preschool teachers in large class size and classroom management strategies.

Table 4.41: Correlation’s coefficients result between challenges preschool teachers faced in handling pre-schoolers in large class size and classroom management strategies

Correlated variables		Challenges	Classroom Management
Challenges	Pearson Correlation	1	0.193**
	Sig. (2-tailed)		0.004
	N	216	216
Classroom Management	Pearson Correlation	0.193**	1
	Sig. (2-tailed)	0.004	
	N	216	216

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

The results in Table 4.41 indicates that there was a significant positive correlation between challenges faced by preschool teachers in large class size and classroom management strategies in the Ghanaian ECE context. The result was reported as $r = 0.193^{**}$, $sig. = 0.004^{**}$ $p < 0.05$, $N=216$. The two variables (challenges and classroom management) share a variance of 0.193 (19.3%). This implies that the variables predict themselves 19.3%. The results realistically show that the challenges faced by preschool teachers in handling pre-schoolers in large class size have much influence with classroom management. However, the researcher accepts the alternate hypothesis that stated, “There is positive strong relationship between challenges

teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt”.

4.2.3.9 Hypothesis eight

Ho8: There is no positive strong relationship between the influence of class size and TLR on teaching and learning in early childhood education centres and teacher’s self-efficacy belief in managing pre-schoolers in large class.

HA8: There is positive strong relationship between the influence of class size and TLR on teaching and learning in early childhood education centres and teachers’ self-efficacy belief in managing pre-schoolers in large class.

The review of literature found in sub-section 2.5.3 suggested that there was a relationship that exists between the influence of class size and TLR on teaching and learning in ECECs and teachers’ self-efficacy belief in managing pre-schoolers in large class. From the information gathered from the literature; the researcher intends to find out if there was a statistically significant relationship between the two variables. The analytical tool used for computing the variable was PPMCC because the two variables were measured in continuous scale. The correlation was tested at (0.05) level of confidence, 2-tailed.

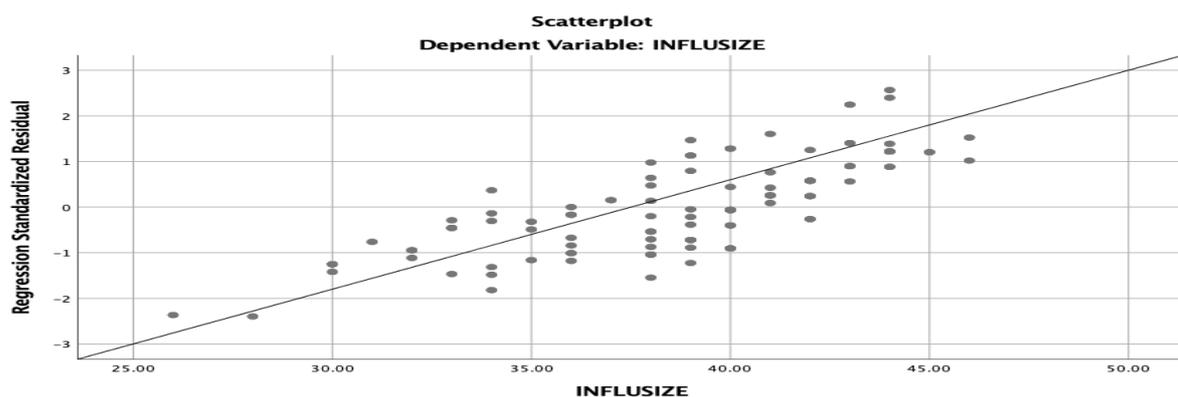


Figure 4.3: Homoscedasticity normality assumption of influence of class size and TLR on teaching and learning in early childhood educational centres and teacher’s self-efficacy belief in managing pre-schoolers in large class

Figure 4.3 shows that the gathering of the variables means that the data was assumed normal and as such PPMCC could be deployed in the analysis. Table 4.42 offers the correlations coefficients results between influence of class size and teacher-learner ratio on teaching and learning in early childhood educational centres and teacher's self-efficacy belief in managing pre-schoolers in large class size.

Table 4.42: Correlations' coefficients result between influence of class size and TLR on teaching and learning in early childhood educational centres and teachers' self-efficacy belief in managing pre-schoolers in large class

Correlated variables		Influence of class Size & TLR	Self-efficacy belief
Influence of class	Pearson Correlation	1	0.653**
Size & TLR	Sig. (2-tailed)		0.000
	N	216	216
Self-efficacy			
Belief	Pearson Correlation	0.653**	1
	Sig. (2-tailed)	0.000	
	N	216	216

Source: Field survey, Kissi-Abrokwah (2020)

** significant at $p=0.05$

Table 4.42 shows that there was a significant strong positive correlation between influence of class size and TLR on teaching and learning in ECECs and teacher's self-efficacy belief in managing pre-schoolers in large class in Ghanaian context. However, Table 4.42 reported $r = 0.653^{**}$, sig. =0.000** $p < 0.05$, $n=216$. The two variables (influence of class size and TLR and Self efficacy belief) share a variance of 0.653 (65.3%). This implies that the variables can be predicted at 65.3%. The results realistically show that the influence of class size and TLR on teaching and learning in ECECs correlate with teachers' self-efficacy belief in managing pre-schoolers in large class. However, the researcher accepts the alternate hypothesis that stated, "There is

a strong positive relationship between the influence of class size and TLR on teaching and learning in early childhood education centres and teachers' self-efficacy belief in managing pre-schoolers in large class”.

4.2.4 Summary of quantitative phase

In this chapter, the researcher provides the analysis for research questions and research hypotheses of the study. The analysis was done using SPSS software version 25. The analysis started with background information of the respondents which was followed by analysis of various research questions. The research questions were analysed using means and standard deviations and were presented in Tables. The researcher computed the hypothesis using Independent Sample T-test, ANOVA and PPMCC. The next section presents the qualitative findings of the study.

4.3 ANALYSIS OF QUALITATIVE DATA

This section provides the qualitative data of the study. With concurrent triangulation mixed-method design, it was appropriate to describe the findings that represent qualitative phase (Creswell & Creswell, 2018). In the qualitative phase, the data was collected using a semi-structured interview and an observational guide. The analysis was done to investigate how large class size and TLR affect classroom management in ECECs in Ghana. However, the interview was conducted using preschool teachers and head teachers in ECECs in Ghana while the observation was done by the researcher to check patterns of behaviour exhibited by pre-schoolers and strategies used by preschool teachers to manage pre-schoolers in large class size.

The interview was conducted with twelve (12) participants which included six (6) preschool teachers and six (6) head teachers from public and private ECECs in Ghana. The respondents were purposively selected from ECECs within Tamale, Kumasi and Cape Coast metropolises in Ghana. The researcher used thematic analysis to analyse the interview data (Creswell & Creswell 2017; Kusi, 2012). The observational data was conducted among six (6) ECECs which involve three (3) public ECECs and three (3) private ECECs from Tamale, Kumasi and Cape Coast metropolises in Ghana. The observation was done within six (6) weeks. The next section shows how the researcher transcribed the interview data.

4.3.1 Analysis of interview data

The interview results were presented as arranged in Appendix G. The semi-structured interview guide consists of seven questions. The questions include (1) background information: gender, educational level of participants, years of practicing the profession, number of pre-schoolers supervised and number of pre-schoolers in class. (2) examines the pattern of behaviour pre-schoolers exhibited in classroom; (3) investigate how the behaviour exhibited by pre-schoolers affect classroom management and effective teaching delivery; (4) investigates the challenges faced by preschool teachers in managing pre-schoolers' large class size; 5) find out how class size and TLR affect effective delivery teaching and classroom management in ECECs; (6) investigate how self-efficacy belief ensures effective delivery teaching and classroom management and (7) find out the classroom management strategies used by preschool teachers to ensure discipline and effective teaching delivery.

The data were thematically analysed, the interview transcription on attribution to participants' comments was assigned with serial code. Again, anonymity was observed by using participants' location and type of ECEC as their identify. For instance, Interviewee public ECEC preschool teacher from Tamale metropolis was assigned (Participant-1); Interviewee private ECEC preschool teacher from Tamale metropolis (Participant-2); Interviewee public ECEC head teacher from Tamale metropolis (Participant-3); Interviewee private ECEC head teacher from Tamale metropolis (Participant-4); Interviewee public ECEC preschool teacher from Kumasi metropolis (Participant-5); Interviewee private ECEC preschool teacher from Kumasi metropolis (Participant-6), Interviewee public ECEC head teacher from Kumasi metropolis (Participant-7); Interviewee private ECEC head teacher from Kumasi metropolis (Participant-8); Interviewee public ECEC preschool teacher from Cape Coast metropolis (Participant-9); Interviewee private ECEC preschool teacher from Cape Coast metropolis (Participant-10); Interviewee public ECEC head teacher from Cape Coast metropolis (Participant-11) and Interviewee private ECEC head teacher from Kumasi metropolis (Participant-12). The next section presents how the researcher transcribe individual data base on research questions or themes.

4.3.1.1 Sociodemographic profile of participants

This section provides the participants' sociodemographic profile of the study. Out of the twelve (12) preschool teachers interviewed, ten (10) were females and two (2) were males. Of the 10 females six (6) were preschool teachers and four (4) were head teachers. The only two male teachers were head teachers.

With regard to the educational level of the interviewees, eight (8) hold diploma either in primary education or early childhood education. Two (2) participants confirm that they have a first degree in early childhood education, one (1) a Master of Education (M. Ed) degrees and one (1) who held Doctor of Philosophy Degree in Education was a head teacher for a private ECEC in Kumasi metropolis.

Out of 12 participants interviewed, only seven (7) confirmed that they have been practicing or teaching in ECEC between four (4) to nine (9) years. The remaining five (5) confirm that they have been teaching for more than ten (10) years in ECEC either as preschool teachers or head teachers.

For the six (6) ECECs visited in the study areas, only two (2) private ECECs had the class size between twenty-five (25) to thirty (30) pre-schoolers. Whereas one (1) private ECEC had a class size of 40 pre-schoolers. The remaining three (3) public ECECs have the class size between forty-two (42) to sixty-one (61) pre-schoolers. Whereas ECECs in the Tamale metropolis were leading the class size with the margin between 40 to 61 pre-schoolers in a classroom.

On the bases of the number of pre-schoolers supervised in class the preschool teachers in Tamale metropolis were supervising or handling between 40 to 50 pre-schoolers in both public and private ECECs. In private ECECs visited in Cape Coast metropolis, preschool teachers were supervising between fifteen (15) to twenty (20) pre-schoolers in classroom. In Kumasi metropolis, preschool teachers in public ECECs were supervising between thirty (30) to forty (40) pre-schoolers in class while private ECECs preschool teachers were supervising between fifteen (15) to twenty (20) pre-schoolers. The next section explains participants' comments on the pattern of behaviour exhibited by pre-schoolers in classroom.

4.3.1.2 Patterns of behaviour exhibited by pre-schoolers in classroom

This section investigates the pattern of behaviour exhibited by pre-schoolers in large class size. In this regard, the following questions were asked: 1) What pattern of behaviours do pre-schoolers exhibited in classroom? 2) How does the behaviour exhibited by pre-schoolers affect classroom management or teaching delivery? Probing questions were asked in line with this theme. The responses in this section shows that the behaviour pattern exhibited by pre-schoolers can be grouped into disrespecting teachers, verbal aggression, physical aggression, talking out of turn and out of seat behaviour.

4.3.1.2.1 Disrespecting teachers

The responses indicate that disrespecting teachers as a pattern of behaviour exhibited by pre-schoolers in the classroom was the first theme discussed. Most of the participants mentioned that this behaviour was learned behaviour from home or the environment in which the pre-schoolers live. Participants' responses have been presented below. Participant-3 said that

“As sociologist will say, school is a miniature society within the large society. The same way when pre-schoolers grow up in a society where there is no good manners or respect for individual, they turn to model such learnt behaviour in classroom to their teachers. Again, when pre-schoolers observe domestic violence or unethical foul language (insult) from adult, they tend to exhibit such behaviours in classroom to their teachers because it seems to be normal language to them”.

Participant-7 also added:

“The training received by these kids from their various homes portray how they behave in the classroom. Per my personal observation, I have seen that pre-schoolers from the nearby villages where they are densely populated behave differently from those coming from the estate house. The reason is that those coming from the village are expose to more deviant behaviours so exhibiting such behaviours to teachers seem common”.

Participant-9 concludes that *“pre-schoolers from the fishing communities are very hostile to their teachers and peers. This is because the pre-schoolers found in this communities have observed these hostile behaviours from their elders and peers”*. Participant-2 and Participant-10 shared similar view that pre-schoolers refuse to take instructions from teachers. Interviewer: Please, what constitute refusal or the failure to take instruction? Participant-2 said that it is annoying when pre-schoolers fail to submit their homework on Monday while Participant-10 reply that failure to submit class exercise on time. On the contrary, Participant-6 said that pre-schoolers’ refusal to take simple instructions by not doing independent work as instructed by the preschool teacher.

Participant -11 asserted that pre-schoolers’ failure to obey simple rules for not sleeping during siesta. Participant-1 commented that they refuse to eat and Participant-4 complained that some pre-schoolers do not write during lesson. Participant-10 added that most pre-schoolers in class fail to identify objects, words and letters when asked to perform such activities in the midst of their peers.

It was reported that the disrespectful; behaviour shown by pre-schoolers to preschool teachers was rudely talking back to teachers. Participant-5 said that pre-schoolers talk back when you try to correct them from wrongful act. Interviewer: Does this behaviour frequently happen in class? Participant-5 Yes! This normally happened when you caution pre-schoolers to take instruction or perform an act which they are not familiar with or found difficult in doing. Participant-12 states that when you caution pre-schoolers for wrongdoing, they normally talk back. However, interviewer posed question on why pre-schoolers exhibited such behaviour in school? Participant-7 replied that it is attitudinal behaviour learned from their homes.

Participant-8 concluded as *“lack of proper values and moral training at home because pre-schooler has witnessed such a behaviour from peers or the environment they live in”*. Participant-3 added that *in countless times, pre-schoolers who disrespect their teachers may have been disrespecting others around them, including their own parents. Such pre-schoolers fail to take instruction from teachers in class during lesson.*

4.3.1.2.2 Talking out of turn

Other participants mentioned that talking out of turn was the behaviour exhibited by pre-schoolers in classroom. Participants' statements on this theme were indicated as follows. Participant-9 said that

“During questions and answers after instructional lesson, most pre-schoolers frequently mention or called names which are familiar to them to answer the questions. They even go the step further of pointing to their peers to answer such a question”.

Participant-1 added that *“pre-schoolers whose names are popular in the mind of their peers are mentioned or voiced in classroom. For instance, screaming by saying madam!!! Emma or Baffour’s names are familiar with the pre-schoolers”*. These Participant-2, Participant-4, Participant-6 and Participant-7 went a step further by saying pre-schoolers *“shouting when answering questions in class”*. Participant-4 again added *“pre-schoolers shout or cry their pencils or other materials are taken from them by their peers”*.

Participant-8 disclosed that *“normal classroom conversation among pre-schoolers is normally loud”*. Interviewer: In the presence of teachers, how do their conversation become loud? *“We normally give them free period/time for colouring, tracing or sketching images. Personal conversation during that period is very loud”* (Participant-8).

4.3.1.2.3 Verbal aggression

The following responses indicate that verbal aggression form part of patterns of behaviour exhibited by pre-schoolers in large class size. The responses from the participants are highlighted as follows. Participant-9 asserted that *“Pre-schoolers who have observed hostile or aggressive behaviours from peers, teachers, media and parents model such behaviour in classroom”*. Participant-9 further pointed the cause to be the pre-schoolers copying the behaviour of parents. The kids sometimes yelled at their peers or to their teachers when they are provoked in the classroom.

Children with low self-esteem or poor self-image normally insult peers when they are called by other names aside their real names (Participant-3) which was also echoed by another participant who reported *“Name-calling by peers in classroom were rampantly exhibited in class during role play or questions and answers time”* Participant-11 added that.

Participant-8 concludes that shouting at friends in classroom was also common among pre-schoolers. Participant-2 shared similar comment, unconscious screaming when one pre-schoolers shout on any frightening object. In the same vein, Participant-10 reveals that they yell with inappropriate comments during class instruction by pre-schoolers when answering question.

Making fun of peers was a form of the behaviour exhibited by pre-schoolers in classroom (Participant-4). This behaviour was found to include the teasing of friends when they answer questions wrongly (Participant-7), joking and laughing at peers when asked to be serious in the class (Participant-1 & Participant-12) as well as mocking for wrong doings was reported by Participant -6B.

4.3.1.2.4 Physical aggression

Responses show that physical aggression was frequently exhibited by pre-schoolers in large class size. All the respondents concurred that at any given time a pre-schooler may physically abuse a colleague. The responses revealed on this theme are as followed. Confirmation of pre-schoolers frequently hitting and fighting was reported

(Participant-2, Participant-3, Participant-4, Participant-6, Participant-8 & Participant-11). Participant-6 further stated, *“I have observed that when pre-schoolers fail to answer questions or answer them wrongly, others tend to tease or mock them which result into fighting”*. Participant-2 also added that *“teasing”* and Participant-8 confirm that *“laughing peers cause the fighting in classroom”*.

Other participants confirm that *“throwing objects or materials with the intention to hit other”* (Participant-7). *“Biting when they are provoked or successive laughing or mock”* (Participant-12). Adding to this, Participant-5 *“pre-schoolers pinching others and using pencils and objects to stab or hitting their peers when sitting or sleeping in class”*. On the contrary, Participant-9 had observed how *“frequently the boys bully girls in classroom”*.

4.3.1.2.5 Out of seat behaviour

In this section, the responses indicate that the out of seat behaviour was part of the pattern of behaviour exhibited by pre-schoolers in classroom. In respect to this theme, ten (10) respondents had observed this kind of behaviour.

Participant-2 comments that *“running or walking was a common behaviour found in classroom”*. Participant-6 *“some pre-schoolers run away from the classroom immediately they see their parents’ cars outside”*. Participant-12 highlighted that *“pre-schoolers roam in classroom”* and Participant-11 stated that *“wandering in classroom was also a common behaviour exhibited by pre-schoolers in classroom”*.

Participant-3 and Participant-8 revealed that *“changing seat was predominately practiced among pre-schoolers in classroom”*. However, Participant-1 said that *“moving from one seat to another”*. Participant-5 confirms that *“most pre-schoolers run from classroom without permission from the teachers”*. Participant-4 considered pre-schoolers as *“not mature to understand some rule”*. Participant-9 added that *“restricting pre-schoolers to stay at one place was seen as punishment to them”*.

4.3.1.3 Challenges teachers faced in handling pre-schoolers in large class

The second research question of the study was to investigate challenges preschool teachers faced in handling pre-schoolers in large classes. In this regard, the researcher asked the challenges preschool teachers faced in managing pre-schoolers in the classroom? Probing questions were asked regarding this theme. The findings were based on inability to organize exercises and class tests regularly, inadequate teaching and learning materials, inability to manage class and attention challenges.

4.3.1.3.1 Inability to organise exercise and class tests regularly

The following responses indicate how inability to organise exercise and class test regularly was the challenge preschool teachers faced in managing pre-schoolers in classroom. Some respondents shared their experiences on this theme. Participant-4 explained that:

“The overburden nature of teaching at the early childhood education centre always puts teacher under pressure. Again, the pressure compounds when you are teaching a class size more than 60 pre-schoolers in classroom. It becomes very difficult to perform activities like marking, recording, filling of report cards and assessment sheets will all be done by the class teacher. After shouting, teaching and trying to maintain discipline in the classroom teachers get tired and exhausted and are not able to carry out other instructional duties”.

Participant-6 also added:

“The first challenges that evolve in teaching the pre-schooler in large class size was on how to manage classroom, assessment and caring for every individual in classroom. The most difficult one is assessing pre-schoolers to see their strengths and weaknesses. When you are handling class size more than 50 attention seeking pre-schoolers, who always want the teacher to clarify activities or inspect what they have done or been doing. Completing one topic within two periods will be very

difficult. Secondly, the challenge in large class size was the inability to mark and assess all the assignment critically to understand why pre-schoolers provide certain answers was always difficult”.

With regards to this theme, Participant-2 and Participant-6 agreed that the workload of managing pre-schoolers and ensuring that they eat, visit the toilet and other duties attached to teaching make it difficult to organise regular exercise for pre-schoolers in the classroom. These respondents confirmed that supervising this large number of pre-schoolers in this classroom makes it difficult to organise class exercise (Participant-1, Participant-4, Participant-5, Participant-9 & Participant-10).

In the same vein, Participant-1 added that when you have a deadline duty to be met regarding course content and handling pre-schoolers in classroom, it becomes difficult to organise class exercise in school. Again, Participant-8 concluded that supervising pre-schoolers in these bad conditions of service make it difficult to organise class exercise. Participant-4 confirms that providing individual feedback for more than sixty (60) kids will be very difficult to assess. Participant-9 added “*the class size was an obstacle for non-regular class exercise*”.

4.3.1.3.2 Inadequate teaching and learning materials

This theme was on inadequate teaching and learning materials (TLMs) to support instructional delivery in the classroom. Eight (8) participants shared their experiences on this theme relating to TLMs in ECECs. The responses on this theme are as follows.

Participant-8 said that “*Teachers do not have enough teaching and learning materials. Pre-schoolers learn by what they see and touch. Lack of these learning materials hinders the smooth teaching in classroom*”. This respondent confirms that “*class size does not reflect the TLMs supplied by the government and that brings challenges to us when teaching in school*” (Participant-7). Participant-3, added that “*there is no permeability between the number of pre-schoolers found in classroom and number of TLMs found in classroom to improve the process of teaching*”.

Participant-4 and Participant-11 added that “even common seats for teachers are not provided how much more TLMs like toys for pre-schoolers to play with”. Participant-3 also added that stick counters and other materials that are needed when teaching are not available. Participant-11 explained “*for me I even draw the object that I want to describe on the chalkboard*”. Interviewer: what happen to things or materials that are complex to draw? Participant-11 said that “*I just mention them in classroom*”.

However, “*most schools in our district have no textbooks and storybooks to enhance teaching and learning in school*” (Participant-2). Participant-6 mentioned that “posters and wall papers to help pre-schoolers with reading and spelling are not available in classroom. Another respondent contends that “chalk or markers to write with are not even available so TLMs for the kids are not something surprising” (Participant-7).

4.3.1.3.3 Inability to manage class

The following responses show that inability to manage class was a challenge experience to preschool teachers in large class size. Seven (7) participants mentioned that they encounter challenges relating to controlling pre-schoolers. Participant-9 asserted:

Due to large class size, I am unable to control all pre-schoolers in classroom. Because there is pressure on me to complete all instructional lesson on times so spending time to control all pre-schoolers in classroom before you teach will be very difficult to accomplish because I need to finish the course content on time. At times, I spend instructional period for teaching to control recalcitrant pre-schoolers instead of teaching them.

Participant-3 added:

“Teaching in large classes size is very tiresome and stressful so controlling all pre-schoolers in classroom becomes very difficult. As a class teacher I spend most of my energy in teaching than control. But when I invest all the instructional time for shouting and controlling pre-

schoolers, I become exhausted when I go to teach the daily instructional content”.

When handling more than 40 pre-schoolers in a classroom it is difficult to maintain standard regulation on classroom management compared to handling adults. This is achievable “as adults, rules can be set to maintain peace and order, but it cannot be done when teaching pre-schoolers” (Participant-1). Participant-4 and Participant-12 shared similar view that “*the class size makes it difficult to manage pre-schoolers*”. Participant-2 answered:

“I found it difficult to scaffold and socially interact with all pre-schoolers in classroom because handling over 60 pre-schoolers in classroom, coupled with teaching, marking, ensuring that pre-schoolers poop and urinate is not easy to accomplish. During the instructional delivery I am unable to roam through all seats to check if pre-schoolers have been able to complete the assignment. I am not able to check because there is no space to pass through in classroom”.

On the contrary Participant-5 said that the working condition is not good coupled with this large class size we are handle makes it difficult to calm pre-schoolers in classroom. Participant-12 added:

“I am overburden as a class teacher due to the workload involved in teaching pre-schoolers in early childhood educational centre. Teaching is something normal because I have passion for in such duty, but the most ignoring part is handling pre-schoolers after school hours because their parents are not in to pick them. The two hours expand in handling pre-schoolers from 3:00pm-5:00pm is very problematic than teaching them”.

Participant-6 confirms that there is no motivation attached to the work we do but we found happiness in the kids and how they behave toward us in classroom. Participant-3, also added that the class size is affecting assessment, feedback, classroom management, health and even how to interact with our pre-schoolers in classroom.

4.3.1.3.4 Attention challenges

This section presents participants comments on attention seeking as a challenge faced by preschool teachers in classroom. Four (4) respondents commented on this theme. The narration of respondents was presented below. Participant-4 revealed that,

“Giving equal attention to these attention seekers is very difficult. They are young adults who like to be pampered by their teachers. But looking at the nature of our work and adding this extra duty to it becomes very difficult to handle. Managing large class size with different temperament in a classroom is not an easy task for a teacher to fulfil”.

Participant-5 added that it is very challenging when all learners cry at the same time...or simultaneously. Participant-5 said that we have time for every activity in classroom. To be able to manage pre-schoolers, we perform all activities together at the same time. Participant-5 further added that when it is time for break, I ask them to go for break, time to drink water and time to visit the urinal but if you permit one person to visit the urinal or toilet, they will all complain they want to perform such activity which may affect teaching and learning in classroom.

However, Participant-1 comments that the class size does not permit them to personally attend to all pre-schoolers in classroom. Participant-12 also added that *“if half of the class understand the concept, I perceive the whole class has understood it and I move to a new concept.”* She further asserted that the instructional delivery is time bound and your head teacher will not understand why other teachers have been able to finish with their course content and you are delaying. Again, attending to over 70 pre-schoolers individually will be very difficult, so I have formed groups in the classroom, so I explain the concept to them in groups (Participant-12).

