UNIVERSITY FOR DEVELOPMENT STUDIES

EFFECTS OF LARGE CLASS SIZE ON LECTURERS' EFFECTIVENESS IN TEACHING AND ASSESSMENT PRACTICES AT THE UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE

SULEMANA AHMED

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BY

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JANUARY, 2025

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my original work and that no part of it has been presented for another degree in this University or elsewhere:

Candidate

Signature ..... Date 18/02/2025

Name: SULEMANA AHMED

Supervisor

I hereby declare that the preparation and presentation of the thesis was supervised following the guidelines on supervision of thesis laid down by the University for Development Studies.

Supervisor

Signature ..... Date 18/02/2025

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ABSTRACT

The study investigated the effects of large class size on lecturers' effectiveness in teaching, supervision, and assessment practices at the University for Development Studies. The study utilized an exploratory sequential mixed approach of research. Data were gathered using questionnaires and interviews. The study included 172 lecturers and 390 students from a multi-stage sample. The data was evaluated with mean values, standard deviations, and basic linear regression. The study found that large class numbers altered lecturers' instructional approaches in the lecture halls. Lecturers believed that large class sizes influenced their supervision and assessment techniques. Students also thought that having a high-class size affected their academic achievement. Studies found that there is no statistically significant link between large class sizes and student learning. The study indicated that large class sizes should be lowered to promote high-quality education and student success. The study recommended that, large class sizes should be reduce, this may involve hiring more lecturers, increasing the number of teaching assistants, and or exploring alternative delivery modes such as online learning.

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DEDICATION

To my parents whose prayers' has made it possible for me to go through this programme

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CHAPTER ONE

1.0 Introduction

This chapter contains Background of the study, the problem statement, purpose of the study, Research objectives and questions, Hypothesis of the study, Significance of the study, Study limitation, Delimitation, Operational definition of terms and chapter summary.

1.1 Background of the Study

The University for Development Studies (UDS) was founded in May 1992 by PNDC Law 279 to combine education with community service, with the goal of providing productive and useful engagement for the progress of Northern Ghana and Ghana as a whole. Its primary goal is to address and solve the environmental issues and socioeconomic gaps that have plagued northern Ghana in particular, as well as some rural areas across the country. Academic activity began in September 1993, when the first 39 students received admission to Nyankpala's Faculty of Agriculture (FOA). The university has three campuses: Tamale, Nyankpala, and the City Campus.

Since its foundation, the institution has worked to develop its infrastructure to accommodate the growing demand for tertiary education in Ghana. However, on the ground, the student population significantly outnumbers the university's facilities, resources, and lecturers. Management is actively working with the GET Fund (Ghana Education Trust Fund) to improve campus amenities and infrastructure (UDS Vice-Chancellor report UDS, 2023), but the reality is that the availability of these facilities does not match the university's enrollment source. As a result, large class sizes have been implemented to address the university's lecturers and infrastructure problems. Keeping this in mind, and knowing that higher education is a requirement for the growth of high and middle-

class workforce in any country, it is distressing when you see such a prestigious organization operating under such tough conditions.

Ajayi, Audu, & Ajayi (2017) defined class size as the number of students enrolled per lecturer in a specific class. Wilson (as indicated in Mohammed, 2015) defines class size as the total number of students enrolled in a lecturer's class for each minute of the lecturer's scheduled teaching time. In other terms, class size is the number of pupils assigned to each lecturer in a given class.

Class size is defined as the number of students sitting in front of the lecturer during a given lesson (Kena et al., 2015). The argument over the optimal class size continues, with some arguing that a large class is decided by the lecturer-student ratio. There appear to be divergent views among researchers, institutions, and governments on what defines a large class. The definition of large classes differs depending on the country. UNESCO (2006) states that whereas 25–30 students per lecturer is seen as high in some countries, it is deemed typical or even relatively modest in others. Clearly, a number of factors affect's large class size. Where there are insufficient teaching resources, computers, furniture, learning spaces, and the facilitator's expertise, among other things a class size may be considered large.