4.3.1.4 Influence of large class size and TLR on teaching and learning in early childhood education centres

This section discusses how large class size and teacher-learner ratio affect teaching and learning in ECECs. This finding was in direct relation to research question three

(3). The following question was asked regarding this question: How class size and TLR affect classroom management in ECECs? However, the questions or participants' comments were subject to probing when the researcher found any ambiguous statement regarding this section. The responses in this section were in line with classroom discipline, non-instructional task, classroom interaction and communication.

4.3.1.4.1 Classroom discipline

This subsection of the chapter presents the qualitative findings on how classroom discipline influences the manner in which teaching and learning are being mediated in classroom. Participants' comment on this theme are stated below. Participant-3 said that:

“Large class size and high teacher-learner ratio influence classroom discipline because the teacher cannot be at every place in the classroom. The burden nature of this job is that the teacher cannot set strict rules for pre-schoolers because their age does not allow them to understand certain concepts”.

Participant-1 said that pre-schoolers are definitely going to misbehave when they found themselves in large class size. However, Participant-5 confirms that *“pre-schoolers disturb when instructional activities are on-going”*. Disturbances are considered to be normal while teaching because when *other pre-schoolers are paying attention one or two will try to distract others from paying attention”*. Some to go the extent of punching, kicking and hitting their peers during lesson. (Participant-5).

Participant-8 commented that *“pre-schoolers run and roam in classroom when lessons are on-going”*. Participant-11 further said that *“some pre-schoolers even decide not to do class exercise”*. *“Defying teachers rule in classroom and not paying attention to instructional activities are forms of indiscipline exhibited by pre-schoolers in classroom and that disrupt teaching and learning”* (Participant-4).

Participant-12 narrated her experience that forms of indiscipline behaviour such are pre-schoolers asking permission to visit the urinal when they don't even need to go. If

one pre-schooler asks to go to the toilet a few thereafter also want to go (Participant-12). Participant-11 commented that that *“laughing and talking during lesson constitute classroom indiscipline”*.

Participant-2 asserted that when the preschool teachers are able to maintain good classroom management it would reflect how they will be able deliver instructional activities in class. In disagreement Participant-10 argued that having total control over pre-schoolers in kindergarten would be very difficult because pre-schoolers do not understand the reason why they should keep quite or perform certain activities in classroom.

4.3.1.4.2 Classroom interaction and communication

This section provides participants' comments on classroom interaction and communication in large class size and high TLR may affect teaching and learning in ECECs. Eight (8) participants commented on this theme. The participants' narration was presented below. Participant-12 stressed that *“In large class it will be very difficult to know all the pre-schoolers especially their social and psychological challenges individually”*. The participant further added that during lessons teachers are unable to socially interact with all the pre-schoolers and attend to their needs when performing activities. Under normal circumstances teachers should be able to know all the pre-schoolers so that he/she can adapt or develop learning strategies or intervention strategies to cater for their needs (Participant-12). Participant-2 also added:

“Large class size and high teacher-learner ratio affect teaching and learning because it will be impossible to interact with all the pre-schoolers in classroom. Again, interacting with pre-schoolers will help you the class teacher to know about their performance and without interacting with the pre-schoolers, identifying each pre-schoolers' needs and addressing them will be very difficult”.

Participant-7 commented that *“maintaining effective teacher-pre-schooler interaction in large class size and a class with high TLR may be difficult. In such classroom setting,*

teachers may unconsciously interact with pre-schoolers who pay attention and contribute to activities in classroom”.

Participant-3, also added:

“Imagine if you are supervising over 50 pre-schoolers in classroom where you are solely responsible for catering for their needs, coupled with teaching. Please I bet you, it will be very difficult to pay attention to all classroom activities. Issues like preventing them from danger, feeding, health and maintaining discipline to ensure effective teaching cannot be attended to at all times”.

On the contrary, Participant-1 said that *“I do well by discussing every instruction or expected outcome with the pre-schooler before I asked them to start any activities in classroom”.* Participant-6 confirms that *“although, it is not easy to communicate with all the pre-schoolers in classroom, but I manage to care and accept their views when they confront me for help”.*

Participant-8 said that *“I am not deterred by the class size but I make sure they understand what I communicate to them during instructional period before I proceed to the next topic”* Participant-10, added that *“even though communicating with all the pre-schoolers is difficult however, I always stand in front of the classroom gate in morning to welcome them before I start the lesson”.*

4.3.1.4.3 Non-instructional task

The following responses show how non-instructional task influence teaching and learning in classroom where there was large class size and high TLR. Four (4) participants’ responses to this theme.

“The longer period for break distracts teaching and learning because when they come from break, they become tired and lack concentration for the next instructional activities” (Participant-5). However, another participant from private ECEC, asserted that they have three (3) session a day for instructional activities but stated one wouldn’t

believe that time spent on feeding or taking their meal or snack takes more than 2 hours (Participant-11).

Interviewer: so, madam! Are you able to complete three (3) instructional periods for the day? Participant-11 stated that they weren't able to complete three instructional periods a day because one can't rush pre-schooler through the activities. Even to understand one activity, it takes more than three (3) weeks to understand the concept.

In addition, Participant-4, confirm that *"time spent for managing class and unconventional asking of permission to visit the toilet or urinal takes most of the time allocated for teaching"*. Another respondent also agreed that other activities spent on siesta or sleeping added to the disruption of teaching activities taking away two hours a day (Participant-9A).

4.3.1.5 Preschool teachers' self-efficacy beliefs in managing pre-schoolers in large size classes

The fourth research question was to identify how preschool teacher's self-efficacy belief may help them manage pre-schoolers in large class. The following question was asked: How does your self-efficacy belief ensure classroom management? Participants had to be probed on this question. Below are the participants' responses to this theme.

Participant-2 said that with good self-efficacy belief, he has been able to design instruction practiced where methodologies are used to calm pre-schoolers down, when they are emotionally or psychologically disturbed either from the situation from the house or classroom. Participant-9 narrate her story:

"Last time, a pre-schooler asked me if I fight with my husband in the house? Without knowing the situation or the reason why the pre-schooler was asking that question, I quickly said Yes! To calm her down. I further asked the pre-schooler why! She was asking that question? She said that yesterday his father was fighting with her mother. I believe my

answer relief that pre-schooler from any psychological or emotional distress she was feeling to ensure smooth academic duties”.

Participant-8 said that *“I vary my classroom management strategies for not being strict all the time”*. Participant-8 suggested that she used either positive or negative reinforcement to manage pre-schoolers in large class size (Participant-8). Participant-6 said that she is Sunday school teacher in church so handling or teaching pre-schoolers is a calling from God and she is always happy to be in the midst of kids. Participant-1 asserted:

“I have grouped the pre-schoolers who are very distractive in classroom in two (2) or three (3) groups where group leaders are selected to report those who disturb in the group. This group leaders are changed from time to time to ensure that each pre-schooler has the taste of leadership role to play in classroom” (Participant-1).

In addition, Participant-5 said that, *“I have developed a good verbal persuasive way of talking to the pre-schoolers in classroom. I arouse pre-schoolers’ mood by saying something polite that can encourage them to develop high sense of belongingness in classroom.* The respondent further stated that she has put pre-schoolers into groups so any group that put up a good behaviour by not talking or roaming toffees are provided to them for putting up a good behaviour. Participant-9 added that *“she tells pre-schoolers stories wherever classroom is boring”*.

Participant-10 said that he swaps activities in classroom by shifting the activities that involve playing and singing to the afternoon which they enjoy doing most than mathematics because he has realised that in the morning pre-schoolers are very active but around 1:00pm after they have observed their siesta then the classroom becomes boring. Participant-7 asserted that *“she developed her self-efficacy from her mentor when she was employed in 2010”*.

“I realised that she was always motivating and encouraging pre-schoolers in classroom. With this strategy I saw that pre-schoolers developed interest in her and draw closer to her to share any challenge

they encounter. It will shock you that those who graduate from kindergarten one (1) to kindergarten two (2) was still coming to her when it breaks time” (Participant-7).

In the same vein, Participant-10 and Participant-11 shared similar comment by saying that their mentors during off-campus teaching practice help them to develop the skills to manage pre-schoolers in classroom. Participant-3 *said that being “patient with the pre-schoolers was the key when implementing any alternative teaching strategy in classroom”*. The respondent further stated that paying attention to every bit of pre-schoolers behaviour and not being discriminative when dealing with them is the key to classroom management. Participant-4 said that *“he spends more time with the pre-schoolers by intrinsically motivating them to behave well in classroom”*.

Participant-3 concludes that

“I encourage pre-schoolers who are psychologically and emotionally down by organising or designing activities to build pre-schoolers self-capabilities. By doing this, the pre-schoolers are monitored till the time they gather courage to mingle with their peers. I adapted this strategy because I believe that if pre-schoolers are happy in class any decision or mechanism put in place to observe effective classroom management will be followed”.

4.3.1.6 Classroom management strategies used by preschool teachers

This section explains the classroom management strategies used by preschool teachers in ECECs. In this regard, the following question was asked: How do you apply classroom management strategies to ensure discipline and effective teaching delivery? Respondents had to be probed on this question. The participants' comments in this section were in line with acceptance approach, assertive discipline, behaviour modification and business academic approach. The responses on the theme are elaborated below.

4.3.1.6.1 Acceptance approach

Six participants out the twelve responded to this theme. Participants' comments on how they use acceptance approach in classroom are explained. Participant-9 confirm that *"I manage pre-schoolers in classroom by informing them not to be hostile to their classmate and accept each individual in classroom because the Lord tell us to love one another"*. The respondent further said that after morning worship, she explains to them why they should love one another, and she also tells pre-schoolers who disturb in classroom are not sons of God. Participant-7 suggested that *"if the classroom is welcoming and you the class teacher positions yourself well to accept every individual in class. The pre-schoolers will stick to your decision and accept whatever you say in class"*. In the same vein, Participant-3 and Participant-11 believed that if preschool teachers devote their time to pre-schoolers needs, they will be able to accept them. Participant-4 also added that *"providing good attention to each pre-schooler and ensure that their needs are care for at all times is the good way of managing pre-schoolers in large class size"*.

Participant-5 confirmed:

"I ensure a calm and warm atmosphere in classroom where pre-schoolers are free to asked questions. I believe that creating this enabling environment in classroom will help me institute a good measure to ensure effective classroom management that will enhance teaching and learning".

Participant-10 said that the children are very observant if you respect their existence in classroom by politely talking to them and accepting their views, they behave well in classroom. Finally, Participant-1 mentioned that caring for pre-schoolers and making sure those who disturb in classroom sit closer to my desk help her to have full control in the classroom.

4.3.1.6.2 Assertive discipline

The section explains participants view on how assertive discipline was used to manage pre-schoolers in the classroom. On this theme only three (3) participants attested that they used this strategy in classroom Participant-6 and Participant-10 both agreed that they have established rules in classroom that govern our activities in classroom, but they hardly follow it because I see that praising and giving immediate feedback to pre-schooler, it helped me maintain discipline in classroom. The Participant-6 further asserted that

“She is a bit soft and firm when dealing with the pre-schoolers because if you are too soft to them, they tend to misbehave, and if you are too firm too, they will be afraid to confront you when they are experiencing some challenges” (Participant-6).

On the contrary, Participant-12 said that *“most pre-schoolers are afraid when you scared them with cane. I always placed the cane on my desk to scare them from talking and misbehaving in classroom. This procedure has helped me manage and also established discipline in the classroom”.*

4.3.1.6.3 Behaviour modification

This section explains participants' comment on how behaviour modification was used to manage pre-schoolers in ECECs. Almost the respondents' comment on this theme was based on reinforcement.

Participant-1 said that *“By way of maintaining good and appropriate behaviour in class. I always reward pre-schoolers who behave well on the day or within the week so that others learn from them”.* In the same vein, Participant-2, Participant-3, Participant-4, Participant-9 and Participant-11 suggested that they provide positive feedbacks like smile, nod or clap are given to pre-schoolers who pay attention to classroom activities and not disturbing others in class. Participant-7A asserted:

“For me I have provided two chairs closer to my desk so pre-schoolers who behave well in classroom are asked to sit on it. I always change the person when other pre-schoolers put up good behaviour. This method has helped me to maintain discipline in classroom since they all want to enjoy that seat” (Participant-7).

These participants shared similar view they *verbally praise pre-schoolers who pay attention and follow instruction* (Participant-3 & Participant-8). On the other hand, Participant-1 and Participant-2 tangible rewards are presented to pre-schoolers who behave well in the classroom. Participant-5 also concludes: *“With consistent advice to the kids they have begun to understand what is expected from them”*. The respondent further stated that this strategy has helped him to modify the pre-schoolers’ behaviour.

4.3.1.6.4 Business academic approach

This section explains participants’ comments on how business academic approach was used to manage pre-schoolers in ECECs. Two (2) respondents’ comments on this theme:

Participant-8 said that *“I give more exercise or activities to the pre-schoolers to keep them busy from misbehaving in class. In doing this, I also monitor and provide prompt feedback to the pre-schoolers whenever they are performing the activities”*. In the same vein, Participant-10 added that *“she provides instruction or guideline for pre-schoolers to follow. This prevents them from roaming or disturbing others when drawing or doing any activity in class”*.

4.3.2 Observation data

The section presents observational findings of the study. The results were presented as arranged in (Appendix H). In total, the observational guide had thirty-one (31) questions. The questions were set based on background information, pattern of behaviour exhibited by pre-schoolers and classroom management strategies used by preschool teachers in ECECs. The analysis of observational instrument was done using frequency and counting to assess the aggravate of how pattern of pre-schoolers’

behaviour and classroom management strategies used by preschool teachers. The next section describes how observation was done under various sub-heads.

4.3.2.1 Background of observational information

This section provides a summary of background of observational information. The observation guide highlighted on: beginning time, ending time, content and number of pre-schoolers in class. A vivid account was given about the pattern of behaviour exhibited by pre-schooler and classroom management strategies. The researcher analysed the observational data by counting the number of times the pre-schoolers exhibited such particular behaviour in the classroom. Again, same method was used to analyse teachers' classroom management strategies. Table 4.43 shows background information and the researcher's observable comments on each ECECs visited.

Table 4.43: Background observational information

Time started	Week	Session	Type of ECEC	Content	No of pre-schoolers supervised	No of pre-schoolers in class	Time ended	Researcher's comment
9:00am	1	1	Private1	Counting	16	35	2:30pm	Reinforcement and shaping were frequently used by teachers to ensure pre-schoolers exhibiting good terminal behaviour.
9:30am		2	Private1	Identification of words and spelling	16	35	3:00pm	
9:11am	2	1	Private 2	Addition of numbers	20	40	2:25pm	Scaffolding and reinforcement during class exercise.
9:20		2	Private 2	Spelling	20	40	2:30pm	
9:30am	3	1	Private 3	Matching and shape	17	37	2:00pm	Posters and materials were display in class to ensure pre-schoolers active learning to discourage disturbance.
9:34am		2	Private 3	Picture description and letters	17	37	2:08pm	
9:00am	4	1	Public 1	Visual discrimination and reading	25	51	2:29pm	Effective communication was provided to reduce pre-schoolers from misbehaving.
9:20am		2	Public 1	Conversation, curves and strokes	25	51	2:40pm	
9:30am	5	1	Public 2	Drawing and reading	40	40	2:05pm	Posters and other material to enhance teaching and learning were not present. Less time for classroom interaction. Attention for pre-schoolers were not effective.
9:05		2	Public 2	Language activities	40	40	2:24pm	
9:12	6	1	Public 3	Storytelling and spelling	30	61	2:03pm	Individual attention for pre-schoolers was good. The preschool teacher reinforces to pre-schoolers pay attention to instructional activities.
9:20		2	Public 3	Counting number	30	61	2:12pm	

Source: Field observation, Kissi-Abrokwa (2021)

4.3.2.2 Patterns of behaviour exhibited by pre-schoolers in classroom

This section presents observation information on the patterns of behaviour exhibited by pre-schoolers in classroom. With respect to this section, the researcher decided to make in-depth assessment on “how often” “sometime” and “not at all” to find how frequent pre-schoolers exhibit such behaviours in classroom. The responses from this section were cited from five (5) themes. These are disrespecting teachers, verbal aggression, physical aggression, talking out of turn and out of seat behaviour. Table 4.44 presents the observation of patterns of behaviour exhibited by pre-schoolers in large class size.

Table 4.44: Observation of pattern of behaviour exhibited by pre-schoolers in large class size

Statement	Public ECEC-1	Public ECECs-2	Public ECEC-3	Private ECEC-1	Private ECEC-2	Private ECEC-3
Sleeping during lessons.	48(24.6%)	31(15.5%)	43(21.5%)	23(11.5%)	28(14%)	27(13.5%)
Frequent asking of questions.	19(11.7%)	28(17.2%)	18(11.0%)	41(25.2%)	20(12.3%)	37(22.7%)
Leaving class without permission.	30(19.7%)	45(29.6%)	29(19.1%)	15(9.9%)	12(7.9%)	21(13.8%)
Punching, pinching, kicking and fighting.	31(21.8%)	19(13.4%)	25(17.6%)	29(20.4%)	16(11.3%)	22(15.5%)
Laughing and teasing at peers.	15(11.0%)	24(17.6%)	47(34.6%)	21(15.4%)	11(8.1%)	18(13.2%)
Calling out names during lesson.	31(26.5%)	21(17.9%)	8(6.8%)	16(13.7%)	22(18.8%)	19(16.2%)
Unconventional usage of TLM's.	5(4.5%)	2(1.8%)	8(7.2%)	46(41.4%)	27(24.3%)	23(20.7%)
Changing seats and wandering around.	14(13.1%)	12(11.2%)	19(17.8%)	32(29.9%)	19(17.8%)	11(10.3)
Speaking foul language.	25(31.6%)	13(16.5%)	10(12.7%)	9(11.4%)	4(5.1%)	18(22.8%)
Irrelevant drawing.	9(12.5%)	16(22.2%)	7(9.7%)	16(22.2%)	20(27.7%)	4(5.5%)
Rudeness/talking back/arguing with teacher.	6(8.6%)	14(20.0%)	18(25.7%)	12(17.1%)	18(25.7%)	2(2.9%)
Shouting, disobeying/refusing to carry out instructions.	12(18.5%)	18(27.7%)	10(15.4%)	11(16.9%)	6(9.2%)	8(12.3%)

Source: Field observation, Kissi-Abrokwa (2021)

Table 4.44 shows that pattern of behaviour exhibited by pre-schoolers in large class size. The observation was done in six (6) ECECs within Cape Coast, Kumasi and Tamale metropolises. Table 4.44 shows that “sleeping during lesson” was the most frequent pattern of behaviour exhibited by pre-schoolers in public ECECs as compared to pre-schoolers in private ECECs. During observations in public ECECs the researcher recorded the percentage as 48 (24.6%), 31 (15.5%) and 43(21.5%) respectively while 23 (11.5%), 28(14%) and 27 (13.5%) for private ECECs. Moreover, on children “frequent asking of questions” the researcher recorded a total count of (163) times. On this theme, pre-schoolers in private ECECs exhibited this behaviour with 41(25.2%), 20(12.3%) and 37(22.7%) as against 19(11.7%), 28(17.2%) and 18(11.0%) counted from public ECECs.

Furthermore, on pre-schoolers “leaving class without permission” scored (152 counts) where public ECECs recorded highest marks 30(19.7%), 45(29.6%) and 29(19.1%) than the private ECECs with 15(9.9%), 12(7.9%) and 21(13.8%). Again, Table 4.44 recorded frequency and percentage score of 31(21.8%),19(13.4%) and 25(17.6%) for public ECECs while private ECECs was 29(20.4%), 16(11.3%) and 22(15.5%) representing punching and fighting exhibited by pre-schoolers in large class size. From Table 4.44, laughing and teasing at peers recorded a total count of (136). This behaviour was frequently exhibited by pre-schoolers in public ECECs than their peer in the private ECECs. the observation in public ECECs scored 15(11.0%), 24(17.6%) and 47(34.6%) while 21(15.4%),11(8.1%) and 18(13.2%) was recorded from private ECECs.

Table 4.44 shows that pre-schoolers found in public ECECs were exhibiting “calling out colleague’s names during lesson” as compared to pre-schoolers found in private ECECs. The theme recorded a frequency and percentage of 31(26.5%), 21(17.9%) and 8(6.8%) for public ECECs while 16(13.7%), 22(18.8%) and 19(16.2%) were recorded from private ECECs. On “unconventional usage of TLM’s” pre-schoolers in private ECECs were found exhibiting such behavior more than their colleagues found in public ECECs. From this theme, a total of (111 counts) where 5(4.5%), 2(1.8%) and 8(7.2%) were recorded from public ECECs while 46(41.4%), 27(24.3%) and 23(20.7%) were also recorded from private ECECs.

Table 4.44 shows that “changing seat and wandering around” recorded (107 counts) where pre-schoolers found in private ECECs exhibited this behaviour as compared to their counterparts in public ECECs. The theme “changing seat and wandering around” recorded a frequency and percentage of 14(13.1%), 12(11.2%) and 19(17.8%) for public ECECs while 32(29.9%), 19(17.8%) and 11(10.3%) was recorded from private ECECs respectively. Again, Table 4.44 shows that “speaking foul language” was more dominant in public ECECs than in private ECECs with the total score of 79 counts where 25(31.6%), 13(16.5%) and 10(12.7%) were recorded from public ECECs and 9(11.4%), 4(5.1%) and 18(22.8%) were also recorded from private ECECs.

Table 4.44 shows that “irrelevant drawing” recorded 72 counts where pre-schoolers in private ECECs dominated with this behaviour more than public ECECs where 9(12.5%), 16(22.2%) and 7(9.7%) were scores from private ECECs as compared to 16(22.2%), 20(27.7%) and 4(5.5%) which were recorded from public ECECs. These themes “rudeness/talking back/arguing with teachers” and “shouting, disobeying/refusing to carry out instructions” found in Table 4.44 were more exhibited in public ECECs as compared to private ECECs. These themes recorded a total count of 70 and 65 respectively. Sub-section 4.3.2.3 explains the classroom management strategies observed by the researcher in the six (6) ECECs

4.3.2.3 Classroom management strategies

This section presents observation information on classroom management strategies used in early childhood education centres. The assessment observed (1) “how often” (2) “sometime” and (3) “not at all” to determine how frequently preschool teachers used classroom management strategies to manage pre-schoolers in class. These strategies were drawn from assertive discipline, behaviour modification, acceptance approach and business academic approach. Table 4.45 shows the classroom management strategies used in classroom by preschool teachers.

Table 4.45: Observation of classroom management strategies used in classroom

Statement	Public ECECs			Private ECECs		
	1	2	3	1	2	3
Positive reinforcement	16(13.75)	21(17.9%)	8(6.8%)	31(26.65%)	22(18.8%)	19(16.2%)
Respect the dignity and worth of every pre-schooler to avoid discrimination	9(11.4%)	17(21.5%)	11(13.9%)	21(26.6%)	12(15.2%)	9(11.4%)
Given clear instructions to every classroom activity to prevent disturbance	6(7.7%)	12(15.4%)	10(12.8%)	17(21.8%)	11(14.1%)	22(28.2%)
Giving them attention and accepting their individual differences	2(2.7%)	6(8.0%)	9(12.0%)	23(30.7%)	18(24.0%)	17(22.7%)
Making pre-schoolers feel accepted	13(24.5%)	1(1.8%)	4(7.5%)	11(20.8%)	5(9.4%)	19(35.8)
Given exercise to prevent disturbance	3(6.3%)	4(8.3%)	5(10.4%)	11(22.9%)	13(27.1%)	12(25.0%)
Given prompt feedback	1(2.4%)	4(9.5%)	3(7.1%)	10(23.8%)	9(21.4%)	15(35.7)
Shaping pre-schoolers still they						

perform terminal behaviour	2(7.1%)	1(3.6%)	3(10.7%)	5(17.9%)	10(35.7%)	8(28.6%)
Implement rules and regulations to prevent pre-schoolers from misbehaving in classroom	3(14.3%)	2(9.5%)	1(4.8%)	6(28.6%)	6(28.6%)	3(14.3%)
Posters on the wall to serve as preventive measures	2(11.8%)	1(5.9%)	1(5.9%)	4(23.5%)	3(17.6%)	6(35.3)

Source: Field observation, Kissi-Abrokwah (2021)

Table 4.45 shows observation of classroom management strategies used by preschool teachers in ECECs. The observation was based on ten (10) behavioural strategies from six (6) ECECs within Cape Coast, Kumasi and Tamale metropolises. The first strategy that was frequently used by preschool teachers to maintain good classroom management in ECECs was on positive reinforcement. The strategy recorded a total count of 117 where preschool teachers found in the private ECECs were practicing positive reinforcement than their colleagues found in public ECECs. From the analysis public ECECs recorded 16(13.75), 21(17.9%) and 8(6.8%) while 31(26.65%), 22(18.8%) and 19(16.2%) were also recorded from private ECECs. However, on “respecting the dignity and worth of every pre-schooler to avoid discrimination” Table 4.45 shows that, it was more frequently exhibited by preschool teachers in private ECECs than their colleagues in public ECECs. The strategy recorded frequency and percentage of 9(11.4%), 17(21.5%) and 11(13.9%) for public ECECs while 21(26.6%), 12(15.2%) and 9(11.4%) were recorded from private ECECs.

The strategy on “giving clear instructions to every classroom activity to prevent disturbance” recorded a total count of 78. The analysis on Table 4.45 shows that preschool teachers in private ECECs were practicing this classroom management strategy far more than their colleagues in public ECECs. This theme recorded 17(21.8%), 11(14.1%) and 22(28.2%) for private ECECs and 6(7.7%), 12(15.4%) and 10(12.8%) were also recorded from public ECECs. Again, Table 4.45 shows that “giving them attention and accepting their individual differences” recorded a total count of (75). This strategy was highly practiced by preschool teachers in private ECECs than their colleagues found in public ECECs. The theme recorded 23(30.7%),18(24.0%) and 17(22.7%) for private ECECs and 2(2.7%), 6(8.0%) and 9(12.0%) were also recorded from public ECECs.