Certain university programs are increasingly offered in larger courses due to institutions limited financial resources and increasing demand for higher education in recent years. This is the norm throughout tertiary education system, particularly at the University for Development Studies, where degree programs appear to be in high demand (Vice chancellor Report UDS, 2023). These classes are typically packed, particularly in the beginner sessions. Growing student enrollment is a primary goal in developing countries since higher education and access to it are regarded as critical components of national development (Ischinger, 2008).

According to Asodike and Onyeike (2015), favorable government policies and educational democratization contribute significantly to the large class sizes prevalent in emerging countries. This is consistent with the global desire for universal basic education, the world's fastest population growth, and the recognition that literate people are more productive than illiterates.

A lot of educators around the world must deal with the reality of teaching in a diverse learning environment. Large class sizes are currently a global problem, and they affect both first-world nations like China, the United States, and Canada as well as developing nations like Asia and Africa (Shehu & Tafida (2016). Class sizes are rising in conjunction with population growth and rising demand in tertiary education (Ouahidi, 2021).

Large class sizes are typical in higher education environments. For instance, a university class in Pakistan usually consists of 70–120 students (Khan and Iqbal, 2012). Comparably, 60 to 150 students make up huge classes in China (Xu, Perros, & Rouskass 2001). The issue of university class numbers exceeding thirty students is also present in Indonesia (Hadi & Arante, 2015).

Large class sizes have thus become a major source of concern for numerous researchers who have investigated this issue in a number of countries, including China, France, and Vietnam, with an emphasis on the setting of teaching and learning English as a foreign language (EFL) (Matoti & Lenong, 2019; Mulryan-Kyne, 2010; Shan, 2020; Thi & Anh, 2019). A large number of students in a lecture hall can impede evaluation, feedback, discipline, and class management for students, making it difficult to accomplish course objectives. As a result, big class sizes can have an impact on lecturer performance in terms of effective classroom instruction, particularly when teaching EFL writing skills (Ara & Hossain, 2016; Ouahidi, 2021).

Extensive study has been conducted on the problem of teaching and learning in large class sizes in higher education institutions (Lloyd-Strovas 2015, Moodley 2015, Hornsby et al. 2013, Mulryan-Kyne 2010, Carpenter 2006, Cooper and Robinson 2000).

Carpenter (2006) examined the success rate of large-class teaching strategies using descriptive and inferential statistical approaches in the United States. The study covered popular teaching techniques such as group projects, case studies, jigsaw puzzles, lectures, and lecture-discussion formats. The findings of this study show that freshman intake in American colleges and universities is expanding and will continue to do so. The results revealed that the majority of students preferred small class sizes and the lecture/discussion approach. This demonstrates that rather than being passive viewers, students would prefer to be active participants in the learning process. Active learning and lecture strategies can help to increase student engagement (Lloyd-Strovas 2015, Mulryan-Kyne 2010; Carpenter 2006). At a midsize state university on the east coast, Koenig, Gray, Lewis, and Martin (2015) looked into the preferences of college students for class sizes and the factors that led to those preferences. The results corroborate the notion that students favored major-related courses in smaller class sizes over general education and boring mandatory courses. According to Koenig et al. (2015), student's favored smaller classes because they provided a better learning environment, small class size required more concentration, and reduced distractions.

According to a recent Canadian study by Cash, Letargo, Graether, & Jacobs (2017), enrollment in undergraduate higher education rose by up to 50% between 2001 and 2011. The study also investigated the amenities and perspectives of large classes at universities. From the study's findings, interactions between lecturers and students are rare in large class size, and how an instructor behaves greatly influences how a large class which can start with as few as 240 members is seen by the students.

Additionally, a study conducted in Bangladesh by Rahman, Mishra, & Anny (2020). Large sociology classes is a prominent problem in Bangladeshi higher education, were the subject of the current investigation. Lecturer fined it challenging to foster student participation and implement creative teaching methods in a large class size, especially when teaching a theoretical topic like sociology. Additionally, the lesson is less engaging and dynamic for the students, which raises the absentee rate. However, pupils are not happy with the caliber of education that the colleges connected to Bangladesh offer. Problems including a lecturer shortage, lecturers' excessive workloads, a dearth of resources, and inadequate logistical and infrastructural assistance exacerbate the problem of large class size.