Furthermore, on “making pre-schoolers feel accepted” the researcher discovered that private ECEC teachers were practicing this theme 53 times more than teachers in public ECECs. Whereas “given exercise to prevent disturbance” and “given prompt feedback” recorded (48 and 42 count) respectively. Again, on these themes, private ECECs preschool teachers were practicing these strategies in classroom more than their colleagues in public ECECs. Table 4.45 recorded (28 counts) representing

“shaping pre-schoolers still they perform terminal behaviour” as classroom management strategy used by preschool teachers. From the analysis, 2(7.1%), 1(3.6%) and 3(10.7%) were recorded from public ECECs while 5(17.9%), 10(35.7%) and 8(28.6%) were also recorded from private ECECs.

Table 4.45 shows that “implement rules and regulations to prevent pre-schoolers from misbehaving in classroom” recorded 3(14.3%), 2(9.5%) and 1(4.8%) for public ECECs while 6(28.6%), 6(28.6%) and 3(14.3%) were also recorded from private ECECs. Lastly, Table 4.45 shows that “posters on the wall to serve as preventive measures” recorded 2(11.8%), 1(5.9%) and 1(5.9%) were recorded from the public ECECs while 4(23.5%), 3(17.6%) and 6(35.3) were also recorded from private ECECs. The next section presents evaluation of observational phase.

4.3.2.4 Evaluation of observational data

From the background of respondents on the observation phase. The researcher observes that five (5) out of six (6) ECECs visited had two (2) preschool teachers each in classroom. However, public ECEC-2 was the only school visited with one teacher in the classroom. Due to the fact the class was above forty (40) pre-schoolers, the teacher had a problem of managing and interacting with pre-schoolers in classroom to ensure effective delivery of teaching. Again, attention from the teacher to the pre-schoolers was minimal since they could not shout in classroom but always frightened them with cane as a means of ensuring them to keep quiet in classroom.

With respect to comparing public and private ECECs, it was observed that private ECECs head teachers were proactive in supervising teachers and inspecting their lesson notes than what the researcher observed from the public ECECs. However, with respect to class size and the number of pre-schoolers supervised, the background data shows that private ECECs recorded a smaller class size than public ECECs. Again, preschool teachers in private ECECs were supervising small number of pre-schoolers than what was observed in public ECECs.

The researcher observes that the pre-schoolers in private ECECs were present and regular in school attendance. The punctuality of the pre-schoolers found in private

ECECs helped the preschool teachers in their instructional activities. At the public ECECs, pre-schoolers were not always present, and it affected preschool teachers' instructional activities of completing lesson notes on time. The researcher realised that this challenge affected the preschool teachers found in public ECECs to finish their lesson note on time and introduction of new topics in the lesson notes.

Observation from Table 4.44 revealed that more negative patterns of behaviour were exhibited in public ECECs than private ECECs. For instance, behaviours like sleeping during lessons, leaving class without permission, punching and fighting, laughing and teasing at peers, speaking foul language and disobeying/refusing to carry out instructions were highly exhibited in public ECECs. The large class size found in public ECECs affected preschool teachers' ability to teach and supervise pre-schoolers. This also affected preschool teacher's ability to socially interact with the pre-schoolers, perform scaffolding and zone of proximal development in classroom.

In private ECECs, where classes were smaller, preschool teachers had time to supervise pre-schoolers. They had time to socially interact with the pre-schoolers, there were little difficulties with scaffold and performing zonal of proximal development. For instance, a behaviour like frequently asking of questions to understand concepts during instructional activities were highly practiced. However, unconventional usage of TLM's was exhibited because private ECECs have the TLMs to support teaching delivery than what was found in public ECECs. Pre-schoolers in private ECECs had access to the usage of TLM's for practical.

Table 4.45 shows that preschool teachers in private ECECs were more proactive when it comes to classroom management than those in private ECECs. For instance, strategies like positive reinforcement, respect the dignity and worth of every pre-schooler to avoid discrimination, giving them attention and accepting their individual differences, giving exercise to prevent disturbance, giving prompt feedback and shaping pre-schoolers till they perform terminal behaviour were more exhibited in class. The researcher observes that these classroom management strategies were effectively practiced because preschool teachers were teaching smaller class size and supervising smaller number of pre-schoolers so managing them or giving them attention was not a challenge. However, due to large class size and large TLR in public

ECECs, preschool teachers found it difficult to frequently use some classroom management strategies in classroom.

Finally, the researcher observes that the over-crowded nature of some ECECs visited made the preschool teachers less effective to manage and handle pre-schoolers in classroom. There was delay in feedback in class exercise and assignment because teachers were lazy in marking scripts, interact with pre-schoolers when performing activities and scaffold during class exercise were less effective in some public ECECs. The next section presents the summary of qualitative data of the study.

4.3.3 Summary of qualitative data

In this chapter, the researcher presented the respondents' interview responses and observation made by the researcher. The qualitative data was grouped in two (2) phases. The first phase was the analysis of interview data while second phase represented the analysis of observational data. From the interview phase, the researcher started coding and sorting respondent's data from transcription made during the interview sessions. Again, anonymity was observed by using respondents' schools and location as a form of identity of the participants. The themes used in this study was linked to the research questions found in sub-section 1.3.2. The second section from the qualitative data was how the researcher analysed the observational data. On this observational phase, the researcher was interested in the pattern of behaviour exhibited by pre-schoolers in classroom and classroom management strategies used by preschool teachers in ECECs. From the observation phase, the researcher counted a number of times pre-schoolers exhibited certain behaviour. Again, the researcher counted the number of times specific classroom management strategies were used in classroom. The next section presents comparative analysis of quantitative and qualitative data of the study.

4.4 COMPARATIVE ANALYSIS OF QUANTITATIVE AND QUALITATIVE DATA

This section presents the comparative analysis of quantitative and qualitative data. As previously discussed in sub-section 3.4.1 the choice of design used by the researcher was concurrent triangulation mixed-method. This design ensures that the researcher collects and analysed both quantitative and qualitative data simultaneously and

merged the data to compare and construct how the weaknesses of one phase strengthen the other phase (Creswell & Creswell, 2018). The comparative analysis was done by using the data obtained from questionnaire, interview and observational guide. For ease of assessment, the researcher presented the analysis into six (6) theme areas. The areas are as follows:

- Sociodemographic profile of respondents
- Patterns of behaviour exhibited by pre-schoolers in classroom
- Challenges teachers faced in handling pre-schoolers in large class
- Influence of large class size and TLR on teaching and learning in early childhood education centres
- Teachers' self-efficacy belief in managing pre-schoolers in large class
- Classroom management strategies used in early childhood education centres

4.4.1 Sociodemographic profile of respondents

The sociodemographic profile for respondents during the quantitative phase was grouped into ten (10) areas while qualitative interview phase focused on three (3) areas and seven questions were designed to check the observational information of ECECs. With respect to the study area, both quantitative and qualitative study was conducted within Tamale, Kumasi and Cape Coast Metropolises of Ghana. For the quantitative phase, thirty-six (36) centres were selected which include eighteen (18) public and eighteen (18) private ECECs but for the qualitative phase six (6) ECECs were selected which include three (3) public and three (3) private ECECs. However, the assessment on how ECECs were selected for quantitative and qualitative phase are found in sub-section 3.6.2 in Table 3.5 and Table 3.6 used the purposive sampling technique to select ECECs.

The researcher was unbiased in selecting more females than males. In comparing gender relation for quantitative and qualitative phase, female respondents dominated in the study than males. In the quantitative phase, 192 females and 24 male

respondents were used in the study compared to 10 females and two (2) respondents in the qualitative phase.

For both quantitative and qualitative phase, untrained preschool teachers were more than the trained preschool teachers. This was so because the criterion used in classifying respondents into trained or untrained was that the respondents should have certificate in early childhood education. Data gathered during the observation showed that more respondents have degree or diploma, but their course area was related to primary education and not early childhood education.

With respect to the age category, it was considered in the quantitative phase but on the qualitative phase, participants' ages were not part of the category used for selection. The quantitative data shows that the bulk of respondents' ages fall within 31 to 40 years bracket while 61 years and above were the least used in the study. In both quantitative and qualitative data, respondents who held diplomas in either early childhood education or primary education were more than those respondents who had certificates, degrees and master/PhD.

Another category class size and TLR was used in selecting respondents for both quantitative and qualitative phase. In the quantitative phase, it was observed that the class size between 41-50 were dominated among all the classes and preschool teachers who were supervising more than 45 pre-schoolers in classroom also dominated among Teacher to learner ratio. Again, the observation was done using ECECs which have more pre-schoolers in classroom. With regard to experience, it was considered in the quantitative phase but not in the qualitative phase. The next section was on comparative analysis of behavioural pattern exhibited by pre-schoolers in classroom.

4.4.2 Patterns of behaviour exhibited by pre-schoolers in classroom

Considering the quantitative and qualitative phase under pattern of behaviour exhibited by pre-schoolers in large class size the analysis shows that respondents were critically observing pre-schoolers' behaviour in classroom. The respondents interviewed at the qualitative phase highlighted almost all the issues cited at the

quantitative phase. However, a personal observation by the researcher also confirms how frequently pre-schoolers were exhibiting a particular behavioural style other than what was found in the qualitative phase.

On issues of out of seat behaviour exhibited by pre-schoolers in large class size. It was highly recorded in the quantitative phase and qualitative observation phase. But it was the least behavioural pattern commented by respondents when interviewed. The analysis found at the interview phase shows that all respondents commented on out of seat behaviour, but their point was not much highlighted. The reference to sub-section 4.3.1.2.5 shows respondents' comments on out of seat behaviour.

In the same vein, physical aggression was highly recorded in the quantitative phase and observational qualitative than what respondents commented on during the interview phase. Just like the out of seat behaviour, with physical aggression, respondents' comments were similarly related. For instance, respondents' comments were on teasing, mocking, fighting and laughing were behaviours that resulted in physical aggression.

However, respondents' assertion on verbal aggression was frequently exhibited in the quantitative phase as well as the qualitative phase. From the qualitative perspective almost all the respondents made mention of or narrated how insults or name calling was frequently used by pre-schoolers in classroom. Again, from ECECs visited, the researcher personally observes how pre-schoolers found in public ECECs were insulting and teasing their colleagues in classroom.

With respect to talking out of turns, it was highly responded in both quantitative and qualitative phase. On this theme both quantitative and qualitative phase highlighted on how pre-schoolers used to shout when answering questions in classroom and also interfering others when answering questions in classroom. From the observational phase, rudeness/talking back/arguing with teacher were highly exhibited by pre-schoolers ECECs than their colleagues found at the private ECECs.

The last of behavioural patterns exhibited in classroom was on disrespecting teachers. This behaviour was highly commented by respondents during the interview but from

the observation and quantitative phase, it was the least behavioural pattern exhibited on that section. The subsequent section explains the comparative analysis on challenges preschool teachers faced in handling pre-schoolers in large class size.

4.4.3 Challenges teachers faced in handling pre-schoolers in large classes

The analysis from both quantitative and qualitative phase shows that respondents were facing challenges in handling pre-schoolers in large class size. Ranging from inability to managing class and effectively organise exercise and class tests regularly were all frequent challenges experienced by preschool teachers in large class size.

From the assertion on the qualitative phase, respondents commented on how large class size was affecting their ability to organise class test regularly and management of pre-schoolers in classroom. However, both analyses confirm how inadequate teaching and learning materials are affecting their teaching delivery in ECECs. Citation from Participant-3 shows that the number of pre-schoolers has outnumbered the TLMs used in classroom and Participant-11 said that common chairs for teachers have not been provided, how much more TLMs like toys, counters and sticks to aid teaching and learning.

However, both quantitative and qualitative data shows that due to large class size, preschool teachers were having challenges in paying attention to each pre-schooler in classroom. On this theme, respondents suggested that giving attention to pre-schoolers needs was done in groups rather than focusing on single individual. This method was used by preschool teachers because they perceive pre-schoolers to be attention seekers and in large class size, it was difficult to pay attention to single individual.

To affirm the comments made by respondents on challenges they experience when handling pre-schoolers in large class size. A hypothesis was set to check if there was a positive relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt. The result shows that $r = 0.193^{**}$, sig. = 0.004^{**} $p < 0.05$, $n=216$. This means challenges preschool teachers were facing in large class size therefore they were unable to manage pre-schoolers in

classroom. The next section explains the comparative analysis on how large class size and TLR influence teaching and learning in ECECs.

4.4.4 Influence of large class size and TLR on teaching and learning in early childhood education centres

The analysis of this section shows that both large class size and TLR have influence on how teaching and learning are being mediated at ECECs. The analysis from both quantitative and qualitative data shows how classroom discipline, non-instructional task, classroom interaction and communication affect teaching and learning in the presence of large class size and TLR in early childhood education classroom.

The analysis found in Table 4.13 shows that large class size and TLR was affecting how preschool teachers were able to interact and communicate effectively to pre-schoolers in large class size. The findings from both analyses shows that respondents found it difficult to interact and communicate with pre-schoolers in large class size. For instance, respondents suggested that supervising over 50 pre-schoolers, teaching, feeding and maintaining discipline makes it difficult to hold the attention of each pre-schooler in classroom. The data also suggested that it was impossible to communicate to over 50 pre-schoolers in classroom to understand their needs on issues related to nutrition, hygiene, health, physical and emotional wellbeing of every pre-schooler in classroom. However, the data shows that respondents were unconsciously interacting with pre-schoolers who pay attention and contribute to activities in classroom.

Both on the analysis from both quantitative and qualitative research conducted, it can be stated that large class size and TLR was affecting how preschool teachers were able to manage effective classroom discipline in ECECs. The respondents reported how their duties were burdensome because they could not attend to two events simultaneously without being disrupted by pre-schoolers. The data confirms that pre-schoolers who pay attention were always being distracted by others by punching, kicking and hitting their peers while lesson was on-going. In the same vein, both data show that respondents were unable to consistently set strict rules or enforce classroom rule and procedure to ensure discipline because the pre-schoolers were miniature adults.

Lastly, both quantitative and qualitative findings show that large class size and TLR was affecting how preschool teachers were able to manage non-instructional task in ECECs. The data shows that non-instructional task or activities such as roaming during lesson, observing break for sleeping/siesta and eating affected them to continually perform scaffolding and socially interact with pre-schoolers in classroom. In the same vein, it was emerged that unconventional asking of permission to visit the toilet or urinal takes most of the time allocated for teaching which disrupt activities in classroom.

To confirm the assertion made in both the quantitative and qualitative phase. A hypothesis was drawn to assess if there was a positive strong relationship between influence of class size and TLR on teaching and learning in ECECs and preschool teacher's self-efficacy belief to manage pre-schoolers in large class size. The analysis shows that $r = 0.653^{**}$, sig. = 0.000^{**} $p < 0.05$, $n=216$. The two variables (influence of class size and TLR and Self efficacy belief) share a variance of 0.653 (65.3%). The finding means influence of class size and TLR on teaching and learning in ECECs correlate with teacher's self-efficacy belief in managing pre-schoolers in large class size. The next section explains the comparative analysis on how preschool teachers' self-efficacy belief helps them in managing pre-schoolers in large class size.

4.4.5 Teachers' self-efficacy belief in managing pre-schoolers in large class

On issues of how teacher's self-efficacy belief helps them to manage pre-schoolers in large class size both quantitative and qualitative findings confirm that preschool teachers with high or good self-efficacy belief were able to formulate strategies that assisted them in calming or managing pre-schoolers in classroom.

The data also shows that respondent's ability to communicate expected behaviour, paying attention to every bit of pre-schoolers behaviour and not being discriminative in dealing with pre-schoolers help them to manage pre-schoolers in large class size. In the same vein, respondents attested to the fact that their off-campus teaching practice or mentorship helped them to acquire the needed skill for classroom management and motivational style to reinforce pre-schoolers who show low interest in instructional activities.

The findings show that respondents were able to implement alternative strategies of grouping pre-schoolers in classroom where leaders are selected to represent each group. Again, the data shows that good verbal persuasive words were used to arouse pre-schoolers mood when they put up good behaviour in classroom. This form of self-efficacy belief helps them to manage pre-schoolers in large class size.

By way of ensuring how preschool teachers self-efficacy belief helps them in managing pre-schoolers in large class size. Two hypotheses were set to test the difference between class size and teacher's self-efficacy belief to manage pre-schoolers in large class. Again, another hypothesis was set to test difference between trained and untrained preschool teachers concerning self-efficacy belief to manage pre-schoolers in large class size.

One-way analysis of variance (ANOVA) was used to check the difference that existed between class size and preschool teacher's self-efficacy belief. The Post-Hoc test shows there was significant differences between class size and preschool teachers' self-efficacy belief in managing pre-schoolers. For instance, the difference between class size (20-30 and 31-40), (20-30 and 41-50), (20-30 and 51 above), (31-40 and 41-50) and (51 above and 41-50) were significant to the p-value of (0.000*). On the contrary, the independent sample T-test results for checking the difference between trained and untrained preschool teachers concerning self-efficacy belief to manage pre-schoolers in large class size. Reported no significant difference in scores for trained teachers (M=29.00, SD=4.85) and untrained teachers (M=27.67, SD=5.21; $t(1.882) = 3.240, p = .05$, two-tailed). The next section explains the comparative analysis of classroom management strategies used by preschool teachers in ECECs.

4.4.6 Classroom management strategies used in early childhood education centres

The analysis found on classroom management strategies for both quantitative and qualitative data shows that behaviour modification, assertive approach, acceptance approach and business academic approach were frequently used by preschool teachers in ECECs. Concerning behaviour modification as classroom management strategy, almost all the respondents attested to the fact that they used this strategy to

help pre-schoolers in ECECs. Again, it was highly recorded in both quantitative and qualitative phase that behaviour modification strategy such as reinforcement and shaping were used to manage pre-schoolers behaviour in large class size. To confirm this statement, comments made by respondents in sub-section 4.3.1.6.3 and Table 4.45 shows that reinforcement as behaviour modification approach was highly used by preschool teachers. For instance, respondents said that verbal praise, smile, nod and clap were often used for pre-schooler to behave well in classroom.

In the same vein, assertive approach was highly recorded in both quantitative and qualitative phase. Respondents commended that they have implemented rules and posted images on the classroom walls that serve as preventive measures for pre-schoolers. However, other respondents suggested that they give clear instructions to pre-schoolers on how to do some classroom activities. The analysis also confirmed that some preschool teachers were placing cane on their table to scare pre-schoolers from misbehaving in classroom. From the observational analysis done in Table 4.45, the researcher could testify that private ECEC teachers were practicing assertive approach than their colleagues found in the public ECECs.

However, assertions from both quantitative and qualitative data clearly show that acceptance approach used in respecting the dignity and worth of every pre-schooler was highly practiced in ECECs. Again, the data show that respondents accepted every pre-schooler without discrimination. From the analysis of this strategy, preschool teachers in the private ECECs were exhibiting it effectively in classroom than their colleagues in the public ECECs.

The analysis on both quantitative and qualitative phase shows that business academic approach recorded the least value. Highlighting this strategy, respondents asserted that keeping pre-schoolers busy by giving them exercise or activities to do in classroom prevented them from misbehaving. In the same vein, the data shows that monitoring pre-schoolers' activities or exercise by giving them prompt feedback also prevented pre-schoolers from disturbing in classroom. However, the data from the observational phase shows that private ECECs was practicing the business academic strategy than public ECECs.

With respect to classroom management strategies used by preschool teachers in large class size. Four hypotheses were set to confirm or disconfirm respondents' assertion. However, hypothesis 1, 2 and 3 were analysed using ANOVA while hypothesis 4 was analysed using independent sample T-test. On hypothesis 1, ANOVA was used to check difference between preschool teachers' experience and classroom management strategies. The analysis of Post-Hoc test shows there was a difference between preschool teachers work experiences and their classroom management strategies. However, work experience less than 5 years and 6-10 years, with mean difference and standard error of (MD=4.743*, SR= .734) with a sig value of 0.000* (2-tailed) were significant.

On Hypothesis 2, the analysis of ANOVA results confirms that "There was a significant difference between the educational level of preschool teachers and classroom management strategies". Table 4.26 shows that there was significant difference between educational level of preschool teachers with (Certificate A and Diploma), (Certificate A and master/PHD), (Diploma and Masters/PHD), (First degree and Certificate A) and (First degree and Master/PHD). However, Table 4.31 also shows that there was a significant difference between TLR (1:15-1:30), (1:15 - 1:45), (1:15-1:45above), (1:30-1:45 above) and (1:45-1:45above) which recorded at $p=.000$ (2-tailed). From this assertion the researcher accepts the alternative hypothesis stated as: "There is a significant difference between TLR and classroom management strategies".

In the same vein, the independent sample T-test results compares the type of ECECs and classroom management strategies. The result found in Table 4.33 shows that there was a significant difference in scores for public ECECs ($M=54.24$, $SD=5.62$) and private ECECs ($M=59.37$, $SD=2.93$; $t(-8.412) = 65.286$, $p = .05$, two-tailed). The next section provides summary of chapter four.

4.5 SUMMARY OF CHAPTER FOUR

In this chapter, the analysis of research findings was done in two (2) phases which involves quantitative and qualitative data analysis. Both research questions and hypothesis were used for the quantitative phase and were analysed using inferential statistics.

The qualitative analysis was done using thematic analysis, counting and frequency. The qualitative analysis was grouped into two (2) phases. The first phase provides thematic analysis for interview data while counting and frequency were used for the observational data. Since, the study was concurrent triangulation mixed method design, a comparative analysis was done to merge quantitative and qualitative data. The comparative analysis as presented in this chapter, thus provides the empirical context on how large class size and TLR affect classroom management in ECECs, and therefore sets the background for discussion of findings found in chapter five.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 INTRODUCTION

This chapter presents the discussion of findings from the quantitative and qualitative phase. Taylor-Powel and Renner (2003) conclude that discussion or interpreting of

findings provides the opportunity for the researcher to add meaning and connection to the already existing themes found in the study. Further, Neuman (2011) asserted that the interpretation of research findings helps the researcher to assign meaning to key findings or concepts. Hart (2018) states that the discussion of findings should be done separately to assist readers to examine how each theme reflect the interpretation made during data analysis.

The underlining purpose of the study was to investigate how large class sizes and TLR affect classroom management in ECECs in Ghana. The procedure for interpreting the data was in line with the research questions stated in (sub-section 1.6.1). The discussion was focused on:

- Sociodemographic profile of respondents
- The pattern of behaviour exhibited by pre-schoolers in classroom
- Challenges teachers faced in handling pre-schoolers in the large class
- Influence of large class size and TLR on teaching and learning in early childhood education centres
- Teachers' self-efficacy belief in managing pre-schoolers in a large class
- Classroom management strategies used in early childhood education centres

In this chapter quantitative and qualitative results were merged as one entity and discussion was done with the support from the literature review found in chapter two (2). For in-depth clarification of the study, the researcher used three (3) instruments for data collection which includes a questionnaire, interview and observation. The next section explains the sociodemographic profile of respondents.

5.2 SOCIODEMOGRAPHIC PROFILE OF RESPONDENTS

The sociodemographic profile examined in the study was on respondents: gender, educational level, number of pre-schoolers in class, number of pre-schoolers supervise by preschool teachers and teaching experience. The descriptions of the sociodemographic profile of respondents help the researcher and readers to understand how the sample was distributed among respondents in their social context.

Again, Nardi (2018) and Plonsky (2017), concluded that interpreting the sociodemographic profile of respondents explains the variables used in the study.

Concerning gender distribution, both quantitative and qualitative findings showed that the majority of the respondents used for the study were females. To confirm the quantitative finding in (Table 4.4) showed that females were the majority with 192(88.9%) while male respondents recorded 24(11.1%). Similarly, at the qualitative phase in sub-section 4.3.1.1 out of 12 respondents interviewed, ten (10) respondents were females while two (2) were males. A study by Torkorny (2019) shows that there were more female kindergarten teachers in the Hohoe municipality as compared to male kindergarten teachers. Again, a primary school mapping report by the Ministry of Education (2018), shows that more female teachers were employed in basic and primary schools than those found in the junior and senior high schools. Again, enrollment statistics from the University of Cape Coast and the University of Education, Winneba show that more female students gain admission to study early childhood education than their male counterpart (University of Cape Coast, 2017, 2018, 2019; University of Education Winneba, 2017, 2018, 2019).

In terms of respondent's educational level found in Table 4.7 and sub-section, 4.3.1.1 respondents with diploma certificate form the majority. Respondents with first degree recorded a value of 62 (28.7%) while two (2) out of twelve (12) respondents interviewed hold a first degree. Again, at the quantitative phase, 52 respondents had teacher Certificate but at the qualitative phase no respondent had teacher Certificate. Six (6) respondents with master's degree answered the questionnaire while one (1) respondent was interviewed had master's degree. Also, only one (1) respondent who had a Doctor of Education degree was interviewed at the qualitative phase. The most dominant course studied among forty-six (46) colleges of education in Ghana was early childhood education and basic education (Colleges of Education Admission Handbook, 2017). This shows that the respondents used in the study were literate and had rudimentary knowledge in handling pre-schoolers in ECECs. In support, Akoto-Baako (2018) studies shows a significant difference between teacher educational level and students' academic performance while Torkorny (2019) report shows no significant difference between the education level and effective classroom management.

The study further revealed that the majority of class size was between 40 – 50 found in Table 4.8 forms the majority while above 51 learners form the minority. However, respondents interviewed reported that their class size was between 42 – 61 pre-schoolers where Tamale metropolis was leading the chart. During the observations the researcher recorded a class size between 35 – 61 pre-schoolers where public ECECs took the lead. The class size found in private ECECs were between 35 – 40 pre-schoolers in the classroom. Ministry of Education (2014) report shows that class size found in public schools were larger than those found in private schools. Despite the large classes Akoto-Baako (2018) revealed that a smaller class size ensures a good psychological classroom environment and also promotes student academic development. Akoto-Baako (2018) and Torkorny (2019), found that in smaller class size teachers were more effective in providing scaffolding and ensuring social interaction with their students.

In terms of TLR, it was recorded that TLR of 1 – 45 with 88(40.7%) was the majority while the minority fall within 1 – 30, 1 – 15 and 1 above 45 respectively. However, in sub-section 4.3.1.1 private and public ECECs in the Tamale metropolis recorded the highest TLR between 30 – 40 while in Cape Coast metropolis private ECECs had TLR between 12-15 and Kumasi metropolis was 30 – 40. Similarly, Table 4.43 found in sub-section 4.3.2.1 shows that preschool teachers were supervising between 16 – 40 pre-schoolers in the classroom. In the observation phase, the researcher realised that most ECECs had two (2) teachers in class so the number of supervising was obtained by dividing the teachers by class size to arrive at the number of pre-schoolers supervised in the classroom. In support, Torkorny (2019) believes that effective classroom supervision helps the teacher to perform scaffolding and social interaction which help to maintain discipline.

With regards to years of experience, it was revealed that respondents with experience between 6-10 years forms the majority with frequency and percentage rate of 126 (58.3%), followed by respondents with less than 5 of years' experience recorded 62(28.7). The respondents with years of experience between 11 – 15 and above 16 recorded 16 (7.4%) and 12 (5.6%) respectively. The qualitative phase in sub-section 4.3.1.1, shows that out of 12 respondents interviewed five (5) reported that they had been teaching for more than ten (10) years while seven (7) confirmed they had

between 4 – 9 years of teaching experience. On average respondents used in the study had more than five (5) years of teaching experience in ECECs. Literature emphasises that teachers with longer years of service were more experienced in ensuring a good psychological classroom environment and managing students well (Akoto-Baako, 2018). In the same vein, Vandenberg's (2012) and Torkornyó (2019) agree on class size and academic achievement and teachers with medium working experience between 10 – 20 years were performing well in the classroom. The next section provides a discussion on the findings on the pattern of behaviour exhibited by pre-schoolers in large class size.

5.3 PATTERNS OF BEHAVIOUR EXHIBITED BY PRE-SCHOOLERS IN LARGE CLASS SIZE

The first research question which highlights the behavioural patterns exhibited by pre-schoolers in large class size. By way of discussing this theme, the literature on the behavioural pattern exhibited by pre-schoolers within the context of ECECs and classroom setting, in general, was critically used to support the findings.

5.3.1 Out of seat behaviour

From the analysis of quantitative data, out of seat behaviour recorded the highest mean value of (M. 3.86, SD=0.34). Changing seats during the lesson was more frequently exhibited by pre-schoolers in a large class. This was followed by “Jumping from one place to another in the classroom and wandering around in the classroom” were also practised in the classroom. The qualitative interview data found in subsection 4.3.1.2.5 indicated that ten respondents out of twelve commented on the fact that “out of seat behaviour” was frequently exhibited by pre-schoolers in ECECs. Participant-2 and Participant-6 concluded that running and walking within the classroom was commonly exhibited by pre-schoolers in large class size in ECECs. Sun and Shek (2012) concluded that wandering around was most exhibited by pre-schoolers in the classroom and teachers complained that it was annoying and hassling when serious instructional demonstration is ongoing as well as pre-schoolers who were playing or doing things in private. In the same vein, Torkornyó's (2019), study on kindergarten teacher's perceptions and uses of classroom management strategies in a kindergarten classroom in the Hohoe municipality, Volta Region with a sample size

of 152 pupils recorded a mean (3.36) and standard deviation (1.16) shows that pre-schoolers were frequently roaming in class while the lesson was ongoing or disturbing colleagues in class. Johnson and Fullwood (2016) also concluded that wandering around was stress-provoking behaviour exhibited by pre-schoolers in the classroom.

Leung and Ho (2011) study showed that disruptive classroom behaviour perceived by Hong Kong kindergarten teachers was a learner frequently leaving the classroom or seat without asking permission from their class teachers. The interviewee further argued that is characteristic of pre-schoolers as they engage more in psycho-motor activities like running and jumping. The suggested ration is 1:12. If a teacher supervises more pre-schoolers but if increased it may be difficult to pay attention to all instructional and non-instructional activities happening within the classroom.

Again, other respondents suggested that roaming and wandering around in the classroom was also predominately exhibited in ECECs (Participant-11 & Participant-12). The observational data shows that “out of seat behaviour” was predominately exhibited more by pre-schoolers in private ECECs than their counterparts found in the public ECECs. During the researcher visit to ECECs, he observes that public ECECs were lack seat or chairs for pre-schoolers to sit on in the classroom. From this assertion, the researcher could conclude that the lack of seat found in the public ECECs could also influence the out of seat behaviour exhibited by them in ECECs.

On the contrary, Frimpong (2018) asserted that private kindergarten schools were more disciplined than public kindergarten schools in terms of paying attention in classroom activities, pre-schoolers were sitting in their rightful place in the classroom and ask permission while visiting their school facilities. In another comparative study by Appiah-Essuman (2019), six (6) sampled ECECs in Effutu Municipality showed that male pre-schoolers were more frequently misbehaved or troublesome in disturbing their peers than female counterparts. Appiah-Essuman (2019) further stated that disruptive behaviour such as wandering around, jumping and out of seat impedes preschool teacher delivery in the classroom. In conclusion, pre-schoolers are in their exploration stage and are full of adventure so managing behaviour such as jumping, out of the seat and wandering around may be difficult to avoid totally in ECECs.

5.3.2 Verbal aggression

Another theme that emerged from the pattern of behaviour exhibited by pre-schoolers in large class size was “verbal aggression”. The analyses from both quantitative and qualitative data shows that verbal aggression was frequently exhibited by pre-schoolers in ECCEs. The quantitative data shown in Table 4.11 recorded the overall mean and standard deviation of ($M=2.97$, $SD=1.19$). This represents a moderate response rate for the pattern of behaviour exhibited by pre-schoolers in ECCEs. The findings from Table 4.11 shows that “verbal aggression” was frequently exhibited by pre-schoolers in large class size followed by “using abusive language and Insulting classmates during the lessons”. In support, observational data found in Table 4.44 show that foul language was also far more highly exhibited by pre-schoolers in public ECECs than their counterpart found in private ECECs. Olson (2012), reported that verbal aggression damage pre-schooler relationships because those who experience such form of abuse like insulting, laughing and teasing lack self-confidence in the classroom when answering questions. Appiah-Essuman (2019) also confirms that abusers of such forms of abuse undermined themselves and have low self-esteem. Appiah-Essuman (2019), further stated that the abusers go a step further of inflicting pain to themselves and others. However, Leung and Ho (2011), confirm that in rural Hong Kong kindergarten centres, attacking and use of foul knowledge was seen as normal among the native Hong Kong children. The reason was that most of the children there were part of mashed-act groups which expose them to attacking and ridiculing their peers in the classroom.

The study further showed a moderate pattern of behaviour exhibited by pre-schoolers in ECECs was on “laughing at peers during the lesson and teasing classmate during the lesson”. In support, participant Participant-7 said that teasing friends when they answer questions incorrectly was predominantly exhibited by pre-schoolers in ECECs. In the same vein, respondent Participant-1 confirms that teasing forms part of behaviour exhibited by pre-schoolers in classroom. Other respondents like Participant-6 and Participant-12 commented that pre-schoolers jokes, laughs, tease and also mock peer openly were all behaviour exhibited by pre-schoolers in the classroom. To confirm this statement, public ECECs recorded 15(11.0%), 24(17.6%) and 47(34.6%) scores while private ECECs also recorded 21(15.4%), 11(8.1%) and 18(13.2%) on

pre-schoolers laughing and teasing peer. Appiah-Essuman (2019) view verbal aggression as the exchange of words or message between two pre-schoolers that inflict psychological pain. A study by Sun and Shek (2012), on “*student classroom misbehaviour: an exploratory study based on teachers’ perceptions*” provided forms of verbal aggression as an insulting classmate, laughing, teasing classmate, maledictions, ridicule, profanity, nonverbal emblems and using offensive language in the classroom which tarnish pre-schoolers self-image.

Participant-3 and Participant-11 confirmed that name-calling and making a comical comment also exhibited by pre-schoolers in the classroom. The observational data found in Table 4.44 shows that “calling out colleague’s names during the lesson” was far more frequently exhibited in public ECECs than private ECECs. From the observational analysis public ECECs scored 31(26.5%), 21(17.9%) and 8(6.8%) while private ECECs also recorded 16(13.7%), 22(18.8%) and 19(16.2%). What is notable it that the researcher observes that this behaviour occurred when pre-schoolers are playing or when they are asked to perform activities in the classroom. Chapell et al., (2014) posit that verbal aggression was more predominant in elementary school. Similarly, Hyman and Snook (2019) concluded that ridicule teasing and calling out names were behaviours found among pre-schoolers of the same age group.

5.3.3 Physical aggression

The analysis from sub-section 4.2.2.1, 4.3.1.2.4 and 4.3.2.2 show that pre-schoolers found in large class size exhibited physical aggression. The analysis shows that pre-schoolers were found biting their peer in the classroom. The biting happens consciously when pre-schoolers are being mock or provoke by their colleagues (Participant-12). However, it was observed that laughing and teasing peers which normally provoked them also lead to biting among pre-schoolers. Appiah-Essuman (2019), concludes that physical aggression such as attacking, kicking, hitting and biting found students was done in the quit for supremacy. A comparative study by Kohli and Malik (2019), showed that male respondents scored higher when it comes to physical aggression than female respondents who recorded a higher score in verbal aggression.

Another physical aggression behaviour exhibited by pre-schoolers was the act of using pencils or objects to pinch peer during lesson or punching peer. Table 4.11 shows that punching during the lesson was frequently exhibited by pre-schoolers in large class size. In support, Participant-5 said that pre-schoolers pinching other with pencils while asleep was normal among pre-schoolers in the classroom. This behaviour normally happens when pre-schoolers are observing “siesta” those cannot sleep exhibited this behaviour to their peers. From the observational phase, punching and pinching was counted more among pre-schoolers from public ECECs with the score 31(21.8%), 19 (13.4%) and 25 (17.6%) whereas 29(20.4%), 16 (11.3%) and 22 (15.5%) was also recorded from private ECECs. Victoria State Government’s (2017) document on education and training shows that violent and unsafe behaviour among pre-schoolers is headbanging, kicking, biting, smashing equipment, punching, fighting and running away from class.

However, kicking peer in the classroom was also a behavioural pattern exhibited by pre-schoolers in large class size in ECECs. Table 4.11 shows that “kicking peer in the classroom” recorded a high response of mean and standard deviation ($M=3.59$, $SD=0.72$). From the qualitative interview data respondent Participant-2, Participant-3, Participant-4, Participant-6, Participant-8 and Participant-11 shared a similar view that kicking and hitting were behaviour exhibited among pre-schoolers in large class size. Sun and Shek (2012), provided forms of physical aggression as biting, hitting, slapping, grabbing and kicking as a behaviour that suppress pre-schoolers’ psychological. Olson (2012), reported that physical aggression had a negative impact on self-confidence while Appiah-Essuman (2019), concluded that physical aggression undermined pre-schoolers self-esteem and self-efficacy. Again, the qualitative observational data from public ECECs recorded 31(21.8%), 19(13.4%) and 25(17.6%). However, 29(20.4%), 16(11.3%) and 22(15.5%) was also recorded from private ECECs. Leung and Ho (2011), confirm that native Hong Kong pre-schoolers like kicking and physical attacking peer due to the “martial arts” environment.

The last behavioural pattern exhibited by pre-schoolers in large class size under “physical aggression” was on hitting peers during the lesson. Although, it was last among the themes under physical aggression, it recorded a high response rate of ($M=3.57$, $SD=0.85$). From qualitative interview data, Participant-2, Participant-3,

Participant-4, Participant-6, Participant-8 and Participant-11 all highlighted that hitting is exhibited by pre-schoolers. This was prevalent because when pre-schoolers answer questions wrongly, other pre-schoolers turn to tease or laugh at them that result in hitting by the fellow who is being teased or laugh at. Again, the qualitative observational data showed no record on hitting by pre-schoolers during the lesson but pinching and fighting which was similar to hitting was recorded 31(21.8%), 19(13.4%) and 25(17.6%) representing public ECECs and 29(20.4%), 16(11.3%) and 22(15.5%) for private ECECs. However, Koffi (2019) concludes that physical aggression exhibited by pre-schoolers are learnt behaviour from the child immediate family or environment they live in. In a large class size mature pre-schooler physical attack, the young ones affect their self-esteem and self-efficacy in the classroom (Hyman, 2017). Heins (2013) explains that in ECECs pre-schoolers physically attack or kick their peer to seek physical or psychological supremacy over them. The next section presents a discussion on talking out in turns as a pattern of behaviour exhibited by pre-schoolers in large class size.

5.3.4 Talking out of turns

The records from both quantitative and qualitative data show that “talking out of turn” as a behavioural pattern exhibited by pre-schoolers in large class size was most frequently found/reported in most ECECs in Ghana. The quantitative data found in (sub-section 4.2.2.1) under Table 4.11 recorded a mean of means value of ($M=3.23$, $SD=1.00$) and the sub-themes found under “talking out of turn” recorded mean value between (3.00-3.45) which represents a high response rate. The first theme was on “pre-schoolers having a disruptive conversation with peers during the lesson”. Respondents suggest that during lesson when preschool teachers are serious or busy teaching, you see several numbers of pre-schoolers discussing something in private or chatting among themselves in the classroom. This behaviour exhibited by pre-schooler affects preschool teachers’ delivery and their ability to concentrate in classroom.

In support of the quantitative data, Participant-8 disclosed that classroom conversation among pre-schoolers is normally loud that disrupt the teaching and learning process in the classroom. The participant further asserted such loud conversation normally

happen when pre-schoolers are given personal time or period to develop or create something that comes to mind. However, other participants suggested that during colouring, tracing and sketching personal conversation or discussion are very loud in the classroom. Again, at the observational phase, it was revealed that pre-schoolers having a disruptive conversation or discussion was also counted under shouting, disobeying or refusing to carry out instruction. Table 4.44 shows that disruptive conversation or discussion was also counted under disobeying or refusing to carry out instruction was predominately found in public ECECs than what was observed in private ECECs. Appiah-Essuman (2019) concluded that disturbing behaviour disrupts teacher's attention in the classroom. A study by Ntim (2019) on student disruptive behaviour, reveal that in order of ranking "talking out of turn" was the second most frequent disruptive behaviour exhibited by students in the classroom.

The next behavioural pattern found under "talking out of turn" was pre-schoolers interfering with others when they are answering questions in the classroom. It was observed that in the classroom when pre-schoolers are asked to explain or describe something, other pre-schoolers normally disrupt or interfered with their answer or conversation when they are not called by the class teacher. This behaviour by pre-schoolers discouraged others from answering questions in the classroom. However, qualitative data found in (sub-section 4.3.1.2.2) reveal that during questions and answers after instructional lesson, pre-schoolers frequently called names which are popular in the class to answer the questions (Participant-9). Participant-9 further said that pre-schoolers even go the step further of pointing figure on their peers to answer the questions. In the same vein, (Participant-1) added that pre-schoolers who names are popular in the mind of their peers are mention or voice in the classroom. It was observed from the observational phase that calling out colleague's names during the lesson was a behaviour exhibited in the classroom. The qualitative observational data from public ECECs recorded 31(26.5%), 21(17.9%) and 8(6.8%) whereas 16(13.7%), 22(18.8%) and 19(16.2%) was also recorded from private ECECs. However, Wearmouth, Richmond, Glynn and Berryman (2014) explained that noise in classroom affect teacher's attention to control or manage pre-schoolers. In support, Ntim (2019) said it annoying to see pupils chatting in classroom when classes are in session. In line with Ntim (2019) respondents in Sun and Shek (2012) said that chatting and personal conversation among pre-schoolers disturb instructional activities.

The other pattern of behaviour under “talking out of turn” was shouting when answering questions in the classroom. On this theme “shouting when answering questions” was found as the third frequent behaviour exhibited under “talking out of turn” recorded ($M=3.20$, $SD=0.99$) from Table 4.11. In the qualitative interview phase, these respondents (Participant-2, Participant-4, Participant-6 & Participant-7) said that pre-schoolers shout in classroom. Respondent Participant-4 added that pre-schoolers shout or cry when pencils or other materials are taken from them by peers. This was also a finding during the observational data collection process as pre-schoolers were found to be interfering with others when they were answering questions in class. This is captured under shouting, disobeying or refusing to carry out instructions. Table 4.44 shows which behaviour was frequently found in public ECECs and also observed in private ECECs. Sun and Shek (2012) confirm that talking out of turn is a behavioural challenge exhibited by pre-schoolers which includes shouting while answering questions in the classroom or speaking out louder in the classroom. Similarly, Torkornyó (2019) also highlighted speaking loudly to let other pre-schoolers hear their answers was found to be very irritating.

The irritating nature of the theme was commented by some respondents that when a preschool teacher wants to assess the understanding level of understanding from pre-schoolers on the concept being taught in the classroom. Then pre-schoolers who have understood the concept would quickly answer the question without being called by the teacher. In the qualitative phase, none of the respondents commented on such behaviour in the classroom. Appiah-Essuman (2019) also posits that pre-schoolers do not answer the right form of questions that state that most of the pre-schoolers fail to put their hands up when answering questions in the classroom. The next section discusses disrespecting teachers as a pattern of behaviour exhibited by pre-schoolers in large class size.

5.3.5 Disrespecting teachers

It was evident from both the quantitative and qualitative phase that pre-schoolers in ECECs disrespect their teachers in the classroom. However, the analysis of this theme revealed that disrespecting teachers were in the form of leaving class without permission, talking back at teachers and refusing to carry out an instruction. The

analysis of this theme recorded a moderate response with a mean value of ($M=2.71$, $SD=1.13$). The first sub-theme recorded under disrespecting teachers was on “talking back to teachers when the offender”. Table 4.11 recorded a mean and standard deviation value of ($M=3.17$, $SD=1.00$) representing talking back to teachers when offender.

It was reported that when pre-schoolers are being tease or laughed at by peers in the classroom and the teacher tries to correct them. They displace their grievance by talking back to their teachers. In the qualitative phase, none of the respondents commented about pre-schoolers attacking teachers in the classroom. Again, the researcher never observed a case on pre-schoolers attacking teachers in the classroom. Ghosh (2012) reported in his study that pre-schoolers’ physical aggression behaviour may have manifested from the home or environment and that there was a significant difference between pre-schoolers’ physical aggression and the situation of parental aggressive behaviour found in the home or environment. Chamandar, Fateme and Susan (2017) worked on component aggression and their finding show that pre-schoolers who were exposed to aggressive movies or activities were more likely to physical abuse their peers and teachers in the classroom than those who were not exposed to aggressive movies or activities.

The next theme recorded under disrespecting teachers was “leaving class without permission”. From the quantitative phase, the responses showed a moderate with a mean and standard deviation value of ($M=2.86$, $SD=0.98$). This shows that preschool teachers were not happy when pre-schoolers leave the classroom without their noticing them. At the interview phase, no respondent highlighted this theme but at the observational phase the researcher counted 152 cases on leaving the classroom without asking permission from the class teachers. As shown in Table 4.44, the researcher recorded 30(19.7%), 45(29.6%) and 29(19.1%) for public ECECs whereas 15(9.9%), 12(7.9%) and 21(13.8%) were recorded from private ECECs. The result shows that “leaving class without permission” was frequently found in public ECECs than private ECECs. Wearmouth et al. (2014) said that pre-schoolers chitchat and were leaving classroom without permission from their teachers when they were given instructions or activities to perform in the classroom. Appiah-Essuman (2019) study with selected schools in Effutu Municipality, Winneba, teachers complained that

disobedience by pre-schoolers to perform duties was frequent behaviour exhibited in the classroom. Appiah-Essuman (2019) further explained that failure to obey rule and regulation was also exhibited by pre-schoolers.

Another theme highlighted under disrespecting teachers was on “Talking back at the teacher” when offended in the classroom. This theme recorded the mean and standard deviation value of ($M=2.61$, $SD=1.30$). At the interview phase, Participant-5 asserted that pre-schoolers talk back when you try to correct them from the wrongful act. Participant-5 further said that this behaviour normally happened when you caution pre-schoolers to take instruction or perform an art that they are not familiar with or found it difficult in doing. Participant-12 states that when you caution pre-schoolers for wrongdoing, they normally talk back. The researcher observed that pre-schoolers rudely talked back or argued with their teachers in the classroom. This behaviour was more frequently found in public ECEC’s compared to Private ECECs during the observations. In support, Ntim (2019) suggested that most pre-schoolers rudely talked back when their teacher caution them in the classroom. Further observation by Ntim (2019) shows that rudeness of pre-schoolers talking back happens when teachers are yelling at the pre-schoolers when misbehaving or due to misbehaviour.

The last theme under disrespecting teachers is linked to pre-schoolers “refusing to carry out instructions” in classroom. This theme recorded a mean and standard deviation value of ($M=2.19$, $SD=1.24$). Pre-schoolers refusing to carry out instructions were also reported observational data. The observational data recorded 12(18.5%), 18(27.7%) and 10(15.4%) for public ECECs while 11(16.9%), 6(9.2%) and 8(12.3%) were also recorded for private ECECs. In the same vein, Participant-2 and Participant-10 shared a similar view that pre-schoolers refuse to take instructions from teachers. Participant-2 said that it was annoying when pre-schoolers fail to submit their homework on Monday while Participant-10 replied that pre-schooler failed to submit class exercise on time while other pre-schoolers refuse to take instructions.

In support, Participant-3 and Participant-11 posit that most pre-schoolers fail to sleep during siesta. Participant-1 and Participant-4 commented that pre-schoolers refuse to eat and write in school. Torkorny (2019) stated that pre-schoolers exhibited disruptive behaviour such as refusal to carry out classroom instructions was due to over

pampered in the house. The next discussion focuses on challenges preschool teachers faced in handling pre-schoolers in large class size.

5.4 CHALLENGES PRESCHOOL TEACHERS FACE IN MANAGING PRE-SCHOOLERS IN LARGE CLASS SIZE

The second research question examined challenges preschool teachers faced in handling pre-schoolers in large class size. The findings are reflected in sub-section 4.2.2.2 and 4.3.1.3 where the researcher compared the statement made by respondents and supports it with the literature of the study. The analysis shows that “teachers do not have enough time to pay attention to each pre-schooler” recorded the highest mean and standard deviation value in Table 4.12. Due to the workload of preschool teachers, it was difficult for them to pay attention to each pre-schooler’s psychological, social and physical needs in the classroom. This also affects the preschool teachers’ ability to perform scaffolding, social interaction and zone of proximal development that may help pre-schoolers to understand instructional activities in the classroom. The theme corresponds with the interviewee assertion from the qualitative findings. These respondents Participant-1, Participant-5 and Participant-12 stated that the class size they are handling do not permit them to focus on individual pre-schooler needs in the classroom. However, Participant-1 comments that the class size does not permit them to pay personal attention to all pre-schoolers in the classroom while Participant-5 stated that the class size we are handling makes it difficult to attend to each pre-schooler or all pre-schoolers at once. Participant-12 concluded that if half of the pre-schoolers in the classroom understand the concept, she perceives the whole class understand it and she then move to a new concept. She further asserted that the instructional delivery was time-bound and their headteacher would not understand why other teachers had already finished with their course content and yet she was delayed (Participant-12).

The personal observations by the researcher, showed that the situation in large class size affects preschool teachers’ ability to move about in the classroom to inspect pre-schoolers works during the instructional period. It was also found that preschool teachers in smaller class size have the ability and liberty to manage, monitor and roam during the instructional period to inspect pre-schoolers classroom activities. Al-Jarf

(2006) supported that the lack of space in the classroom affects preschool teachers' ability to perform scaffolding during the instructional period.

In support, Bamba (2012) asserted that in large class size there was less rapport and pre-schoolers receive less attention from their class teachers. Akoto-Baako (2018) revealed that in large class size preschool teachers do not pay enough attention to each pre-schooler in order to pick up any affective challenges they may be facing in the classroom. The researcher believes that some pre-schoolers may marginally be left behind because they do not draw closer to their preschool teacher. In the same vein, Jimakorn and Singhasiri (2016) confirmed that in large class size teachers may not be able to notice all pre-schoolers who do not pay attention when teaching in the classroom. With this, the pre-schoolers may lose interest in the lesson provided by the preschool teacher due to a lack of affection. Appiah-Essuman (2019) reveals that large class size affects preschool teacher's professional interest in instructional delivery.

Other challenges teachers faced in ECECs was the inability to manage the classroom. Due to the large class size operate by preschool teachers in ECECs it was difficult to manage pre-schoolers in the classroom. However, the researcher observes that one common desire for pre-schoolers in ECECs was attention-seeking. It also compiles to the difficulties preschool teachers were facing in managing pre-schoolers in the classroom. The interview data correlates with the observations data which shows that participants complained about their ability to manage the classroom. Out of twelve (12) participants' interviews, seven (7) participants commented on this theme. Participant-1 asserted that handling more than 30 pre-schoolers in the classroom made it difficult to maintain standard classroom regulation. Participant-1, further commented that "the pre-schoolers are not adults so handling them was much different from handling adults because in an adult classroom rule can be set to maintain peace and order, but it cannot be done when you are teaching pre-schoolers in ECECs". Participant-3, Participant-4, Participant-9 and Participant-12 added that the class size makes it difficult to manage pre-schoolers. This is echoed in the research of Appiah-Essuman (2019) who reports that the problems associated with large class size was the management of pre-schoolers in the classroom and maintaining order to facilitate effective and efficient teaching delivery. Mosteller's (2015) findings explained that the reduction of classes from 23 to 15 was found to be far more flexible for teachers to

manage pre-schoolers and also allowed the preschool teacher to devote more time for each pre-schooler and reduce indiscipline.