As previously stated, large class sizes in college and university institutions is not a recent issue in South Africa (Moodley 2015; Hornsby et al. 2013; Jaffer, Ngambi, & Czerniewicz 2007) as big classes provide issues for universities. In research done in the Limpopo region of South Africa, Onwu and Stoffel (2005) found that the problem of huge classes also exists in schools. The study found that the 53 scientific teachers were forced to switch to lecturing as their main form of education due to rising student enrollment and congested classrooms, in addition to inadequate facilities and underqualified teachers. Additionally, they brought up the issue between teaching large courses and maintaining the professional competence expected of teachers. Despite the fact that their study concentrated on the instructional functions in large, underfunded scientific classrooms in schools, it shows that the problem with large classes originates from lower school grades, which has an impact on first-year student enrollment. Investigating successful strategies used by lecturers to increase and sustain student engagement and involvement in large classes is particularly critical. Moodley (2015) concluded that large classes are more common in first-year programs across most disciplines after researching the difficulties faced by lecturers with large

classes in higher education institutions and the various strategies employed to address these difficulties at the Universities of Limpopo and Zululand in South Africa. The study discovered that lecturers preferred employing traditional lecture approaches in big class sizes. According to Moodley (2015), evaluations tended to employ multiple-choice questions the most, which lessened the amount of technological marking that was required. Assignments for both groups and individuals were part of the assessment.

In Ghana, students recognize that large class sizes fail to provide lecturers with an incentive to give low-performing students extra attention or organize backup lessons. This was discovered in a study conducted by Yelkpieri, Namale, Esia-Donkor, and Ofosu-Dwamena (2012) on the effects of large class number of students on effective teaching and learning at the University of Education, Winneba. According to the National Association of Graduate Teachers, class size influences student achievement. A large class size stops students from obtaining adequate education (Daily Graphic, August 25, 2011).

According to Ayeni and Olowe (2016), lecturers have little to no control over class size decisions, which are made primarily by administrators. They concluded that larger courses have more problems with preparation, testing, labeling, and classroom management. When lecturers have to teach large classes, they face additional pressure. In smaller classrooms, lecturers may find it easier to identify problems and provide solutions, identify individual needs and tailor their instruction to meet them, and assist students in setting goals. Furthermore, teachers form stronger bonds and understanding with each student individually (Ayeni & Olowe, 2016).

According to Pachaiyappan and Ushalaya (2014), an excellent lecturer helps students develop fundamental skills, comprehension, proper behavior, positive attitudes, and appropriate personal adjustment. Students with the best academic performance and overall growth benefit from an

effective lecturer. One way to characterize an effective lecturer is as follows: according to Ryan (cited in Sharma, 2016), A good lecturer encourages students to develop critical thinking, awareness, effective working behaviors, expected conduct, worth evaluation, and acceptable adaptability. In addition, these educators develop the skills and competencies required for their roles and responsibilities, which include teaching, training, planning, classroom management, subject matter expertise, and developing positive relationships with students. In large tertiary classes, the lecture technique may not be minimized, and when it is, questions may be asked midway through the lecture (Cole & Kosc, 2010). In big lecture classrooms, small group activities can pique students' interest (Yazedjian & Kolkhorst, 2007; Exeter et al., 2010; Kariyawasam & Low, 2014). These kinds of events thereby boost student involvement, effective strategies for supervision, efficient monitoring, organization, communication, and lesson delivery are clearly required to effectively manage student conduct and distractions in large classes (Ahmad, 2016; Akin et al., 2016; Akalin & Sucouglu, 2014; Eisenman et al., 2015; Nagler, 2016; Mansor et al., 2012).

To address the issues caused by large class sizes and improve learning and teaching standards, it can also be beneficial to recognize and learn new, suitable instruction and management strategies for classrooms (Almulla, 2015; Bahanshal, 2013; Bosworth, 2014; Gleason, 2012; Keirle & Morgan, 2011; Maringe & Sing, 2014; Milesi & Gamoran, 2006; McCarthy, 2004; Oliver, 2007; Snowball, 2014; Stanley, 2012.