Another aspect which came to the fore was the teacher's inability to organize exercise and class tests regularly. This theme recorded a mean and standard deviation value of (M=3.61, SD=0.49). It was informative to note that when a question was posed during the interview session Participant-2, said that the class size does not favour them to conduct regular class test. Participant-6 reported that the workload of managing pre-schoolers and ensuring that they eat, visit the toilet and other duties attached to teaching make it difficult to organise regular exercise for pre-schoolers in the classroom. In support Participant-4 lamented "*Hmm! Please supervising this large number of pre-schoolers in the classroom makes it difficult to organise class test or class exercise*". Other Participant-1, Participant-5, Participant-8 and Participant-10 revealed that handling large class size makes it difficult to making assignment. Assessment on class size has shown that teachers found teaching smaller classes easily organise exercise and provide immediate feedback to pre-schoolers than teachers found in teaching large class size (Torkorny, 2019). Researchers like Blatchford et al., (2002, 2003, 2007) and (Torkorny, 2019) highlighted that large class sizes provide less effective teaching and learning atmosphere for teachers to conducted exercise or test and also provide prompt feedback to pre-schoolers.

This study found that preschool teachers had difficulties in marking pre-schoolers scripts and providing prompt feedback on time. The analysis of this theme scores a high response rate with the mean and standard deviation of (M=3.42, SD=0.50). The qualitative data also confirm that pre-schoolers were founding it difficulties to organise exercise and give prompt feedback on assessment. In support, Akoto-Baako (2018) Shamim et al., (2007) and Walker (2019) added that preschool teachers are unable to provide feedback on time due to the large class size.

Findings from the quantitative data as shown in sub-section 4.2.2.2 in Table 4.12 showed that "use of teaching and learning materials (TLMs) became a problem since teachers do not have TLMs for pre-schoolers and it was very problematic for teaching delivery in ECECs. The analysis of the theme recorded a mean and standard deviation score of (M=3.05, SD=0.77). However, interview data found in (sub-section 4.3.1.3.2)

revealed that class size does not reflect the TLMs supply by the government (Participant-7). Participant-3 added that there no permeability between the number of pre-schoolers in the classroom and the number of TLMs found in the classroom to improve the process of teaching. Again Table 4.12 show that “Inadequate seat and tables for pre-schoolers to feel comfortable” was not provided in ECECs which cause challenges for the preschool teachers in the classroom. In support of this theme, Participant-11 stated that even common chairs and tables for teachers to sit are not available how much more TLMs for pre-schoolers. Most schools in our district do not have scribe books to enhance teaching and learning (Participant-2). Participant-4, also added that seat was not provided for pre-schoolers. Participant-6 and Participant-8 mentioned that posters and wallpapers to help pre-schoolers with reading and spelling are not available in the classroom. In support, Shamim et al., (2007) study pinpointed resources are fundamental tools for effective instructional delivery in large classes. Materials like scribe book, storybooks and other accessories should be available to ensure effective teaching and learning in large classes. For lack of these resources impose constraints on the preschool teachers which affect their effectiveness in teaching and learning process and therefore, impact negatively on pre-schoolers social and academic accomplishment (Bamba, 2012). Also, Michaelowa’s (2001) study shows that there were no TLMs available in the pre-schoolers’ home to improve their learning achievement and ECECs have limited facilities and fewer TLMs to support teaching and learning.

The study showed that interacting with pre-schoolers and getting to their problems and offer assistances becomes difficult for preschool teachers who taught large class sizes. Participant-3 reported that large class size was affecting preschool teachers’ ability to interact with pre-schoolers, provide effective assessment and feedback for pre-schoolers in the classroom. However, Finn, Pannozzo and Achilles (2003) opined that smaller class size ensures effective class management while larger class size results in distraction of instructional period. Finn et al. (2003), study further elaborated on antisocial behaviours such as disruptive behaviour and harassment in large class size. Finn et al. (2003), further suggested that in a well manage the classroom, pre-schoolers participate in classroom activities and have more time for social interactions with their preschool teachers and themselves. As compared to unmanage classroom where pre-schoolers play around and have less social interaction with teachers.

Besides, Torkorny (2019) revealed that preschool teachers in large classes found it difficult in handling or maintaining discipline in their classrooms. In the same vein, Short (2013) revealed that there was a positive relationship between classroom interactions and the reduction of disruption in the classroom.

Other themes that recorded a moderate response rate on challenges preschool teacher faced in handling pre-schooler in large class size were on contributions in the classroom are done by a few pre-schoolers while other pre-schoolers disturb and difficulty in identifying truant pre-schoolers in the classroom. The analysis from the quantitative phase under this theme scored ($M=2.16$, $SD=1.07$) and ($M=2.08$, $SD=0.97$) respectively. On the contrary, Participant-5 said that the working condition was not good couple with this large class size make it difficult to handle or calm pre-schoolers in the classroom. Torkorny (2019) concluded that in a small class size pre-schooler developed more innovative skills because they have enough time to ask questions as compared to large class size. Torkorny (2019) further stated that preschool teachers were more stressed and frustrated when more divergent questions were presented to them which prevented them from finishing their instructional period on time. The researcher believes that due to the large class size, fewer pre-schoolers would have the chance to ask questions and limited time would be given to them to express themselves when asking questions. Blatchford et al. (2002), find out that pre-schoolers play a less active role in teaching and learning in large classes as well as being less attentive or lack the concentration to their teacher's communication. Blatchford et al. (2002), further found that larger class size provides limit preschool teachers attention to pre-schoolers, where their concentrating was mainly on active pre-schoolers or those who participate in classroom activities than shy ones. Akoto-Baako (2018) said that in large class size students show more off-task actions when they placed in groups as compared to small class size.

Another theme recorded under challenges preschool teachers faced in handling pre-schoolers in large class size was "pre-schoolers found it difficult to hear from the teachers". The analysis scored a mean and standard deviation score of ($M=1.85$, $SD=0.75$). Data collected during interviews never revealed this theme. On the contrary, Akoto-Baako (2018) stated that large class size affects pre-schooler's psychological environment which limits the opportunities for pre-schoolers to take part

in classroom events. Finally, to approve the findings for research question two (2), the researcher poses the hypothesis to check if there was the relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt. Table 4.41 shows that $r = 0.193^{**}$, $\text{sig.} = 0.004^{**}$ $p < 0.05$, $n=216$. The two variables (challenges and classroom management) share a variance of 0.193 (19.3%). Also, the researcher accepted the alternate hypothesis that stated, "There is a positive strong relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt". The result realistically shows that the difficulties preschool teachers are going through have a relation to their classroom management strategies. The result from the PPMCC on challenges and classroom management correspond with literature, research question two (2) and interview data found in sub-section 4.3.1.3. For instance, findings from Akoto-Baako (2018), Blatchford et al. (2002) and Torkorny (2019) show that preschool teacher found it difficult to manage pre-schoolers in large class size. The researcher concludes that pre-schoolers found in ECECs are in their exploration stage are full of adventure so managing them in large class size would lead them to distract their colleagues and instructional activities.

5.5 INFLUENCE OF LARGE CLASS SIZE AND TEACHER TO LEARNER RATIO ON TEACHING AND LEARNING IN EARLY CHILDHOOD EDUCATION CENTRES

This section discusses research question three, where the researcher purpose was to examine how the influence of large class size and TLR affect teaching and learning in ECECs. The discussion mainly focuses on findings from sub-section 4.2.2.3 and 4.3.1.4 found in chapter four. In this section, the qualitative interview and group analysed data from the quantitative section was compared where literature was used to support each statement. The analysis of research question three (3) was based on three (3) themes. These are classroom discipline, non-instructional task, classroom interaction and communication.

5.5.1 Classroom interaction and communication

The analysis found in Table 4.13 shows that all four (4) themes recorded a high response rate. This means the individual scale found under classroom interaction and

communication had more influence on teaching and learning in ECECs. The sub-section theme that recorded the high response was on “preschool teachers have a firm grasp of the class when teaching in class” recorded ($M=3.78$, $SD=0.41$). This was followed by the second theme which recorded ($M=3.77$, $SD=0.42$) representing how difficult to hold pre-schoolers’ attention during the lesson due to the large class size preschool teachers were operating in ECECs. However, Participant-7A suggested that maintaining effective classroom interaction was very difficult in the presence of large class size and high TLR. She further asserted that unconsciously teachers were interacting with pre-schoolers who were paying attention and contribute in the classroom than those who were disturbing. In support, Deutsch (2003), posits that an increase in class size affects preschool teachers’ engagement or interaction with the pre-schoolers in the classroom. Akoto-Baako (2018) and Walker (2019) studies regarding class size show that class size affects teacher engagement or classroom interaction.

However, the third and fourth themes recorded under classroom interaction and communication suggests that preschool teachers were always writing on blackboard when explaining concept because pre-schoolers cannot hear their voice very well during an instructional session. Again, the fourth theme also highlighted how preschool teachers found it difficult to speak or communicate clearly during classroom session due to class size. These themes recorded a mean value between (3.60-3.70). In support, Participant-1 believes that she does well by discussing every instruction or expected outcome with the pre-schooler before she asked them to start any activities in the classroom. Participant-10 added that even though communicating to all pre-schoolers was difficult but she always stands in front of the classroom gate in such morning to welcome pre-schoolers before she starts her lesson. On the contrary, Participant-6, confirms that although, it not easy to communicate with all the pre-schoolers in the classroom but she manages to care and accept their views when they confront her for help.

In support, Walker (2019), suggested that large class size affect pre-schooler-to-pre-schooler and pre-schooler-to-preschool teacher interaction. Again, Walker (2019) observed that classes which have a population of thirty-three (33) pre-schoolers per teacher were engaging or interacting on social issues unrelated to the instructional

lesson than a pre-schooler in smaller classes with an average population of nineteen (19) pre-schoolers per teacher. Akoto-Baako (2018) also suggests that in large classes preschool teachers have challenges in building rapport or establishing a good relationship with pre-schoolers than in smaller classes. The researcher agreed that because in smaller class size, the preschool teachers have the chance to probe in-depth or assist with challenges that confront them during the instructional period. It was believed that in smaller classes the preschool teacher would be able to interact effectively with the pre-schoolers and also decrease the amount of time the teacher spent or devote to managing the classroom.

5.5.2 Non-instructional task

The second theme under how large class size and TLR influence teaching and learning in ECECs was on the non-instructional task. The four (4) themes analysed under non-instructional task recorded a mean between (3.30-3.60). The first sub-theme under non-instructional task recorded a mean and standard score of (M=3.60, SD=0.52) representing preschool teachers' narration on how non-instructional activities exhibited by pre-schoolers affect preschool teachers to waste instructional time in the classroom. From the interview data, Participant-4, confirms that time spent managing the classroom and unconventional asking of permission to visit the toilet or urinal take most of their time allocated for teaching. In the same vein, Participant-9 complains that two (2) hours spent on siesta or sleeping distract teaching activities. However, the increase in non-instructional tasks in the classroom helped pre-schoolers to relax for instructional activities. For instance, teachers asking pre-schoolers to observe 30-minute sleeping (Akoto-Baako, 2018). On the contrary, Cakmak (2009) confirms that non-instructional activities were part of the instructional tasks because break time, sleeping time and observing worship in school form part of the curriculum activities.

The second theme shows that activities exhibited by pre-schoolers affect preschool teachers' abilities to perform scaffolding, ZPD and social interaction in the classroom. In support of this theme, the theoretical review suggested that when preschool teachers are operating in a large class size with high TLR, the teacher's ability to perform scaffolding and socially interact with the pre-schoolers would be minimal. In

large class size and high TLR, teachers normally lose control in performing scaffolding, zone of proximal development and socially interacting with pre-schoolers since the limited time spent in managing pre-schoolers would not permit them to exercise those concepts (Akoto-Baako, 2018). Cakmak (2009) posits that non-instructional task waste instructional time for teachers because the time for instructional delivery maybe used for solving problems and managing the classroom. Also, in smaller classes, teachers have time and opportunity to socially interact with pre-schoolers, scaffolding and employ the zone of proximal development that prevents pre-schoolers from misbehaviour in the classroom (Cakmak, 2009; Vandenberg, 2012).

In respect to the non-instructional task, Table 4.13 show that “Off-tasks behaviour like roaming during lesson affect teaching and learning in the classroom” while “Observing break for sleeping and eating disrupt pre-schooler’s attention to concentrate during the lesson”. From the interview phase, Participant-5 reveals that a longer period for break distracts teaching and learning because, after break time, they become tired and lack the concentration on the next instructional activities. In support of Participant-5 assertion, Participant-11 concluded that time spent on feeding or taking their meal or snack talks all the instructional time for teaching. Participant-4, confirms that time spent managing the classroom and unconventional asking of permission to visit the toilet or urinal talks most of the allocated time for teaching. The two (2) hours spent on siesta or sleeping distract teaching activities (Participant-9). Cakmak (2009) and Finn and Achilles (1999) lamented that pre-schoolers exhibit more off-task behaviour like roaming during the lesson and talking to peers disrupt teachers’ attention to finish instructional activities on time.

5.5.3 Classroom discipline

The last theme under how large class size and TLR influence teaching and learning in ECECs was classroom discipline. The four (4) themes analysed under classroom discipline scored a mean between (2.80-3.05). This shows that moderate classroom discipline was affecting how teaching and learning were being mediated in large class size where TLR was high. It was reported that preschool teachers were not able to attend two events simultaneously in the classroom without being diverted unduly by disruptions recorded that high response rate with the mean and standard deviation

value of ($M=3.02$, $SD=1.00$). Participants reported that the transition from one learning activity to another was done but due to class size they always lost track of instructional time. On the contrary, Participant-2 asserted that when the preschool teachers can maintain good classroom management it reflects how they were able to deliver instructional activities in the classroom. On the contrary, (Participant-10) argue that having adequate control over pre-schoolers in kindergarten would be very difficult because pre-schoolers do not understand the reason why they should keep quiet or why they in school. It was reviewed that the increase in class size affected how teachers manage the classroom environment regarding pre-schoolers discipline and how teachers spent instructional time handling non-instructional activities (Akoto-Baako, 2018; Vandenberg, 2012). Again, a study by Blatchford, et al. (2007), revealed that supervising large class size affect instructional delivery and classroom management. Furthermore, Akoto-Baako (2018), observes that a little indiscipline was observe in smaller classes because preschool teachers had enough time for instructional engagement or interaction.

The third and fourth theme revealed that preschool teachers hardly start lessons on time and continue the previous lesson due to interruption (pre-schoolers disruptive behaviour such as noise) in the classroom. Again, preschool teachers reported they consistently enforce the classroom rule and procedures, to ensure discipline but due to class size it was difficult to enforce it. These themes recorded a mean value between (2.70-2.95). This means that the themes have a moderate impact on classroom discipline. Participant-3 and Participant-8 commented that pre-schoolers run and roam in the classroom disrupt teaching and learning. For instance, utilising instructional time for handling pre-schoolers' misbehaviour would affect pre-schoolers' learning process (Blatchford et al., 2007). In the same vein, Cakmak (2009) asserts that large classes have more indiscipline challenges and teachers waste instructional time correcting pre-schoolers' behaviour. However, the teacher survey data show that, whenever, class size increases pre-schoolers' misbehaviour or indiscipline also increased which affect how preschool teachers mediated teaching and learning in the classroom (Vandenberg, 2012). Again, Vandenberg (2012), revealed that ECECs classroom which contains more than ninety (90) or more pre-schoolers, preschool teachers were finding difficulties in managing and handling pre-schoolers than classes with eighteen (18) or fewer pre-schoolers. The teachers' responses were that pre-schoolers'

misbehaviour occurred a lot in large classes than smaller classes, where teacher spent time controlling rather than teaching (Vandenberg, 2012).

To approve the analysis on research question three (3), hypothesis eight (8) was set to examine the relationship influence of class size and TLR on teaching and learning in ECECs and teacher's self-efficacy belief in managing pre-schoolers in a large class. The analysis from Table 4.42 reported $r = 0.653^{**}$, sig. = 0.000** $p < 0.05$, $n = 216$ shows that the influence of class size and TLR on teaching and learning had a direct relationship with teacher's self-efficacy belief in managing pre-schoolers in a large class. From this result, the researcher accepts the alternate hypothesis that stated, "There is a strong positive relationship between the influence of class size and TLR on teaching and learning in ECECs and teacher's self-efficacy belief in managing pre-schoolers in large class". In support of hypothesis eight, the analysis found in sub-section 4.3.1.4 reported how class size and TLR affected teaching and learning.

To confirm this, Participant-2 reveals that indiscipline from pre-schoolers affects teacher's ability to manage the classroom. However, Akoto-Baako (2018) found out that class size affects teaching and learning procedure in schools. Again, literature found in capture two (2) support the fact that large class size and high TLR affect teachers' ability to manage pre-schoolers in the classroom. The next section discusses teacher's self-efficacy belief in managing pre-schoolers in a large class.

5.6 PRESCHOOL TEACHERS SELF-EFFICACY BELIEF IN MANAGING PRE-SCHOOLERS IN LARGE SIZE CLASSES

The fourth research question was discussed in this section. The discussion examines preschool teacher's self-efficacy belief in managing pre-schoolers in large class size. The discussion stress findings from sub-section 4.2.2.4 and 4.3.1.5 found in the study. The quantitative data found in sub-section 4.2.2.4 shows that respondents have high self-efficacy belief in classroom management because the mean of means recorded a high response value of ($M = 3.12$, $SD = 0.74$). From the nine (9) scale on preschool teacher's self-efficacy belief found in Table 4.14. The respondents revealed that they can put in adequate measures to keep activities running a classroom recorded mean and standard deviation value of ($M = 3.91$, $SD = 0.29$). In the interview phase, Participant-2 suggests that she has design a procedure to calm pre-schoolers down

when they are emotionally or psychologically disturbed. In support, Cobbold and Boateng (2015), suggested that teachers who have high self-efficacy use a variety of methods, techniques and tools to track and control their pre-schoolers in the classroom. However, teachers believe that their ability to teach and cope effectively with classroom problems are more driven and diligent in handling their pre-schoolers compared to low-efficiency teachers who appear to lower their efforts and easily give up. Teachers with low self-efficacy are likely to use poor instructional methods and may be ineffective when it comes to classroom management (Hoy & Spero, 2015) and are more likely to experience negative emotions like tension, anger, frustration, humiliation, or shame (Ross & Bruce, 2017).

From the second theme, respondents asserted that they can communicate the expected behaviour required to pre-schoolers. In the same vein, Participant-9 said that by communicating their intention to the pre-schoolers or what was expected from them, they turn to behave well toward it. On the contrary, Participant-5 argues that not always communicating the expected goal to them but when you the class teacher takes the responsibility of caring and supporting the pre-schoolers, they turn to accept whatever you say in the classroom. From Table 4.14 two views recorded similar descriptions. Respondents commented that “they can calm a pre-schooler who is disruptive or noisy in the classroom” and “they can control disruptive behaviour in the classroom” all recorded a mean score above (3.00). This truly shows that preschool teachers had high self-efficacy belief to manage pre-schoolers in their classroom. In support, Participant-6 posits that handling pre-schoolers was a calling from God because she was a Sunday school teacher. She further stated that having high self-efficacy in handling pre-schoolers comes with her desire to see kids being happy at all times. Participant-9 asserted that she swaps activities in the classroom whenever she feels pre-schoolers are bored. She further asserted that activities that the pre-schoolers like are presented to them when the classroom when they are feeling boring. For instance, Tschannen-Moran, Hoy and Hoy (1998), studied the impact of four professional development formats on teacher self-efficacy and implementing new teaching strategies. The study design was in line with Bandura’s sources of efficacy. The finding shows that mastery experience, follow-up and coaching were the strategies found to increase teachers’ self-efficacy. Consequently, mastery experience, as suggested by

Bandura (1989), was a powerful resource that significantly increases teachers' self-efficacy.

The last theme that recorded a high response rate in Table 4.14 was on respondents being able to implement alternative strategies in the classroom. This theme recorded a mean and standard deviation value of ($M=3.13$, $SD=0.77$). This shows that alternative strategies developed by preschool teachers as means of managing pre-schoolers in large class size were working perfectly to their satisfaction. From the interview phase, Participant-1 asserted that her self-efficacy belief has helped her to design strategy in classroom that prevent pre-schoolers from misbehaving in the classroom. The strategy was grouping pre-schoolers who are very distractive in the classroom into two (2) or three (3) zones where group leaders are selected to report those who disturb in each group. These group leaders change from time to time to ensure that each pre-schooler has the taste of leadership role to play in the classroom. In support of the implementation of alternative strategies in the classroom, Participant-8 said that she varies her classroom management strategies for not being strict all the time. Participant-8 further asserted that she used positive reinforcement by the given token for any pre-schooler who do not disturb within the day or week in classroom. In support, Dibapile (2012) commented that efficacious preschool teachers ensure that the classroom is well organised and also guide pre-schoolers behaviour towards success. From Bandura's theoretical assumption, Dicke, Parker, Marsh, Kunter, Schmeck, and Leutner (2014), assumed that preschool teachers' efficacy does not only influence classroom behaviours but also influence how teachers can ensure scaffolding, social interaction and ZPD in the classroom.

Again, the quantitative phase recorded moderate response where respondents suggested that they established a classroom management system with each group of pre-schoolers. This theme recorded a mean and standard deviation value of ($M=2.95$, $SD=0.74$). In support of this theme, Participant-2, Participant-3 and Participant-7 commented that they have design instructional systems that help them to have full control of their classroom. To buttress the point, Participant-7 said that she was not discriminative in paying attention to all individual in the classroom. Also, Participant-3 concludes that she encourages pre-schoolers who are psychologically and emotionally down by organising or designing activities to build pre-schoolers self-

capabilities. She further asserted that adapting such a strategy made pre-schoolers happy in the classroom. In support, Brouwers and Tomic (2000) described preschool teacher self-efficacy as the beliefs and capability to organise and implement essential action to maintain order in the classroom. Cobbold and Boateng (2015) have noted that preschool teacher's self-efficacy was based on their confidence that they can maintain an efficient, structured, non-distractive classroom environment. From this viewpoint, the researcher believes that preschool teachers who doubted their skill to maintain order or lacked confidence in their classroom management may be facing challenges in maintaining discipline in their classroom. Again, Brouwers and Tomic (2000) add that preschool teachers understand that the value of ability cannot be ignored if they want to assist pre-schoolers to achieve their educational goals. They further mentioned that internal conflict may cause distress and affect preschool teachers teaching strategies use in their classrooms to maintain order.

The other moderate response reported in the quantitative phase was on getting pre-schoolers to follow classroom rules, motivating pre-schoolers who have less interest in instructional activities and getting pre-schoolers to believe they can do well in instructional activities. These themes recorded a moderate mean between (2.30-2.70). Beside Participant-5 said that she has developed a good verbal persuasive way of talking to the pre-schoolers in the classroom. She arouses pre-schoolers' mood by saying something polite that encourage them to develop a high sense of belongingness in the classroom. Participant 2, also said that she put pre-schoolers into groups where she informs them whoever put up a good behaviour by not talking or roaming around would be given toffee after school. Again, Participant-7 asserted that she always motivates and encourage pre-schoolers in the classroom. With this strategy, pre-schoolers have developed an interest in her and draw closer to share any challenges they encounter. Cobbold and Boateng (2015) indicated that the sense of the effectiveness of teachers (i.e., the expectation that they can have a positive impact on pre-schoolers learning in ECECs), whether personal or general, tended to be linked to preschool teacher classroom management strategies. Emmer and Hickman (1991) expanded this research and identified a third factor for classroom management and discipline called teacher effectiveness. Cohort researchers like Brouwers and Tomic (2000) and Cobbold and Boateng (2015) indicated that high efficiency in teachers field study would be predicted preferences for certain techniques

used in handling circumstances, such as motivating pre-schoolers to extend more effort, providing support and helping pre-schoolers to build targets for success.

In support of the findings from research question four, a hypothesis was set to examine preschool teacher's self-efficacy belief in managing pre-schoolers in large class size. Hypothesis five (5) the summary of the Independent Sample T-test shows that trained preschool teachers with the mean score ($M=29.00$, $SD=4.85$) and untrained preschool teachers ($M=27.67$, $SD=5.21$; $t(1.882) = 3.240$, $p = .05$, two-tailed). "There is no significant difference between trained and untrained preschool teachers concerning self-efficacy belief in classroom management strategies" was accepted. This means concerning one's qualification as trained and untrained preschool teachers does affect their self-efficacy abilities in managing pre-schoolers in large class size. Cobbold and Boateng (2015) confirm that trained and untrained teachers do not differ significantly in terms of classroom engagement with students. Again, their study found that teacher with low self-efficacy belief had challenges in managing pre-schoolers in large class size. On the contrary, Literature found in sub-section 2.5.4 support the fact that class size and TLR influenced teacher's self-efficacy belief. Moreover, Dicke, Parker, Marsh, Kunter, Schmeck, and Leutner (2014) also confirm that teacher's self-efficacy belief influences their ability to ensure scaffolding, social interaction and zone of proximal development in the classroom.

Hypothesis six shows that overall ANOVA F -ratio (124.751) was significant ($p = .000$) was lesser than the .05 alpha level. For this reason, the researcher accepts the alternate hypothesis that states: "There is a significant difference between class size and teacher's self-efficacy belief to manage pre-schoolers in large class". However, Table 4.40 shows that there was a significant difference between class size and teacher's self-efficacy belief. The study shows that there was difference between class size (20-30 & 31-40), (20-30 & 41-50), (20-30 & 51 above), (31-40 & 41-50) and (51 above & 41-50) found in the Post Hoc test. In the same vein, Bronfenbrenner's (1976) ecological structure as a framework help to examine the direct and indirect related factors that influence preschool teachers' self-efficacy. Bronfenbrenner's (1976) ecological structure helps to structure the educational environment into microsystem, mesosystem, ecosystem, and macrosystem. Ashton and Webb (1986) also assert that the mesosystem, which includes school size, class size, demographic characteristics,

school norms, principal- teacher relations and decision-making structures influence teacher self-efficacy. From this assertion, the researcher implied that the class size preschool teachers teach have an impact on their self-efficacy belief in managing pre-schoolers in the classroom. The next section discusses the classroom management strategies used by preschool teachers in large class size.

5.7 CLASSROOM MANAGEMENT STRATEGIES USED IN EARLY CHILDHOOD EDUCATION CENTRES

This section discusses findings from research question five, where the researcher purpose was to find out classroom management strategies used by preschool teachers in large class size to maintain discipline in ECECs. The discussion mainly focuses on findings from sub-section 4.2.2.5, 4.3.1.6 and 4.3.2.3 found in chapter four. The researcher compared both quantitative and qualitative findings with the help of literature.

5.7.1 Behaviour modification

The analysis of this section shows that behaviour modification strategy was highly practiced in ECECs in Ghana. Table 4.15 concludes that “Positive behaviour by pre-schoolers was reinforced immediately it happens” recorded mean and standard deviation value of (M=3.94, SD=0.23). However, from the interview phase, these respondents Participant-3, Participant-4, Participant-9 and Participant-11 suggested that they can provide good classroom management through positive reinforcement where rewards are giving to pre-schoolers who put up good behaviour in the classroom. Participant-7A also added that pre-schoolers show a greater response to behaviour change with the use of positive reinforcement than other classroom management strategies used. On the other hand, Participant-1 mentions that positive reinforcement offers pre-schoolers chance to increase their positive behaviour in the classroom. In the same vein, Participant-2 said that due to the tangible rewards attached to positive reinforcement pre-schoolers were always behave well in the classroom to receive the reward.

The observational data shows that positive reinforcement was highly observed among the six (6) ECECs visited. However, the analysis shows that private ECECs were

frequently practicing positive reinforcement than public ECECs. From Table 4.45 positive reinforcement recorded 16(13.75), 21(17.9%) and 8(6.8%) for private ECECs and 31(26.65%), 22(18.8%) and 19(16.2%) were the scores obtained from public ECECs. The analysis truly shows that positive reinforcement was a practice among preschool teachers found in ECECs as their frequent classroom management strategy. The researcher believes that behavioural patterns or change happens if positive reinforcement was effectively practiced in ECECs. Again, this strategy helps to decrease unwanted behaviour which helps preschool teachers to effectively teach new topics in class. Edjah (2018) concludes that positive reinforcement was any action that increases the probability of a behaviour occurring. The stimulus which was added to the situation to increase the behavioural patterns were referred to as positive reinforcement. Positive reinforcement can be used by the preschool teacher to gain and maintain discipline in the classroom. However, positive reinforcement can be in the form of clapping for pre-schoolers, free time, food and special privileges are some of the most important positive reinforcements used by preschool teachers to maintain order in the classroom (Misiowiec, 2016).

On how preschool teachers gradually shape pre-schoolers still the terminal behaviour was performed before reinforcement recorded a mean and standard deviation value of ($M=3.85$, $SD=0.36$). Participant-5 supported that with consistent talking and advising the kids they understood what was expected from them. The situation of modifying pre-schoolers' behaviour on time and consistently shaping could help the pre-schoolers to perform the acceptable behaviour. In the same vein, the observational section reported that private ECECs were practising shaping as a behaviour modification strategy than public ECECs. From the researcher, shaping as a concept from Skinner's operant conditioning help to provide a successive approximation of behaviour closer to the acceptable behaviour. The preschool teachers should wait till the pre-schoolers perform a challenging behaviour closer to the appropriate one before the reinforcement is provided to them.

Another theme on behaviour modification was on "preschool teachers trying to get pre-schoolers to behave well by changing negative classroom conditions that make them misbehave such as furniture arrangement and sitting places" recorded mean and standard deviation value of ($M=3.79$, $SD=0.41$). At the interview phase, Participant-7

suggests she has placed two chairs closer to her desk which pre-schoolers like to sit closer to her because of the reinforcement pre-schoolers received. Participant-7 further asserted that changing pre-schoolers' sitting arrangement was another form of strategy to modify pre-schoolers' behaviour in the classroom. The researcher believes that effectively used of negative reinforcement in the classroom would be a situation that pre-schoolers cannot take part in any activity he/she prefers due to his or her performance on a test but may have access to that activity when he or she performs better on a test in the future. Bellon, Bellon and Blank (2012), posited that negative reinforcement was taking away something from a pre-schooler, to increase the probability that more desirable behaviours occurring in future.

The last on behaviour modification was on preschool teachers using a variety of rewards and punishment to keep the pre-schoolers from misbehaving in the classroom and also model appropriate behaviour. In the interview respondent Participant-1 suggests that behaviour modification helps to maintain good and appropriate behaviour in the classroom. Participant-1 further said that she rewards pre-schoolers who behave well in the classroom so that other pre-schoolers would learn from them. In the same vein, Participant-2 added she provides positive feedbacks a like smile, nod or claps are given to pre-schoolers who pay attention to classroom activities. However, these respondents shared a similar comment by saying verbal praises help pre-schoolers to pay attention (Participant-3) and praising pre-schoolers who follow the instruction in the classroom (Participant-8). In support, Torkorny (2019) asserts that positive reinforcement was one of the essential tools used by preschool teachers to modify pre-schoolers' behaviour in the classroom. For instance, a response like a nod or smile, would probably increase in future occurrence when a similar response is given. The next sub-theme discusses assertive discipline as a classroom management strategy.

5.7.2 Assertive discipline

The analysis from the quantitative and qualitative phase shows that the assertive approach or discipline was one of the classroom management strategies used to prevent pre-schoolers from misbehaving in large class size. From subsection 4.2.2.5 on Table 4.15 assertive approach recorded an overall mean of means value of

($M=3.62$, $SD=0.64$) which depicts a high response rate. The sub-theme found under Table 4.15 shows that images were posted on the wall to prevent pre-schoolers from misbehaving in the classroom recorded a high mean and standard deviation value of ($M=3.73$, $SD=0.64$). From the interview phase, no respondent commented on this theme but at the observational phase recorded the least counted strategy with 2(11.8%), 1(5.9%) and 1(5.9%) representing the three public ECECs and 4(23.5%), 3(17.6%) and 6(35.3) was also recorded in private ECECs classroom. Beside Twum (2016) confirms that preschool centres found in Shama District in the Western region were facing challenges in TLMs to ensure effective classroom management.

From the second sub-theme, it reported that preschool teachers strongly implement rule and regulation to prevent pre-schoolers from misbehaving in classroom. This theme scored a mean and standard deviation value of ($M=3.67$, $SD=0.47$). The researcher believes that the preschool teachers approach to discipline was to help acquire self-discipline among pre-schoolers could help contribute to the well-being and understand the concept in the classroom. In support of this theme, Participant-10 explains that she consistently has personal contact with the pre-schoolers by praising them to behave well in the classroom. Participant-10 further asserted that she has instituted rules governing pre-schoolers' behaviour in classroom, but she hardly follows it because she has seen that praising and giving immediate feedback to the pre-schooler, help her maintain discipline in the classroom. From the observational phase, implementing rules and regulations to prevent pre-schoolers from misbehaving was more prevalently found in the private ECECs than in the public ECECs. Swinson and Cording (2002), mentioned that assertive approach can be applied in classroom settings which include 1) established rules to be followed by pre-schoolers in the classroom; 2) measures to ensure the provision of positive feedback to pre-schoolers who follow the preschool teacher's instructions and 3) to consistently establish disciplinary measures for pre-schoolers who do not cooperate with the preschool teacher's requirements. However, the nature to these characteristics provided by (Swinson & Cording, 2002) stress more authority within the classroom setting.

The third and fourth assertive approach, sub-themes were similar because they all highlighted communicating pre-schoolers action and their consequence to them. From Table 4.15, the third theme recorded mean and standard deviation value of ($M=3.56$,

SD=0.49) representing “Mostly, I make pre-schoolers know I am in charge by specifying behaviours and their consequences and communicate them clearly to pre-schoolers” while “I indicate the consequence of behaviour to pre-schooler by specifying the actions associated with it” representing (M=3.52, SD=0.96) was the fourth theme. Participant-6 asserted that she has established rules governing classroom activities. She furthered posits that she was a bit soft and firm when dealing with pre-schoolers because if you are too soft with them, they turn to misbehave, and you are too firm they would be afraid to confront you when they are experiencing some challenges. On the contrary, Participant-12 confirms that pre-schoolers are afraid when you scared them with a cane. *“With this, I have placed the cane on my desk to scare them from talking and misbehaving in the classroom. This procedure has helped me manage a classroom and also established discipline in the classroom.”* Moreover, Lyons, Ford and Arthur-Kelly (2013), stressed that effective and continuous communication between preschool teachers and pre-schoolers help to understand certain behavioural pattern within the classroom. The assertive approach attempts to avoid circumstances where preschool teachers are left each alone in the classroom to deal with pre-schoolers misbehaviours (Etheridge, 2010). However, Canter and Canter (1976) concluded that an assertive discipline strategy leads to a reduction in time spent on handling resolving pre-schoolers problems and attention in the classroom. The next section explains the acceptance approach as classroom management strategies.

5.7.3 Acceptance approach

It was evident from both the quantitative and qualitative phase that the acceptance approach was frequently used by preschool teachers to help manage pre-schoolers in large class size. The analysis of the acceptance approach found in (sub-section 4.2.2.5) on Table 4.15 recorded a mean of means values of (M=3.35, SD=0.94). The high response rate shows that preschool teachers were using this approach. The first sub-theme recorded under the acceptance approach was on “preschool teachers maintain that every individual need to feel accepted and have the sense of belongingness” recorded high mean and standard deviation value of (M=3.73, SD=0.63). From the interview phase, Participant-10 said that pre-schoolers are very observant. When you respect their existence in the classroom and politely talk to them

makes them feel accepted in the classroom. Participant-10 further asserted that when pre-schoolers feel accepted in the classroom, they are less destructive. In the same vein, Participant-3 concludes that pre-schoolers who sit closed to teachers feel accepted and always concentrate on classroom activities. In support of this theme, the observational data found in Table 4.45 shows that making pre-schoolers feel acceptable in the classroom was frequently practiced by preschool teachers in private ECECs than public ECECs. The analysis recorded 13(24.5%),1(1.8%) and 4(7.5%) for public ECECs and 11(20.8%), 5(9.4%) and 19(35.8) was also recorded from private ECECs. However, Appiah-Essuman (2019) confirms that with acceptance approach preschool teachers offer guidance or put measure in place for rule and regulations which was acceptable by an individual in the school. In the same vein, Edjah (2018) also added acceptance approach allows pre-schoolers to take part in decision making in the classroom.

The second and third sub-theme recorded under the acceptance approach was “preschool teachers respecting the dignity and worth of every individual” and “preventing pre-schoolers’ misbehaviour by giving them attention and accepting their differences”. These themes shared similarity because it measures how pre-schoolers are accepted base on the individual difference. From the counselling perspective when teachers respect the dignity and worth of individual, they feel accepted to participate in classroom activities. Participant-7 shared a similar comment by saying if the classroom is welcoming and the class teacher position himself/herself well to accept every individual in the classroom. They stick to you and accept what where you say. Participant-7A furthered stated that when your face is “welcoming”, the pre-schooler feels accepted to draw closer. Participant-9 confirms that she manages pre-schoolers in the classroom by informing them not to be hostile to their classmate and accept each individual in classroom because the Lord tell us to love one another. Participant-9 further said that, after morning worship, she explains to them why they should love one another and also tell them pre-schoolers who disturb in classroom are not sons of God.

The observational data shows that respecting the dignity and worth of every pre-schooler to avoid discrimination was the second-highest classroom management strategy from the six (6) ECECs visited. This theme was frequently practiced in private

ECECs visited than public ECECs. To confirm this statement, public ECECs recorded 9(11.4%), 17(21.5%) and 11(13.9%) scores while private ECECs also recorded 21(26.6%), 12(15.2%) and 9(11.4%). Concerning this theme, the counselling principle on respecting the dignity and worth of every individual can be linked to the classroom setting. A preschool teacher should be aware and respect pre-schoolers' culture, age differences, gender identity, race, ethnic groups, culture differences, religion, sexual orientation, disability and language differences so any utterance made in the classroom may not affect them (Taylor & Buku, 2006).

The last theme under the acceptance approach was on relating well to every pre-schooler in the classroom by attending to their needs on time. This theme recorded a mean and standard deviation value of ($M=3.04$, $SD=1.37$). In support of this theme, Participant-3 asserted that she manages the classroom by devoting herself from any form of punishment and relate well with the pre-schoolers. Participant-11 confirms that she provides good attention to pre-schoolers where their needs are cared for at all times. Participant-5 posits that providing a calm and warm atmosphere in the classroom where pre-schoolers are free to asked questions. She believes this enabling environment in the classroom helps her institute good measure to ensure effective classroom management. Wingate (2018) posits that a good classroom setting entails teachers ability to accepts individual needs and act positively towards student's welfare.

5.7.4 Business academic approach

The last theme under classroom management strategies was the business academic approach. The theme recorded mean of means value ($M=3.10$, $SD=1.08$). The analysis of the business academic approach shows that "Keeping records of the pre-schoolers accomplishments and gives prompt feedbacks after assignment" recorded the highest response rate of ($M=3.43$, $SD=1.06$). However, from the interview phase, Participant-8 suggests that giving pre-schoolers prompt feedback prevent them from misbehaving in the classroom. From the qualitative observational phase, the researcher counted more of this behaviour in the private ECECs than public ECECs. The researcher suggests that the reason why only one preschool teacher made mention of giving feedback prompt was that they were doing it unconsciously without

knowing it was a form of classroom management strategy. In support, Evertson and Emmer (2013) suggested that effective feedback from preschool teacher enhance classroom management. Again, if feedbacks are given an appropriate time, it enhances pre-schoolers abilities and interest to progress in the given activities and enhances pre-schoolers classroom behaviour (Torkorny, 2019). However, given appropriate feedback on expected outcomes enhance the pre-schoolers spirit of commitment to perform well and engage well with their peer in the classroom (Donkor, 2011). Edjah (2018) confirms that attention to assignment or quiz should give appropriate feedback so to encourage pre-schoolers to do more or perform well. Again, providing appropriate reinforcer when pre-schoolers perform or exhibit good behaviour enhance or encourage them to repeat the appropriate behaviour in expected time or event (Edjah, 2018).

Table 4.15 shows that keeping the pre-schoolers busy by giving them exercises was to prevent them from misbehaving. This theme recorded a high response rate with a mean and standard deviation value of ($M=3.11$, $SD=1.08$). However, IPECECHTKM-8B said that giving more exercise or activities to the pre-schoolers by keeping them busy prevent them from misbehaving in the classroom. The researcher observes that preschool teachers in private ECECs were busy giving exercise and activities to the pre-schoolers to prevent them from misbehaving in the classroom. The analysis recorded 3(6.3%), 4(8.3%) and 5(10.4%) for public ECECs and 11(22.9%), 13(27.1%) and 12(25.0%) was also recorded from private ECECs. One effectiveness of the business-academic approach was that when pre-schoolers are busy working on their instructional tasks, it may be difficult for them to misbehave (Donkor, 2011). When classroom activities are well structured, the pre-schoolers may be seriously working to achieve the expected outcome it would difficult for them to roam in the classroom (Torkorny, 2019). Torkorny (2019), further asserted preschool teachers should keep pre-schoolers on task, by monitoring their work, giving them feedback, and holding them accountable by providing rewards for good behaviour.

Two sub-themes found in Table 4.15 shared a similar view. These are sub-theme two (2) and sub-theme four (4). The sub-themes stated as “I give clear instructions to every classroom activity prevent them from disturbing” while “I have a clear standard of procedure and monitor pre-schoolers work to avoid disturbance in the classroom”

recorded ($M=3.19$, $SD=0.72$) and ($M=2.68$, $SD=1.46$) respectively. Although, sub-theme two scored high response than sub-theme four it shows that giving proper or clear instruction or procedure to be followed while doing any assignment, exercise or activities prevent pre-schoolers from misbehaving or disturbing in the classroom. In support, Participant-10 added that she provides instruction or guideline to be followed when pre-schoolers are doing exercise. The pre-schoolers do not roam or disturb others when drawing or doing any activity in the classroom. The findings observational phase shows that preschool teachers found in private ECECs were frequently giving clear instructions than their counterpart found in public ECECs. Donkor (2011) suggested that before a preschool teacher can manage classroom activities unless he/she define clearly instructional goals and procedure to be followed to meet the expected outcome. Donkor (2011) further suggested that communicating the learnable bit to the pre-schooler prevent them from disturbing their colleagues in the classroom.

In the provision of findings from research question four (4). Five hypotheses were set to explain the procedure pre-schooler used to manage pre-schoolers in ECECs. These hypotheses were 1, 2, 3 and 4. From subsection 4.2.3.2 the researcher was interested in the difference between preschool teachers' experience and their classroom management strategies. Hypothesis one (1) shows overall ANOVA F -ratio (14.364) was significant ($p = .000$) was lesser than the .05 alpha level. For this reason, the researcher accepts the alternate hypothesis that states: "There is a significant difference between preschool teachers' experience and classroom management strategies". Table 4.21 shows that there was a significant difference between preschool teachers with working experience less than 5 years and 6-10 years, with a mean difference and standard error of ($MD=4.743^*$, $SR= .734$) at *sig value* of 0.000^* (2-tailed) with a low eta effect size of 0.17. From this assertion, the researcher implied that preschool teachers working experience could guarantee their effectiveness in providing good classroom management strategies. On the contrary, Ersozlu and Cayci (2016), suggested that teaching methods and strategies used by teachers provide them with a better understanding of classroom management.

Hypothesis two (2) was used to check the difference between the educational level of preschool teachers and their classroom management strategies. To confirm this, the ANOVA F -ratio (108.343) was significant ($p = .000$) at the .05 alpha level. From this

evidence, the researcher accepts the alternate hypothesis that states: “There was a significant difference between the educational level of preschool teachers and classroom management strategies”. The researcher would not tell the educational level of respondents that were significant unless the Post Hoc test was drawn. The Post Hoc test shows that there was a difference between (Certificate A and Diploma), (Certificate and Master/PhD), (Diploma and Master/PhD), (First degree and Certificate A) and (First degree and Certificate A) all yielded a significant difference below ($p=0.05^{**}$) with medium Eta square effect size of (0.61). From this study, the researcher could explain that preschool teachers with certificate A, diploma and first degree have the impact of providing good classroom management strategies. To confirm this, Torkorny (2019) asserted that kindergarten teachers who had practicum and rudimentary knowledge during their off-campus teaching practices exhibited more potentiality in classroom management than those who do not attend any practicum teaching or off-campus training.

Hypothesis three (3) examine the difference between TLR and classroom management strategies. To approve this hypothesis, the ANOVA F -ratio (109.302) was significant ($p =.000$) at the .05 alpha level. From this evidence, the researcher accepts the alternate hypothesis that states: “There was a significant difference between TLR and classroom management strategies”. The Post Hoc test to check where significant level occurred. However, Table 4.31 shows that between (1:15 & 1:30), (1:15 & 1:45) and (1:45 & 1: above 45) all recorded a p -value below (0.05). From the finding, the researcher rejects to accepts alternate hypothesis stated as “There was a significant difference between TLR and classroom management strategies” with a medium Eta square effect size of (0.61). From this result, the researcher could explain that the ECECs that contain 1:15, 1:30, 1:45 and 1: above 45 TLR, preschool teachers could manage pre-schoolers well in the classroom. However, the findings from the interview phase confirm that preschool teachers who were supervising more pre-schoolers in the classroom had challenge or difficulties in managing them.

Hypothesis four (4) shows the summary of Independent Sample T-test results that there was a significant difference in score from public and private ECECs and preschool teacher’s classroom management strategies. The analysis of hypothesis four shows *sig. value* 0.000 which was smaller than $p=0.05$, the evidence shows that

the data has violated the assumption of equal variance. The alternate hypothesis stated as “There was a significant difference between ECECs and the preschool teacher’s classroom management strategies” was accepted with a small Eta square effect size of ($\eta^2=0.25$). In the same vein, Torkorny (2019), asserted classroom management found in private kindergarten schools were more organised than public kindergarten schools in Ghana.

5.8 SUMMARY OF CHAPTER FIVE

The section provides a summary of the discussion for both quantitative and qualitative data. The chapter was done by merging both quantitative and qualitative data and a literature review found in chapter two (2) was used to support the discussion. The discussions were organised according to the research questions provided in sub-section 1.6.1.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The previous chapter explained the discussion of the findings. This chapter highlights the summary of findings as well as the conclusions, recommendations, suggestions for further research and limitation of the study. In the first phase, the summary of findings was presented where the focus was based on chapters, quantitative and qualitative section of the study. The next section focuses on the conclusions of the study where the highlight was drawn from research questions. The implication of findings was on theory and policy. Recommendations, limitation and suggestion for future research were also discussed.

6.2 SUMMARY OF THE STUDY

This section provides a summary of the study. The analysis of summary was categorised into the research process, chapters, quantitative and qualitative data. The next section presents the summary of the research process.

6.2.1 Summary of the research process

The study was to investigate how large class size and TLR affect classroom management in ECECs in Ghana. The study was underpinned by the pragmatism paradigm where triangulation concurrent mixed method design was adopted. At the quantitative phase, a descriptive survey was used, because the researcher wanted to obtain current information about how large class size and TLR affect classroom management in ECECs in Ghana. Again, a case study was used for the qualitative phase, because the researcher wanted to make an in-depth assessment of how large class size and TLR affect classroom management in ECECs in respondents' natural setting.

The multi-stage sampling procedure was employed in the study. First, the cluster sampling procedure was used to classify Ghana into three (3) zones. These included

the Northern Zone (Northern Region, Upper West Region, Upper East Region, North East Region, Savannah Region); Middle zone (Ashanti Region, Ahafo Region, Eastern Region, Bono East Region, Bono Region, Oti Region) and Southern zone (Central Region, Greater Accra Region, Volta Region, Western Region, Western North Region).

In the second and third phase, the purposive sampling technique was used to select Northern Region (Tamale metropolis), Ashanti Region (Kumasi metropolis) and Central Region (Cape Coast) for the study. In the fourth stage, a stratified sampling procedure was used to group schools (public ECECs and private ECECs) for the study. In stage five, the Gay and Diehl (1992) way for determining sample size was adopted to help the researcher know the exact number to be sampled for preschool teachers and headteachers for the quantitative phase. Again, a simple random method using the lottery approach was employed to select teachers and headteachers to represent their respective sampled ECECs for the study.

In the interview phase, the purposive sampling technique was employed to select twelve (12) ECECs with large class size from the study areas. The convenience sample method was used to select six (6) headteachers and six (6) preschool teachers for the study. In the observational phase, six (6) ECECs with large class size was selected from the study areas. In total two hundred and twenty-eight (228) respondents who took part in the study. This comprises two hundred and sixteen (216) respondents for the quantitative phase and twelve (12) respondents for the qualitative phase.

A four-point Likert-type scale questionnaire, semi-structured interview guide and observational checklist were the instruments used to gather data for the study. Two hundred and sixteen (216) preschool teachers, answered the questionnaire while semi-structured interviews were conducted for the six (6) headteachers and six (6) preschool teachers. The observation was done using six (6) ECECs where two (2) ECECs were selected from the study areas. Quantitative data analysis was done using the SPSS version 25.0. Concerning the quantitative data, both descriptive (Mean and Standard Deviation) and inferential statistical (Independent sample T-test, ANOVA and PPMCC tools were used to analyse the data. The qualitative data was analysed

through thematic analysis for the interviews while percentages and frequency count were used for the observational data.

6.2.2 Summary of chapters

The organisation of the study was done in six (6) different chapters.

Chapter one: This chapter started with a brief introduction of the background to the study. The discussion highlights the need for early childhood education, education for all, TLR, class size and classroom management which were link with literature recorded from other countries. The background section concluded with the contextual setting on the location of Ghana. However, the location of various study areas was also explained. The rationale and statement of the problem were also discussed. At this stage, the researcher gave the intention for conducting this study and the gap the research intended to fill after completion was also discussed. Again, sub-questions and research hypotheses were set to guide the perimeters of the study. The significance of the study was discussed with a brief description of various individuals and organisations who may benefit from the study. The assumptions made to guide the study was discussed. However, the chapter also highlights research design and methodology, delimitation of the study and definition of key concepts.

Chapter two: The researcher reviews the extensive literature on how large class size and TLR affect classroom management in ECECs in Ghana. The chapter began with a brief overview of the study. The theoretical review underpinned the study was on social constructivist by Lev Vygotsky where social interaction, zonal proximal development and scaffolding principle were used to analysed how large class size and TLR affect classroom management in ECECs in Ghana. However, conceptual framework showing how various variables are drawn on independent, mediating and dependent helped in classroom management were discussed. The empirical review was done about various research questions cited in sub-section 1.6.1 in chapter one.

Chapter three: The section presents the methodology used for the study. However, the researcher started with an introduction and methodological outline of the study which gave a clear description of how various sub-heads was discussed in the study.

The philosophical stance of the study reviewed focus on epistemology and ontology of various research paradigms was also discussed. From the analysis of these paradigms, the pragmatism philosophical assumption was selected to combine both positivist and interpretive assumptions.

The pragmatism philosophical assumption informs the use of a mixed-method approach where concurrent triangulation mixed-method design was used for the study. A descriptive survey was used for the quantitative phase while a case study was used for the qualitative phase. Subsequently, different sample and the sampling procedure was used because the study was concurrent triangulation mixed-method design. Furthermore, instruments used in the study was discussed and pilot-tested before the main data collection. The instruments were a questionnaire, semi-structured interview and observation guide. Before data collection, the researcher sought permission from the participants and authorities who were involved in the study and ethical consideration was discussed with them.

However, methods for ensuring trustworthiness, reliability and validity for the quantitative, qualitative and mixed-method approach was also analysed. After data collection, analysis was made on the quantitative and qualitative data. At the quantitative phase, ANOVA, Independent sample T-Test and Pearson Product Moment Correlation Co-efficient (PPMCC), frequency, percentage, the mean and standard deviation were used to analyse data while thematic analysis, frequency, count and percentages were used for the qualitative data. Finally, an evaluation was made on the methodology and a summary was written to conclude the chapter.