1.2 Statement of the Problem

Massive class sizes are currently the norm as higher education institutions try to keep up with the increasing student enrollment. Large class sizes pose a challenge to numerous educators at higher education institutions around the world. It is well acknowledged that such settings provide significant challenges for both students and researchers. Academics face difficult challenges because "professors strive to deliver an effective educational training; and they also pose complex challenges to students as students seek to develop critical thinking skills in addition to knowledge acquisition" (Maroun et al., 2018, p. 4).

The percentage of skilled workers in a nation and its economic progress are highly correlated. This is due to the fact that the degree of education of the labor force in many nations is closely correlated with their socioeconomic progress. The majority of evidence point to the fact that many emerging nations struggle to enhance their workforces' technical skills, which impedes their ability to advance economically and socially. Significant industrial growth has occurred in nations that have made investments in their scientific and technology capabilities, which are normally cultivated at universities (Mthembu, 2018). Allais (2016) asserts that increasing access to higher education helps nations catch up more quickly in terms of technology while simultaneously enhancing their capacity to maximize economic production. Many nations believe it is worthwhile to make the trade-off between big class sizes and high-quality education in their efforts to develop their workforce.

There is an argument that the standard of learning is negatively related to the number of students. Constructive involvement led to a decline in student learning as class sizes increased. According to Marrais (2015), at a class size of 62 students each academic year, effective learning ceased or remained so undermined that it no longer made a significant impact on students. Additionally,

Woods (2015) contended that teaching time and classroom management were two significant and connected facets of academic practice that were negatively impacted by big class sizes. Because more time may be spent educating students than teaching in large groups, there is a detrimental effect on academic time management (Woods, 2015).

According to Nyamupangedengu (2017), contemporary education focuses on the needs, passions, and comfort in order to allow successful learning without interfering with one another. Thus, "deep learning is achieved through student's active participation and strong utilization of what they are learning; thereby enabling them to be socially and academically engaged" (Maroun, 2018,). However, this is frequently difficult to attain in large class sizes as teaching and assessing adequately gets tougher as the number of students increases.

As previously stated, there exists a negative association between student achievement and class size. This viewpoint is consistent with the learning outcomes research undertaken by Stephens et al. (2015), and this revealed a negative relationship between class size and learning outcomes. According to Stephens et al. (2015), student's worse performance would arise from being less focused in a class with more students. Nyamupangedengu (2017) claims that there are several ways in which a class's size affects the behavior, engagement, and retention of its members. Activities that help students develop higher order thinking skills may involve constant feedback and individual monitoring as part of small class pedagogies. According to every study cited, universities should strive to reduce class numbers, provide experiences that encourage greater student participation and communication, and promote the growth of students' overall academic abilities.

Furthermore, the volume of currently available research indicates that a significant number of empirical examinations into lecturer efficacy have been conducted successfully. However, the

majority of this research focused on how other characteristics, such as teachers' value patterns, confidence, attitude and perspective, psychological maturity, workplace anxiety, and interactions in the classroom, influenced teacher effectiveness (Sharma, 2016). There appears to be insufficient information in the literature on the correlation between large class sizes and teacher effectiveness, particularly in Ghana (Blatchford & Martin, 1998; Gemechu, 2013; Yelkpieri et al., 2012; Ayeni & Olowe, 2016).

The government has been officially asked for approval by the University Teachers Association of Ghana to hire additional teaching staff (UTAG communiqué, 2023). Reducing "unacceptable" lecturer-to-student ratios in universities is the aim, according to UTAG. The existing lecturer-to-student ratio, according to UTAG, is bad for academic excellence. Members of the NEC representing UTAG talked about lecture-to-student ratios at public colleges in a communiqué dated December 21, 2023. Regretfully, lecturers at Ghana's public universities now instruct classes with 200–1,000 pupils, sometimes even more (UTAG communiqué, 2023).

In Ghana's tertiary education system, class size is governed by the Ghana Tertiary Education Commission (GTEC), which uses student-teacher ratios (STRs) to suggest class sizes for different programs of study when assessing the standards for tertiary education institutions in Ghana (GTEC, 2012). Applied Science, Technology, and Health Science (18:1), Medicine (12:1), Pharmacy (15:1), Engineering (18:1), Science (18:1), Business Administration (27:1), and Social Science.