Chapter four: The section presented the quantitative and qualitative findings. The section began with an introduction where research questions and research hypotheses were stated before statistical analysis began. This chapter was group into three (3) phases. These are quantitative phase, qualitative phase and comparative study for both quantitative and qualitative data. However, the quantitative findings were grouped into three (3) phases. First was on respondents' sociodemographic profile and was followed by how mean and standard deviation was used in analysing the research questions. In the third phase, the research hypothesis was analysed using ANOVA,

Pearson Product Moment Correlation Co-efficient (PPMCC) and independent sample T-test.

However, the qualitative findings were also grouped in three (3) phases. In the first phase, interview data were analysed which was started with respondents' sociodemographic profile and thematic analysis was done on the research questions. In the second phase observational schedule was analysed using counting, frequency and percentage on the patterns of behaviour exhibited by pre-schoolers and classroom management strategies used by pre-schoolers. In the last phase, evaluation was made in the analyse of interview and observation data. Finally, after the analysis of both quantitative and qualitative data, the researcher did a comparative analysis to check the findings.

Chapter five: This section provides a discussion of the findings obtained from chapter four (4) in the study. The discussion of the findings was done in line with the research questions and relevant reference was made to support the study. Most of the literature using to support the interpretation was from the literature review in chapter two (2).

Chapter six: The section presents the summary, conclusion and recommendations of the study. An introduction was made for this chapter. In the summary phase, the review was based on chapters, quantitative data and qualitative data. Whereas, the conclusion was done on various research questions and research hypotheses. The implications of findings were made on theory and policy. After that, contribution to knowledge and recommendation was made on various research questions. Lastly, limitation of the study and suggestion for further research were made.

6.2.3 Summary of quantitative data

This section explains a summary of quantitative data. The summary of quantitative data was grouped into two (2) phases. These are a summary of the research questions and a summary of research hypotheses.

6.2.3.1 Summary of research questions

For the analysis of research question one (1), respondent comments or answers were arranged in descending order. This shows that comments with a high response rate were frequently occurring in the classroom. The summary from sub-section 4.2.2.1 in Table 4.11 shows that “out of seat behaviour” was the first frequently behavioural pattern exhibited by pre-schoolers in large class size. However, the individual scale found under out of seat behaviour recorded a mean value more than (M=3.80). The next theme that recorded the high response rate was “physical aggression”. The analysis of the theme shows that all individual scale under this theme recorded a mean value of more (M=3.57). However, the third theme that recorded a high response rate was “talking out of turn”. From the analysis, the individual text items recorded a mean score of more than (M=3.00). Again, Table 4.11 also recorded two moderate response which includes “verbal aggression” and “disrespecting teachers”. This means that in order of ranking the behavioural pattern exhibited by pre-schoolers in large class size “verbal aggression” and “disrespecting teachers” were the least behaviour pattern exhibited in large class size.

The next research question examines the challenges preschool teachers faced in handling pre-schoolers in large class size. The analysis of the research question was group into ten (10) individual text items. As shown in Table 4.12, individual text items on 1) Teachers do not have enough time to pay attention to each pre-schooler, 2) There is the inability to manage class, 3) Inability to organize exercise and class tests regularly, 4) Difficulty in marking pre-schoolers’ scripts and providing feedback on time and 5) Use of TLMs (teaching and learning materials) becomes a problem since teachers do not have enough TLMs for pre-schoolers recorded a mean score more than (M=3.00). These themes were challenges faced by preschool teachers in large class size. Again, other themes found in Table 4.12 scored a moderate response value was on 6) Interactions with pre-schoolers to know their problems and offer assistance become difficult 7) Inadequate seat and tables for pre-schoolers to feel comfortable, 8) Contributions in the classroom are done by a few pre-schoolers while other pre-schoolers disturb and 9) Difficulty in identifying truant pre-schoolers in the classroom. Whereas the ten (10) individual text item on pre-schoolers found it difficult to hear from the teachers recorded the least mean in the study.

The third research question was on the influence of large class size and TLR on teaching and learning in ECECs. The analysis of this research question was on three areas: classroom interaction and communication, non-instructional tasks and classroom discipline. Table 4.13 found in sub-section 4.2.2.3 revealed that non-instructional tasks, classroom interaction and communication recorded a mean score more than ($M=3.40$) which depict the high frequency of how class size and TLR influence teaching and learning in ECECs. The analysis of variable under classroom interaction and communication recorded a mean score of more than ($M=3.60$). However, the second theme with high response was on “non-instructional task”. The theme also recorded an over mean value of ($M=3.45$) where the individual scale item under this theme also recorded a mean value above ($M=3.29$). This shows that non-instructional task has a high response on how class size and TLR affect teaching and learning in ECECs. Table 4.13 also recorded a mean of means value of ($M=2.93$, $SD=1.33$) which represent how classroom discipline was moderately influencing the class size and TLR on teaching and learning in ECECs. The individual scale under classroom discipline found in Table 4.13 in sub-section 4.2.2.1 shows that respondents comment on not able to attend two events simultaneously in the classroom without being diverted unduly by disruptions recorded high response value above ($M=3.00$). The rest of the individual text value under classroom discipline recorded moderate response between ($M=2.90-2.99$).

The fourth research question examines teacher’s self-efficacy belief in managing pre-schoolers in a large class. The analysis of this research question was group into nine (9) individual text items. As shown in Table 4.14, individual text items on 1) I can put in adequate measures to keep activities running in the classroom, 2) I can communicate to pre-schoolers the expected behaviour required of them, 3) I can calm a pre-schooler who is disruptive or noisy, 4) I can control disruptive behaviour in the classroom and 5) I can implement alternative strategies in your classroom all recorded a mean score between ($M=3.00-3.90$). This means that teachers who exhibited these themes have more self-efficacy belief in managing pre-schoolers in large class size. Again, the remaining themes found in Table 4.14 scored a moderate response value which includes 6) I can establish a classroom management system with each group of pre-schoolers, 7) I can do much to get pre-schoolers to follow classroom rules, 8) I can motivate pre-schoolers who show low interest in instructional activities and 9) I can get

pre-schoolers to believe they can do well in instructional activities. In general, themes found Table 4.14 shows that preschool teachers have high self-efficacy belief in managing pre-schoolers in large class size.

Lastly, the summary for research question five (5) as cited in sub-section 4.2.2.5 shows that “behaviour modification” was the first classroom management strategy used by preschool teachers in ECECs. The response found under behaviour modification recorded a mean value between (M=3.60-3.95). From sub-section 4.2.2.5 assertive approach recorded the second-high response rate in classroom management. The analysis of the assertive approach shows that all responsibilities under this theme recorded a mean value between (M=3.50-3.80). Table 4.15 in sub-section 4.2.2.5 shows that “acceptable behaviour” such as I maintain that every individual need to feel accepted and have a sense of belongingness, I respect the dignity and worth of every individual, I try to mostly prevent pre-schoolers’ misbehaviour by giving them attention and accepting their differences and I relate well to every individual in the classroom by attending to their needs on time were the third more frequent classroom management strategies used by preschool teachers in large class size. The fourth theme that recorded a high response rate was on “business academic approach”. From this analysis, the individual text items recorded a mean score between (M=3.45-2.70). The next section explains a summary of the research hypotheses in the study.

6.2.3.2 Summary of research hypotheses

From subsection 4.4 the researcher tested eight (8) hypotheses in the study. From hypothesis one (1) the researcher was interested in testing if there was a significant difference between preschool teachers working experience and their classroom management strategies. From this assertion, the appropriate analytical tool used was ANOVA. From Table 4.20 found in sub-section 4.2.3.2 recorded *sig value* 0.000 which was below p-value 0.05. This means the assumption of homogeneity had not been violated. For this reason, the researcher rejects the null hypothesis and accepts the alternate hypothesis that states: “There is a significant difference between preschool teachers’ experience and classroom management strategies”.

However, hypothesis two (2) was analysed using ANOVA. The researcher intends to assess the difference between preschool teachers' educational level and classroom management. The sig-value recorded was (0.000) which was below the *p-value* of 0.05. this means the assumption of homogeneity had not been violated. Although, hypothesis two (2) recorded a significant figure the researcher could not tell the difference unless the Post Hoc test was conducted. From the Post Hoc test, the researcher found out that there was a significant difference between preschool teachers with Certificate and Diploma holders. Again, there is a difference in preschool teachers with Certificate and first-degree holders.

Hypothesis three (3) assess TLR and classroom management strategies. The researcher used ANOVA because there was three (3) or more independent variable measuring one (1) dependent variable. From the homogeneity of variance, it was shown that the assumption had not been violated since the significant level was 0.000 which was below the *p-value* of 0.05. The researcher rejects the null hypothesis and accepts the alternate hypothesis stated: "There was a significant difference between TLR and classroom management strategies". Table 4.31 on Post Hoc test shows that there was a significant difference between 1:15 TLR and 1:30 with *p-value* 0.00 while between 1:15 and 1:45 there was a *p-value* of (0.000). Again, there was a significant difference between 1:45 and 1: above 45 which recorded a *p-value* of (0.000).

In hypothesis four (4) the researcher was interested in finding the difference between the type of ECECs and classroom management. The independent sample T-test was chosen because there were two (2) independent variables measuring one (1) dependent variable. Table 4.33 shows a *p-value* of (0.000) which was smaller than the *p-value* of 0.05, meaning the data had violated the assumption of equal variance. The result shows that the alternate hypothesis stated as "There is a significant difference between the type of ECECs and the preschool teacher's classroom management strategies" provided was accepted with the effect size of 0.25.

Hypothesis five (5) presents the difference between trained and untrained preschool teachers self-efficacy belief in managing pre-schoolers in large class size. From Table 4.35 in sub-section 4.2.3.6 the *p-value* (.061) was greater than the *p-value* 0.05 meaning the alternate hypothesis was rejected to accept the null hypothesis stated as:

“There is no significant difference between trained and untrained preschool teachers concerning self-efficacy belief in” managing pre-schoolers in large class size.

Hypothesis six (6) show the difference between class size and teachers self-efficacy belief to manage pre-schoolers in a large class. From Table 4.39 the *F*-ratio (124.751) was significant ($p=0.000$) at the alpha level of 0.05. The researcher accepts the alternate hypothesis stated: “There is a significant difference between class size and teacher’s self-efficacy belief to manage pre-schoolers in large class”. The hypothesis scores a medium effect size of 0.64 using Cohen (1988), format.

Hypothesis seven (7) find out the relationship between challenges preschool teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt. The researcher used the Pearson Product Moment Correlation Co-efficient (PPMCC) to analyse the data because both variables were measured on a continuous scale. The finding reported shows that $r = 0.193^{**}$, $sig. = 0.004^{**}$ $p < 0.05$, $N=216$. This means that the variables predict themselves 19.3%. The result was a realist because *p-value* 0.004 was below $p=0.05$ show that challenges faced by preschool teachers in large class size have much influence on preschool teachers’ ability to manage their classes. However, the researcher accepts the alternate hypothesis that stated, “There is a positive strong relationship between challenges teachers faced in handling pre-schoolers in large class and classroom management strategies they adopt”.

Hypothesis eight (8) shows how Influence of class size and TLR on teaching and learning and teacher’s self-efficacy belief in managing pre-schoolers. However, the analysis shows $r = 0.653^{**}$, $sig. = 0.000^{**}$ $p < 0.05$, $N=216$. The two variables influence of class size and TLR and self-efficacy belief share a variance of 0.653 (65.3%). This implies that the variables predict themselves 65.3%. Per the significant figure which less than 0.05, the research accepts the alternate hypothesis stated: “There is a positive strong relationship between the influence of class size and TLR on teaching and learning in early childhood education centres and teacher’s self-efficacy belief in managing pre-schoolers in large class”. The next section discusses the summary of qualitative data.

6.2.4 Summary of qualitative data

This section presents summary of qualitative data. This summary was grouped into two (2) phases. These are summary of interview data and observational data.

6.2.4.1 Summary of qualitative interview data

The summary of interview data was presented as arranged in (Appendix G). The interview data was made up of seven (7) questions that help the researcher to investigate how large class size and TLR on classroom management in ECECs. The data was analysed using thematic analysis where anonymity was observed using respondents' schools and location to set their identity. The interview was conducted using twelve (12) respondents which involve ten (10) females and two (2) males. The analysis of the interview data started with respondents' sociodemographic profile.

The first theme from the interview data focuses on the pattern of behaviour exhibited by pre-schoolers in the classroom. At this stage respondent's response highlighted was on disrespecting teachers, verbal aggression, physical aggression, talking out of turns and out seat behaviour were the themes that emerged in the study. In the second phase, the researcher was interested in examining the challenges teachers faced in handling pre-schoolers in large class size. The analysis of this theme shows that preschool teachers were faced with challenges of 1) inability to organise exercise and class test regularly, 2) inadequate teaching and learning materials, 3) inability to manage class and 4) attention challenges.

The third section focuses on the influence of large class size and TLR on teaching and learning in ECECs. The transcription of respondent's comments was on classroom discipline, non-instructional task and classroom interaction and communication emerged in the study. The next theme was on teacher self-efficacy belief in managing pre-schoolers in large class size. From this theme individual respondents gave different style or ways exhibited to ensure effective classroom management. The last section from the interview data focuses on the classroom management strategies used by preschool teachers in ECECs. However, the themes that emerged from the study were on acceptance approach, assertive discipline, behaviour modification and

business academic approach. The next section explains the summary of observational data.

6.2.4.2 Summary of qualitative observational data

The observational summary started with the background information of respondents. This section was grouped into three (3) phases. These involve background information of respondents, the patterns of behaviour exhibited by pre-schoolers and classroom management strategies used by pre-schoolers in large class size. This background observational information was based on the time started, weeks, session, type of ECECs, content, number of pre-schoolers supervised in class, number of pre-schoolers in class, time ended and researchers' comments.

The observational pattern on behaviour exhibited by pre-schoolers from Table 4.44 in sub-section 4.3.2.2 shows that behaviour such as sleeping during the lesson, leaving class without permission, punching and fighting, speaking the foul language was highly predominant among pre-schoolers in public ECECs. But the pre-schoolers found in private ECECs were exhibiting behaviour like unconventional usage of TLMs, changing seats and wandering around and irrelevant drawing. In comparing private ECECs and public ECECs, Table 4.44 shows that behaviour pattern exhibited by pre-schoolers in the private ECECs was more positive that build pre-schoolers learning activities and capacity in the classroom than pre-schoolers found in public ECECs.

The third phase found in sub-section 4.3.2.3 shows that preschool teachers found in private ECECs were exhibiting more classroom management strategies than their counterparts in the public ECECs. The classroom management strategies found in Table 4.45 like 1) positive reinforcement, 2) respect the dignity and worth of every pre-schooler to avoid discrimination, 3) given clear instructions to every classroom activity to prevent disturbance, 4) given prompt feedback, 5) shaping pre-schoolers still they perform terminal behaviour and 5) implement rules and regulations to prevent pre-schoolers were highly performed in private ECECs. The subsequent section explains the conclusion of the study.

6.3 CONCLUSION

This section presents the summary of the study. The summary was based on the research questions of the study where both quantitative and qualitative findings were combined and synthesized to ensure concise and narrative conclusive for each research questions.

6.3.1 Patterns of behaviour exhibited by pre-schoolers in classroom

Based on research question one (1). It was found that behavioural patterns exhibited by pre-schoolers in large class size run through the three (3) study area and within the type of ECECs in Ghana. The study concluded that out of seat behaviour, physical aggression, verbal aggression, talking out of turns and disrespecting teachers were the behaviour patterns exhibited in large class size. Also, pre-schoolers found in early childhood care in their exploration stage so control their behaviour may be difficult.

6.3.2 Challenges teachers faced in handling pre-schoolers in large class

From the findings in research question two (2), the study concluded that Tamale Metropolis and public ECECs found in the Tamale Metropolis dominated in the challenges preschool teachers faced in handling pre-schoolers in large class size. The challenges include 1) Inadequate seat and tables for pre-schoolers to feel comfortable, 2) The permeability between pre-schoolers and TLMs ratio, 3) Inability to organize exercise and class tests regularly and 4) Teachers do not have enough time to pay attention to each pre-schooler. This conclusion confirms the 2010 population census result where the Northern region (Tamale metropolis as the capital) was rated as the density populated with a lack of educational resources.

6.3.3 Influence of large class size and TLR on teaching and learning in early childhood education centres

The third research question of the study concluded that preschool teachers teaching in large class size with high TLR found it difficult to hold pre-schoolers attention to classroom activities. It was also observed the preschool teachers were wasting

instructional time managing pre-schoolers. Again, it was concluded that preschool teachers were repeating activities and were unable to attend to two events simultaneously in the classroom without being diverted unduly by disruptions.

6.3.4 Teachers self-efficacy belief in managing pre-schoolers in large class

The study revealed that being a trained or untrained preschool teacher does not ensure the ability to manage pre-schoolers in large class size. It was also observed that class size and TLR influence the preschool teacher's ability to put adequate measures in the classroom. Again, reinforcement, effective communication and calming pre-schoolers from disrupting were the classroom activities exhibited by preschool teachers with high self-efficacy.

6.3.5 Classroom management strategies used in early childhood education centres

The study established that behaviour modification and assertive approach were frequently practiced by preschool teachers to manage pre-schoolers in large class size. It was also concluded that type of ECECs and teachers experience do not guarantee classroom management, but preschool teachers' educational attainment and class size supervised by preschool teacher ensure their effectiveness in classroom management.

6.4 IMPLICATIONS OF THE FINDINGS

This section discusses the implications of the study. The implication of the study was organised in two (2) phases. First, implications for theory were on how large class size and TLR affect classroom management in ECECs. Lastly, the implications for the policy were also presented. The current study uncovered how the effect of large class size and TLR on classroom management in ECECs in the context and nature of Ghana. The findings of this study critical review how large class size and high TLR affects classroom management of preschool teachers in ECECs in Ghana. The findings were useful in the basic of knowledge sharing, presenting how challenging preschool teachers were faced in handling pre-schoolers in large class size and the type of classroom management strategies used in handling pre-schoolers. The

implication of the finding was benched on the fact that other research findings were not able to establish how class size and TLR affected classroom management in ECECs.

6.4.1 Implication for theory

The theoretical review and literature regarding large class size and TLR on classroom management in ECECs were conceptualised on social constructivist. The theory was significant to this study because it provides a concept from which preschool teachers can socially interact and manage pre-schoolers. The theory helps to convert knowledge on classroom management strategies used by preschool teachers within ECECs. This help to understand how teachers used scaffolding, social interaction and zone of proximal development in a dynamic way to manage pre-schoolers in large class size.

6.4.2 Implication for policy

The study emphasizes that there were fundamental challenges associated with managing pre-schoolers in large class size. The researcher argues that the common challenges found among preschool teachers in the study run across all ECECs in Ghana. From this view, policy-makers and other relevant stakeholders in the area of education such as; Ministry of Education (MoE), Ministry of Gender, Children and Social Protection (MGCSP), Ghana Education Service (GES), UNESCO, Campaign for Female Education (CAMFED), College of Education and Departments of Education of various universities in Ghana need to take pragmatic measure to ensure the enhancement of the Education for all in Ghana.

Again, elements from the findings established that challenges incurred by preschool teachers in large class size. This shows that the implementation of education for all programme have remain fertile and still in the infancy stage, particularly regarding TLR, class size, resources to enhance teaching and learning and lack of access to education that has created congestion among the fewer ECECs. Therefore, the need to develop the right policy to improve the class size and TLR to strengthen supervision of activities that enhance an effective classroom management system.

6.5 CONTRIBUTION TO KNOWLEDGE

The study was to investigate how large class size and TLR affect classroom management in ECECs in Ghana. The research was underpinned by using social constructivist theory with concurrent triangulation mixed-method design contribute to knowledge in methodology and research domains. Lau (2017) suggested that multiple research design in studying how large class size and TLR affect classroom management provide an opportunity to bridge the view of basic research with the practice of applied research which allows for solving in a real-world situation and contributes to the generation of new knowledge.

The methodological pattern of the study was blended with a different approach where different views were sought from different stakeholders in the ECE setting. The contribution made by stakeholders helped with the formation of strategies to curb the various challenges teachers reported which impacted teaching large class size, namely out of seat behaviour, talking out of turns, verbal aggression and physical aggression behavioural patterns exhibited by pre-schoolers in large class size.

The theoretical review was the best to integrate how social interaction, scaffolding and zone of proximal development helped to provide scientific knowledge and insight on how large class size and TLR affect classroom management in ECECs was the best. The insight of the theoretical review shows that effective integration of concepts on social interaction, scaffolding and zone of proximal development would help maximize the practice of classroom management in ECECs in Ghana.

The role of preschool teachers and headteachers as experts in classroom management in the body of knowledge sharing would help ascertain their views to other researchers in the field of education. This means preschool teachers and headteachers in Ghana and other developing countries would transfer knowledge and approaches used to maintain discipline in the classroom.

6.6 RECOMMENDATIONS

This section provides recommendations based on the findings of the study. The recommendations presented was what the researcher considers as essential to

enhance class size and TLR on classroom management in ECECs. The recommendation of the study on each sub-section was based on improvement of practice and policy.

6.6.1 Recommendation 1: Improve teachers training in Ghana

Based on findings from research question one (1), it emerged that the behavioural pattern exhibited by pre-schoolers cut across all ECECs visited because pre-schoolers are in their exploratory stage and control their behaviour was extremely difficult. The researcher recommends that preschool teachers should be equipped with rudimentary skills of handling pre-schoolers behaviour in ECECs. The researcher further recommends that the practicum for preschool teachers at the universities or colleges should be extensively dependent on behaviour management and anger management to prevent them from beating pre-schoolers in ECECs. It was recommended that the Ministry of Education and Ghana Education Service should organise workshops and seminars for both trained and untrained preschool teachers in the country on how to manage pre-schoolers behaviour in the classroom in order to upskill teachers.

6.6.2 Recommendation 2: Teacher need to adopt a theoretical model in handling pre-schoolers in ECECs

From research question two (2), it emerged that the preschool teachers were facing challenges on how manage pre-schoolers and attention. The researcher recommends that preschool teacher should adopt concepts from the social constructivism theory by Lev Vygotsky, where the social interaction, scaffolding and zone of proximal development would be used to manage and reduce the heavy burdening from preschool teachers. It was also recommended that the Ministry of Education should employ more teacher to ease teaching burdening on the few preschool teachers in ECECs.

6.6.3 Recommendation 3: Ministry of Education must focus on building more schools and providing sufficient resources

Based on findings from research question three (3), it emerged that the preschool teachers were having difficulties holding pre-schooler's attention during lessons due to class size and time-wasting on non-instructional activities due to the large class size and high TLR which they are operating in ECECs. The researcher recommends that the Ministry of Education should build more ECECs to reduce the total congestion of large class size found in ECECs. Again, the Ministry of Education should also employ more preschool teachers to meet the national policy of eighteen (18) pre-schoolers in the classroom as integrated into the Ministry of Education, Youth and Sport (2008) guideline for establishing ECEC. Again, there is a need for a clear national policy about the establishment of ECEC where building design and facilities (toilet, water tap and dinner room) would be placed in the classroom to prevent pre-schooler from out of seat behaviour.

6.6.4 Recommendation 4: Intensive training in psychological enrichment and self-development

The researcher recommends that ECE trainee should be allow go to through intensive training to attain the capacity to execute some behavioural qualities in their teaching profession. The Ministry of Education should also implement a regulation that before one would become a preschool teacher unless he/she serves as a substitute/part-time to understudy the professional before he/she can handle pre-schoolers. During the lesson or activities, expedition period the ECE trainee teachers would also help with the social interaction, scaffolding and zone of proximal development to ensure effective teaching delivery in ECECs. However, while the ECE trainee teachers are assisting with the classroom activities and management it would also build their self-efficacy to become good or effective preschool teachers.

6.6.5 Recommendation 5: Appropriate classroom management plans

The researcher recommends that an appropriate classroom management plan or guideline under which the preschool teacher must operate should be well established

in the ECECs. The classroom management guideline should be carved out of the national guidelines but must be tailored to meet the specific needs of the pre-schoolers each ECECs. This classroom management guideline should also be made aware of ECE trainee teachers during practicum to guide them in executing their duties in the classroom.

6.7 SUGGESTIONS FOR FURTHER RESEARCH

The researcher suggests that experimental work should be done on the effect of the psychological classroom environment and TLR on classroom management in ECECs. The experimental work should cover the differentiation of the independent variable, where one group would be exposed to a good psychological classroom environment and teacher-learner ratio and the other would not be exposed to see the outcome on how preschool teachers are managing a classroom.

6.8 LIMITATION OF THE STUDY

Limitations are conditions or challenges that restrict the researcher from completing the studies on time (Creswell & Creswell, 2018; Kusi, 2012). The first limitation that was encounter by the researcher was the use of concurrent triangulation mixed-method design. This design allows the researcher to collect and analyse simultaneously both quantitative and qualitative data. Due to the large scope for quantitative studies, generalisation of the findings to the public may not be difficult but the qualitative findings may be a bit challenging due to minimal scope.

Since the goal of the researcher for conducting this study was to provide a better understanding of the trend of how large class sizes and TLR affect the management of ECECs in Ghana. Nonetheless, the case was transferable, if other researchers found commonalities between their contexts and that of this particular study, then transferring the results to their contexts as possible. Nevertheless, the results of this study can be used in close relationship with other studies in the Ghanaian educational context to improve the understanding of how large class size and TLR affect classroom management in Ghana's ECECs.

The next limitation was on the research instructions. However, since the research instruments collect participants views and their opinions, the researcher realised that

it was possible to identify some of the research participants in the study. The threat to the confidentiality and anonymity of the participant's information was highly considered. The researcher agreed to exclude any comments/quotations that may reveal the identity of any of the participants or ECECs position in the study from the results. Again, at the quantitative phase, individual comments and narration were analysed in a group where the researcher coded all the responses into SPSS. However, at the qualitative phase, the location and type of ECECs were used to code the respondent's identity.

Creswell and Creswell (2018) and Kusi (2012) draws researchers' attention to possible bias that may occur during collection, construction and analysis of data. The attempts made by the researcher in this analysis to ensure that the data collection processes were bias-free. First, before data collection, the instructions were piloted in Sekondi-Takoradi Metropolis. Secondly, the researcher used more than three different methods in collecting data from respondents. The researcher ensured the used of methodological and respondent's triangulation to emerge data and also eliminate any form of potential bias from the study.

Another form of limitation that was encountered by the researcher was the unwillingness of the respondents to reveal the information, and thus delayed the data collection process. Furthermore, some of the questionnaire returned was partly answered and such questionnaire was returned to the respondents and the researcher assisted them to answer those questions. The other challenge the researcher faced was the fact that some respondents who were to be interview did not honour their invitation after several rescheduling time, so the researcher appointed other respondents from the ECECs.

Given these limitations, the researcher may conclude that the concurrent triangulation mixed-method design was perfect for the study. It was appropriate to address the key research questions and hypotheses set in sub-section 1.6.1 and 1.6.2 in chapter one and made it possible to investigated how large class sizes and TLR affect classroom management in ECECs in Ghana.

6.9 GENERAL CONCLUSION

The main research question answers the extent to which large class size and TLR affect classroom management in ECECs in Ghana. The methodology was underpinned by concurrent triangulation mixed-method design where quantitative data was gathered through descriptive survey and semi-structured interviews and observation were used for the qualitative phase. The overall respondents for the study were 228 which constitute 216 respondents for the quantitative phase while 12 respondents were used for the qualitative phase. Following the research questions, the general conclusion was drawn. The discussion was based on the major findings of the study.

The study shows that out of seat behaviour was the most frequent behavioural pattern exhibited by pre-schoolers in large class size, followed by physical aggression, verbal aggression, talking out of turns and disrespecting the teacher. The investigation on this section also shows that pre-schoolers found in the ECEC were not matured enough to understand rules and orders in the classroom. The study identified some challenges preschool teachers faced in handling pre-schoolers in large class size. The dominant challenges were; 1) Inadequate seat and tables for pre-schoolers to feel comfortable, 2) The permeability between pre-schoolers and TLMs ratio, 3) Inability to organize exercise and class tests regularly and 4) Teachers do not have enough time to pay attention to each pre-schooler. The study finds out that preschool teachers had difficulties holding pre-schoolers attention to classroom activities, time-wasting instructional on repeating activities and preschool teachers are unable to attend two events simultaneously without being interrupted.

On preschool teacher's self-efficacy belief in managing pre-schoolers revealed being a trained or untrained teacher do not ensure effective classroom management. Whereas, class size and TLR influence the preschool teacher's ability to manage a classroom, communicate effectively to pre-schoolers and calm pre-schoolers from disrupting the classroom activities. The study further established that the dominant classroom management used was behaviour modification and assertive approach.

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LIST OF APPENDICES

APPENDIX A: LETTER TO METROPOLITAN DIRECTORS OF EDUCATION



The Director
Metropolitan Directorate of Education Units.
4th May, 2020

Dear Sir/Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT YOUR EARLY CHILDHOOD CENTRES

I, Kissi-Abrokwah Bernard, am conducting a research with Krog Soezin, a professor in the Department of Early Childhood Education towards a PHD at the University of South Africa. We humbly request you to grant us permission to conduct a study entitled **“Effect of large class size and teacher to learner ratio in early childhood educational centres in Ghana”**.

The purpose of the study is to investigate the what extent to which large class sizes and PTR affect classroom management in early childhood educational centres in Ghana. Information provided by the participants will be treated with outmost confidentiality. All the participants will be required to complete the consent form. The research process is an academic exercise and therefore the findings and recommendations of the research will be made available to you on request.

Yours sincerely



Kissi-Abrokwah Bernard

(PHD Candidate)

Supervisor: Prof S Krog

Email: Krog@unisa.ac.za

Cell No.: 0027(12) 429-4461

Co-supervisor: Dr Millicent Ngema

Email: engemam@unisa.ac.za

Cell No.: 0027(12)429-4472

APPENDIX B: APPLICATION LETTER TO HEAD TEACHERS OF EARLY CHILDHOOD EDUCATION CENTRES



The Principal

Date: 4th May, 2020

Dear Sir/Madam

REQUEST FOR CONSENT TO CONDUCT RESEARCH AT YOUR EARLY CHILDHOOD CENTRES

I Bernard Kissi-Abrokwah am currently enrolled at the University of South Africa for a Doctor of Philosophy in Education. Your early childhood centres have been selected to participate in my research study which is entitled: Effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The purpose of the study is to investigate the effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The study is supervised by Prof S Krog and joint supervisor Dr Ngema from the University of South Africa.

I kindly request permission for me to do my research at your early childhood centre. The research entails medium risk. Preschool teachers, head teachers and preschoolers will form part of this study. However, all the pre-schoolers in the Kindergarten one and two classrooms will take part in the study and be observed in their classrooms. It is only the selected one (1) preschool teacher and head teacher who will be interviewed. The practitioner will be audio-taped and transcribed. Data captured from the interviews, observations and written notes of the researcher, the practitioners and pre-schoolers will be used for this study.

Interviews with the practitioner will be conducted by me for about 30-35 minutes and audio-taped to facilitate collection of accurate information. However, the observation will be done when pre-schoolers are in class to assess their pattern of behaviour they

exhibit in classroom and the classroom management strategies used by teachers to maintain discipline in schools.

Anonymity and confidentiality will be adhered to at all times. All faces of the participants (practitioners and pre-schoolers) will be blacked out so that they are not identified. All participation is voluntary and participants in the study may withdraw from the study at any time without penalties. Any information obtained in the collection of this study will only be used for my PHD degree and excerpts of the interviews, field notes and audio recordings may be made part of the final research report, but under no circumstances will the schools' names or individuals be included in the report.

A copy of the formal findings of the research project can be made available to you upon your request. Participants also have the right to request that any data can be withdrawn from the study after having provided it. I look forward to your positive response. Please do not hesitate to contact me if you have any questions about this.

Yours
sincerely



Researcher: Bernard Kissi-Abrokwah

(PHD STUDENT)

Contact Number: +233208248314

Contact Email: 66080045@mylife.za.ac

Supervisor: Prof S Krog

Email: krogs@unisa.ac.za

Co-supervisor: Dr M Ngema

Email: engemam@unisa.ac.za

APPENDIX C: INFORMED CONSENT LETTER TO PRESCHOOL TEACHERS



The Practitioners

Date: 4th May, 2020

Dear Sir/Madam

My name is Bernard Kissi-Abrokwah. I am currently enrolled at the University of South Africa for a Doctor of Philosophy in Education. You have been selected to participate in my research study which is entitled: Effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The purpose of the study is to investigate the effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The study is supervised by Prof S Krog and joint supervisor Dr M Ngema from the University of South Africa.

I kindly request permission from you to take part in my research study. The research entails medium risk. Preschool teachers, head teachers and pre-schoolers will form part of this study. However, all the pre-schoolers in the kindergarten one and two classrooms will take part in the study and be observed in their classrooms. It is only the selected one (1) preschool teacher and head teacher who will be interviewed. The practitioner will be audio-taped and transcribed. Data captured from the interviews, observations and written notes of the researcher, the practitioners and pre-schoolers will be used for this study.

Interviews with the practitioner will be conducted by me for about 30-35 minutes and audio-taped to facilitate collection of accurate information. However, the observation will be done when pre-schoolers are in class to assess their pattern of behaviour they exhibit in classroom and the classroom management strategies used by teachers to maintain discipline in schools.

Anonymity and confidentiality will be adhered to at all times. All faces of the participants (practitioners and pre-schoolers) will be blacked out so that they are not identified. All

participation is voluntary and participants in the study may withdraw from the study at any time without penalties. Any information obtained in the collection of this study will only be used for my PHD degree and excerpts of the interviews, field notes and audio recordings may be made part of the final research report, but under no circumstances will the schools' names or individuals be included in the report.

A copy of the formal findings of the research project can be made available to you upon your request. Participants also have the right to request that any data can be withdrawn from the study after having provided it. I look forward to your positive response. Please do not hesitate to contact me if you have any questions about this.

Yours
sincerely



Researcher: Bernard Kissi-Abrokwah

(PHD STUDENT)

Contact Number: +233208248314

Contact Email: 66080045@mylife.za.ac

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Email: krogs@unisa.ac.za

Co-supervisor: Dr M Ngema

Email: engemam@unisa.ac.za

APPENDIX D: INFORMED CONSENT LETTER TO THE PARENTS



4th May, 2020

Dear Parent(s)

My name is Bernard Kissi-Abrokwah. I am currently enrolled at the University of South Africa for a Doctor of Philosophy in Education. Your child has been selected to participate in my research study which is entitled: Effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The purpose of the study is to investigate the effect of large class size and pupil to teacher ratio on classroom management in early childhood centre in Ghana. The study is supervised by Prof S Krog and joint supervisor Dr M Ngema from the University of South Africa.

There are no foreseeable risks to your child taking part in the study. The possible benefits to education are that this study will inform the pattern of behaviour exhibited by preschoolers and classroom management strategies used by preschool teachers. Your child's involvement in this study is voluntary. Withdrawal or refusal to be involved will not affect your child in any way. Similarly, you can agree to allow your child to be in the study now and change your mind later without any penalty. The study will take place during regular classroom activities with the prior approval of the school and your child's teacher. The information gathered from the study and your child's partaking in the study, will be stored securely on a password locked computer in my intellectual property legal practitioner's office for five years after the study.

Anonymity and confidentiality will be adhered to at all times. All faces of the participants (practitioners and pre-schoolers) will be blacked out so that they are not identified. All participation is voluntary and participants in the study may withdraw from the study at any time without penalties. Any information obtained in the collection of this study will only be used for my PHD degree and excerpts of the interviews, field notes and audio recordings may be made part of the final research report, but under no circumstances will the schools' names or individuals be included in the report.

A copy of the formal findings of the research project can be made available to you upon your request. Participants also have the right to request that any data can be withdrawn from the study after having provided it. I look forward to your positive response. Please do not hesitate to contact me if you have any questions about this.

Yours



sincerely

Researcher: Bernard Kissi-Abrokwah

(PHD STUDENT)

Contact Number: +233208248314 Contact Email: 66080045@mylife.za.ac

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APPENDIX E: CHILD ASSENT LETTER

UNISA | 
college of
education
4th May, 2020

Dear Child

INVITATION FOR PARTICIPATION IN RESEARCH PROJECT

My name is Bernard Kissi-Abrokwah and I would like to ask you if I can come and watch you learn in your classroom. I also want to know about how to play and behave in classroom. I will not ask you to do anything that might hurt you or that you don't want to do. I will only be observing the class while the teacher is teaching.

There are no foreseeable risks to you in taking part in the study. The possible benefits to education are that this study will inform readers about the pattern of behaviour exhibited by pre-schoolers and classroom management strategies used by preschool teachers in early childhood education centres. Your involvement in this study is voluntary. Withdrawal or refusal to be involved will not affect you in any way. Similarly, you can agree to take part in the study now and change you can change your mind later without any penalty. The study will take place during regular classroom activities with the prior approval of the school and your parents. The information gathered from the study will be stored securely on a password locked computer in my intellectual property legal practitioner's office for five years after the study. Please ask your mommy or daddy about what it means to participate in a study before you sign the letter. A copy of this letter will be given to your parents.



Bernard Kissi-Abrokwah

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Email: krogs@unisa.ac.za

Co-supervisor: Dr M Ngema

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APPENDIX F: QUESTIONNAIRE

**UNIVERSITY OF SOUTH AFRICA
COLLEGE OF EDUCATION
DEPARTMENT OF EARLY CHILDHOOD EDUCATION
QUESTIONNAIRE FOR TEACHERS AND HEADTEACHERS**

Dear Participant,

This questionnaire seeks your opinion on the topic: *Effect of Large Class Size and Teacher-Learner Ratio on Classroom Management in Early Childhood Educational Centres in Ghana*. Your response to the questions will be treated confidential. The study forms part of my academic work in school. In order for my study to be successful, your participation will be highly appreciated. Please do NOT discuss your answers with anyone else. Tick (✓) or supply an appropriate response where applicable.

SECTION A: Background Information

1) Number respondents from metropolis: A). Tamale B). Kumasi

C) Cape Coast

2). Type of ECEC: A). Public B). Private

3). Gender: A). Male B). Female

4). Type of respondent A). Trained B). Untrained

5). Age: A). Below 20 B). 21-30 C) 31-40

D) 41-50 E). 51-60 F). 61-above

6). Educational level: A). Certificate A C). First Degree

B). Diploma D). Master Degree

7). Number of pre-schoolers in class? A). 20-30 C). 41-50
 B). 31-40 D). Above 51

8). Years of experience as a preschool teacher:

A). Less 5 C). 11-15
 B). 6-10 D). 16- above.....

9). Pupil-to-teacher ratio: A). 1:15 B). 1:30 C). 1:45
 D). 1: above 45

SECTION B: Pattern of behaviour exhibited in large size class

Indicate in one of the boxes a tick (✓) to show the extent to which you agree to the statements below using the following guide: Strongly Disagree (SD); Disagree (D); Agree (A); Strongly Agree (SA).

S/N	Behaviour Patterns	SD	D	A	SA
Some pre-schoolers in my class exhibit these behaviours;					
Disrespecting teachers					
10	Refusing to carry out instructions				
11	Talking back at teacher				
12	Talking back to teachers when offended				
13	Leaving class without permission				
Talking out of turn					
14	Interfering others when they are answering questions in class				
15	Talking or answering question when not called				

16	Having disruptive conversation with peer				
17	Shout when answering questions out				
Verbal aggression					
18	Insulting classmates during the lessons				
19	Laughing at peers during lessons				
20	Using abusive language				
21	Teasing classmates during lesson				
Physical aggression					
22	Hitting during lessons				
23	Using pencils or objects to pinch peer during lesson				
24	Bitting peer in classroom				
25	Kicking peer in classroom				
Out of seat behaviour					
26	Changing seats during lessons				
27	Wandering around the classroom				
28	Jumping from one place to the other in the classroom				

SECTION C: Challenges teachers faced in handling pre-schoolers in large class

Indicate in one of the boxes a tick (✓) to show the extent to which you agree to the statements below using the following guide: Strongly Disagree (SD); Disagree (D); Agree (A); Strongly Agree (SA).

S/N	STATEMENT	SD	D	A	SA
29	Contributions in class are done by a few pre-schoolers while other pre-schoolers disturb.				
30	Pre-schoolers found it difficult to hear from the teachers.				
31	Interactions with pre-schoolers in order to know their problems and offer assistance become difficult.				

32	Use of TLMs (teaching and learning materials) becomes a problem since teachers cannot have many TLMs for individual pre-schoolers.				
33	Inability to organize exercise and class tests regularly.				
34	Difficulty in marking pre-schoolers' scripts and providing feedback on time.				
35	Difficulty in identifying truant pre-schoolers in the class.				
36	There is inability to manage class				
37	Inadequate seat and tables for pre-schoolers to feel comfortable				
38	Teachers do not have enough time to pay attention to each pre-schooler.				

SECTION D: Influence of class size and pupil-teacher ratio on teaching and learning in early childhood education centres

Indicate in one of the boxes a tick (✓) to show the extent to which you agree to the statements below using the following guide: Strongly Disagree (SD); Disagree (D); Agree (A); Strongly Agree (SA).

S/N	STATEMENT	SD	D	A	SA
	Classroom discipline				
39	I hardly start lessons on time and continue previous lesson due to interruption (pre-schoolers disruptive behaviour such as noise) in class.				
40	I consistently enforce the classroom rule and procedures, to ensure discipline but due class size it difficult to enforce it.				
41	I easily ensure that transition from one learning activity to another is done but due to class size I always loss of instructional time				
42	I am not able to attend to two events simultaneously in class without being diverted unduly by disruptions.				

Classroom interaction and communication					
43	I found it difficult to hold preschooler's attention during lessons due to class size.				
44	I found it difficult to speak or communicate clearly during classroom session due to class size.				
45	I always write on black board to explain a concept because pre-schoolers cannot hear my voice very well during classroom session due to class size.				
46	I always have a firm grasp of the class when teaching in class.				
Non-instructional tasks					
47	Observe break for sleeping and eating disruptive preschooler's attention concentrate in classroom				
48	Off-tasks behaviour like roaming during lesson affect teaching and learning in classroom.				
49	Non-instructional task activities exhibited by preschoolers affect preschool teachers' abilities to perform scaffolding, zone of proximal development and social interaction in classroom.				
50	Non-instructional task activities exhibited by preschoolers affect preschool teachers to waste instructional time in classroom.				

SECTION E: Teachers self-efficacy belief in managing pre-schoolers in large class

Indicate in one of the boxes a tick (✓) to show the extent to which you agree to the statements below using the following guide: Strongly Disagree (SD); Disagree (D); Agree (A); Strongly Agree (SA).

S/N	STATEMENT	SD	D	A	SA
51	I am able to control disruptive behaviour in the classroom.				

52	I can motivate pre-schoolers who show low interest in instructional activities.				
53	I can get pre-schoolers to believe they can do well in instructional activities.				
54	I can do much to get pre-schoolers to follow classroom rules.				
55	I am able to calm pre-schooler who is disruptive or noisy.				
56	I am able to establish a classroom management system with each group of pre-schoolers.				
57	I am able to implement alternative strategies in your classroom.				
58	I am able to communicate to preschoolers the expected behaviour required of them.				
59	I can put in adequate measures to keep activities running in classroom.				

SECTION F: Classroom management strategies

Indicate in one of the boxes a tick (✓) to show the extent to which you agree to the statements below using the following guide: Strongly Disagree (SD); Disagree (D); Agree (A); Strongly Agree (SA).

S/N	STATEMENT	SD	D	A	SA
Acceptance approach					
60	I try to mostly prevent preschoolers' misbehaviour by giving them attention and accepting their individual differences.				
61	I respect the dignity and worth of every individual.				
62	I maintain that every individual need to feel accepted and have the sense of belongingness.				
63	I relate well to every individual in the class by attending to their needs on time.				

Assertive approach				
64	Mostly, I make preschoolers know I am in charge by specifying behaviours and their consequences and communicate them clearly to preschoolers.			
65	I strongly implement rules and regulations to prevent pre-schoolers from misbehaving in class.			
66	Images are posted on the wall to serve as preventive measures for a pre-schoolers not to misbehave in class.			
67	I indicate the consequence of behaviour to pre-schoolers by specifying the actions associated with it.			
Behaviour modification				
68	I often use a variety of rewards and punishment to keep the pre-schoolers from misbehaving in class and also model appropriate behaviour.			
69	I try to get pre-schoolers to behave well by changing negative classroom conditions that make them misbehave such as furniture arrangement, sitting places etc. most of the time.			
70	Positive behaviour by pre-schoolers are reinforced immediately it happens.			
71	I gradually shape pre-schoolers still the time terminal behaviour is performed before reinforcement.			
Business academic approach				
72	I give clear instructions to every classroom activity to preschoolers to help prevent them from disturbing.			
73	I often keep the preschoolers busy by giving them exercises to prevent them from misbehaving.			
74	Keeping records of the preschoolers' accomplishments and gives prompt feedbacks after assignment.			
75	I have a clear standard of procedure and monitor preschoolers work to avoid disturbance in the classroom.			

**UNIVERSITY OF SOUTH AFRICA
COLLEGE OF EDUCATION
DEPARTMENT OF EARLY CHILDHOOD EDUCATION
INTERVIEW QUESTIONS FOR TEACHERS AN HEAD TEACHERS**

Interview Schedule

1. Brief background information which include:
Educational level
Years of practicing the profession.
Number of pre-schoolers in Class
2. What pattern of behaviours do pre-schoolers exhibited in classroom?
3. How does the behaviour exhibited by pre-schoolers affect classroom management and teaching delivery?
4. What challenges do preschool teachers faced in managing pre-schoolers and effective delivery teaching in class?
5. How class size and PTR affect effective delivery teaching and classroom management in ECECs.
6. How does your self-efficacy belief ensure effective teaching delivery and classroom management?
7. How do you apply classroom management strategies to ensure discipline and effective teaching delivery?

Note: Apart from question one the rest are subject to probing

APPENDIX H: OBSERVATIONAL GUIDE



UNIVERSITY OF SOUTH AFRICA
COLLEGE OF EDUCATION
DEPARTMENT OF EARLY CHILDHOOD EDUCATION

This guide will help the researcher to observe behaviour exhibited by pre-schoolers and the classroom management strategies used by preschool teachers in early childhood centres. The study forms part of academic work as a requirement for the award of a Doctor of Philosophy in Education degree. In order for the study to be successful, your participation will be highly appreciated.

SECTION A: Observational Information

- 1). Time/Date:
- 2). Week:
- 3). Session:
- 4). Type of school:
- 5). Number of pre-schoolers in class:
- 6). Number of pre-schoolers supervised:
- 7). Time ended:

SECTION B: Behaviour pattern exhibited by pre-schoolers in large class size

Indicate in one of the boxes a tick (✓) to show the extent to which the following behaviours are exhibited by pre-schoolers in classrooms.

S/n	Statement	Often	Sometimes	Not at all
8	Sleeping during lessons			

9	Asking unnecessary questions			
10	Leaving class without permission			
11	Punching and fighting			
12	Laughing and teasing at peers			
13	Calling out colleague's names during lesson.			
14	Unconventional usage of TLM's			
15	Changing seats and wandering around			
16	Speaking foul language			
17	Irrelevant drawing			
18	Rudeness/talking back/arguing with teacher			
19	Disobeying/refusing to carry out instructions			

SECTION C: Classroom management strategies

Indicate in one of the boxes a tick (✓) to show the classroom management strategies used by preschool teachers:

S/n	Statement	Often	Sometimes	Not at all
20	Giving them attention and accepting their individual differences			

21	Respect the dignity and worth of every pre-schoolers to avoid discrimination			
22	Making pre-schoolers feel accepted			
23	Implement rules and regulations to prevent pre-schoolers			
24	Posters on the wall to serve as preventive measures			
25	Positive reinforcement			
26	Shaping pre-schoolers still they perform terminal behaviour			
27	Given clear instructions to every classroom activity to prevent disturbance			
28	Given exercise to prevent disturbance			
29	Given prompt feedback			

Researchers Observation on classroom management

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APPENDIX I: ETHICAL CLEARANCE



UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2020/07/08

Ref: **2020/07/08/ 66080045/11/AM**

Dear Mr B KISSI-ABROKWAH

Name: Mr B KISSI-ABROKWAH

Student No.: 66080045

Decision: Ethics Approval from
2020/07/08 to 2025/07/08

Researcher(s): Name: Mr B KISSI-ABROKWAH
E-mail address: 66080045@mylife.unisa.ac.za
Telephone: +233208248314

Supervisor(s): Name: Prof S Krog
E-mail address: krogs@unisa.ac.za
Telephone: 00 27 (12) 429-4461

Title of research:

**EFFECT OF LARGE CLASS SIZE AND PUPIL-TEACHER RATIO ON CLASSROOM
MANAGEMENT IN EARLY CHILDHOOD CENTRES IN GHANA**

Qualification: PhD EARLY CHILDHOOD DEVELOPMENT

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2020/07/08 to 2025/07/08.

*The **medium risk** application was reviewed by the Ethics Review Committee on 2020/07/08 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
8. No field work activities may continue after the expiry date **2025/07/08**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2020/07/08/66080045/11/AM** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,



Prof AT Motlhabane
CHAIRPERSON: CEDU RERC
 motlhat@unisa.ac.za



Prof PM Sebate
EXECUTIVE DEAN
 Sebatpm@unisa.ac.za

Approved - decision template – updated 16 Feb 2017

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APPENDIX J: TURNITIN DIGITAL RECEIPT

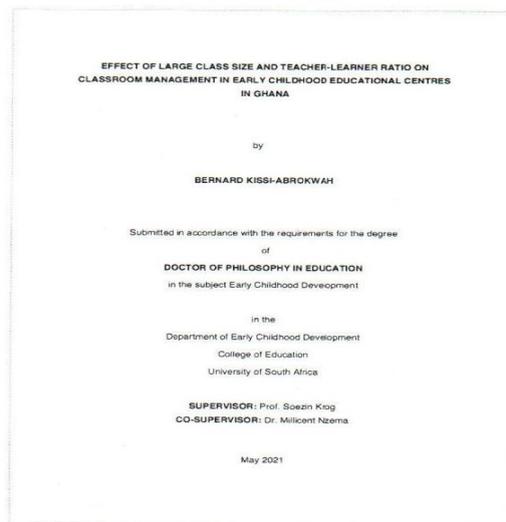


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File name: 66080045_KISSI-ABROKWAH_BERNARD_FINAL_THESIS_docx_2...
File size: 3.99M
Page count: 313
Word count: 83,861
Character count: 491,614
Submission date: 28-Jun-2021 04:50PM (UTC+0200)
Submission ID: 1613331415



APPENDIX K: DECLARATION OF LANGUAGE EDITING



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June 28, 2021

LETTER OF ATTESTATION

This is to certify that the doctoral thesis "*Effect of Large Class Size and Teacher-Learner Ratio on Classroom Management in Early Childhood Educational Centres in Ghana*" by Mr. Bernard Kissi-Abrokwah has been thoroughly proof-read and all editorial challenges resolved.

By this attestation, it is my hope that the supervisory team in charge of Mr. Kissi-Abrokwah's thesis will proceed to process the thesis for assessment.

Thank you.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Angel Edward Kongo'.

Angel Edward Kongo

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APPENDIX L: DECLARATION OF TECHNICAL EDITING



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TO WHOM IT MAY CONCERN:

TECHNICAL EDITING-BERNRAD KISSI-ABROKWAH

I hereby certify that thesis Tittle: *Effect of Large Class Size and Teacher-Learner Ratio on Classroom Management in Early Childhood Educational Centres in Ghana* has been technically edited by us.

Counting on your cooperation.

Thank you.

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