However, as of 2024, University for Development Studies (Tamale campus) has 293 qualified lecturers and 16,135 students (Field Data, 2024). It follows that the STR is found to be 55:1 when the 16,135 total student enrollment is matched with 293 qualified lecturers. This clearly goes beyond the threshold of 27:1 suggested by GTEC's for class sizes in Ghanaian tertiary education.

1.3 Purpose of the study

The study sought to evaluate the effects of large class sizes on lecturers' effectiveness in terms of teaching, supervision, and assessment practices at a university for development studies.

1.4 Objectives of the Study

The study has the following objectives:

1. Determine the perceived effects of large class size on lecturers' instructional pedagogy.
2. Investigate the perceived effects of large class size on lecturer's assessment practices in University for Development Studies.
3. Examine the perceived effects of large class size on the academic performance of students in the University for Development Studies.
4. Investigate the challenges lecturers encounter when teaching and assessing of students in large class size in the university.

1.5 Research Questions

The research aims to provide answers to the following questions:

1. What are the perceived effects of large class size on lecturers' instructional pedagogy?
2. What are the perceived effects of large class size on lecturers' assessment practices in university for development studies?
3. What are the perceived effects of large class size on the academic performance of students in the University for Development Studies?
4. What challenges do lecturers encounter when teaching, supervising and assessing students in large classes in the university?

1.6 Research Hypotheses

Ho: There is no statistically significant correlation between large class size and student learning.

H1: There is statistically significant correlation between large class size and students learning.

1.7 Significance of the Study

Firstly, the University leadership will find the report of this study useful for development as it prepares to expand its infrastructure.

Moreover, findings of this study will inform educational administrators and planners about the consequences of large class sizes, which may reduce educational quality.

Furthermore, entities like the Ministry of Education and university administration may need to allocate resources differently based on the size of the class. In order to provide efficient delivery of course materials and support for students' learning, larger class sizes may need more teaching assistants or technology infrastructure.

Once more, educational policies and practices can benefit from the study's conclusions about the effect of large class size on lecturer effectiveness. Policymakers and planners can develop a healthy academic and organizational environment to induce teaching-learning processes for the total development of the students.

Finally, the findings of this study will benefit and provide relevant data to future researchers who may work on related topics.

1.8 Limitations

One of the study's main shortcomings was the large number of variables that affect how successful lecturers are. This study isolated and investigated the effectiveness of lectures in terms of teaching, supervision, and assessment techniques. Contextual factors, such as research allowances,

motivation, welfare, instructional resources, and so on, were not taken into account in this study. The results of the study could not accurately represent the impact of large class sizes on the effectiveness of lecturers. To address this, department heads, faculty deans, and quality assurance officers' perspectives were taken into consideration as the study assessed the effects of large class sizes on teaching, supervision, and evaluation techniques of lecturers.

Secondly, there are several difficulties when using an exploratory sequential mixed method design. This is due to the possibility of inappropriate influence on the study from lecturers who answered the questionnaire and participated in the interview. This could prevent those who choose not to answer the questionnaire from voicing their opinions during the interview and instead encourage them to agree with what the interviewee may have stated. Interviewing department heads who had never completed the questionnaire allowed for control over this.

Finally, a few interviewees expressed a reluctance to have their interviews audio recorded. A research assistant was hired by the researcher in order to record the interviewee's responses.

1.9 Delimitation

The effectiveness of lectures in terms of teaching, supervision, and assessment procedures in university for development studies was the main emphasis of the study. The lecturer performs several roles but this study was delimited to roles that are solely related to their effectiveness in large classes. The roles of the lecturer are, teaching, supervision and assessment. I choose these three roles because they directly affect lecturer’s effectiveness in large class size. It is also my conviction that when lectures play this role effectively and efficiently, high performance of students in large class size will be realized.

Geographically, the study focused on University for Development Studies because their lecturer-to-student ratio exceeded Ghana Tertiary Education [GTEC]'s 27:1 threshold for any large class size (Field Data, 2024).

1.10 Operational Definitions of Terms

Assessment: Assessment is the technique of gathering, examining, and analyzing information on students' progress, achievements, and learning objectives.

Instructional methods- A teaching strategy, sometimes referred to as an instructional method or pedagogical approach, is the methodical and structured way in which teachers provide instruction and support students' learning opportunities.

Individualized instruction- With this method, education is customized to meet the individual requirements, interests, and strengths of every student.

Large Class Size - is used to describe an instance where a large number of students enroll in a single course or class period.

Lecturer Effectiveness - refers to a lecturer's or instructor's capacity to effectively communicate course material, captivate students, promote learning, and accomplish targeted learning goals.

Lecturer-Student Relationship - The dynamic interaction and bond that exists between a lecturer and students in a learning environment is referred to as the lecturer-student relationship. This relationship affects students' academic experiences, engagement, and success, making it essential to the teaching and learning process.

Learning- The process for acquiring something new, abilities, behaviors, or comprehension through practice, instruction, or study is called learning. It is a crucial part of human growth that takes place in many different forms and situations throughout life.

Performance: The degree to which a task, action, or function is completed successfully or effectively. In education, student performance refers to students' academic achievements, progress, and behaviors during their learning experiences.

Quality assurance (QA) is an organized procedure or series of actions taken by a company to guarantee that its goods and services adhere to a set of standards. The primary goals of quality assurance are to ensure that errors or faults are prevented and that the finished product meets customer expectations. In the context of education, quality assurance is the systematic review of educational programs with the aim of maintaining and improving their equality, efficacy, and quality.

Tertiary education- All formal university educational institutions are included in it, including colleges, universities, technical training facilities, and vocational schools, both private and public.

Teaching: The act of conveying knowledge, skills, and values to others typically in a planned and systematic manner. Teachers, who are often referred to as educators or instructors, are crucial in helping students of various ages and educational backgrounds learn and grow.

1.11 Organization of the Study

The structure of the research is divided into five chapters. The first chapter contains the background information, problem description, objectives, and research questions for the study. Word interpretation of terms, chapter summary, study limitations, and study delimitation are also covered in this chapter. The second chapter. This chapter reviewed the relevant theoretical, conceptual, and empirical literature that had an impact on the study design and execution. Chapter 3 discusses the research methods. This chapter covers the instrument for study design, population, sampling, and sampling techniques, as well as the validity and reliability of the instrument, data collecting and

pre-testing tools, and data analysis processes. The fourth chapter of the study concentrated on the analysis of the data gathered. Chapter Five provides a summary of the findings, conclusions, and recommendations. It also includes a section outlining potential areas for additional research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is divided into three sections namely, the theoretical framework, conceptual framework, and empirical review.

2.1 Theoretical Framework

Theory, is a set of concepts that aims to give meaning to an event. Therefore, the development of theories which are illustrative statements that need to be verified is a necessary step in any research project. Consequently, theories are developed while upholding essential boundary assumptions in order to clarify, project, and interpret events as well as to challenge and expand on existing knowledge. A "theoretical framework" is defined by Walden (2014) as one that "provides insight into precisely why the research problem under study emerges and is capable of supporting a theory of a research study." Relevant theory informs a researcher's hypotheses and methodological choices. A strong theory in the social sciences, according to Killam (2018), strengthens research by explaining the importance, characteristics, and difficulties associated with a phenomenon that is frequently observed but unaccounted for. Because of this, we depend on theoretical information to help us make better decisions. The study is based on two foundations: Vygotsky's Social Learning Theory and Thorndike's Theory of Connectionism (trial and error learning).

2.2 Theory of Connectionism

Behaviorist Thorndike believed that in learning, there was a connection between stimulus and response (Hergenhahn 1982). He says that when an organism learns, a neutral link grows inside it. His educational theory is called Connectionism Theory (Hergenhahn, 1982). Learning through trial

and error is the most basic way to learn, according to Thorndike. In his puzzle box testing, the animal (cat) had to perform a series of challenging tasks, such trial and error, before exhibiting the proper attitude following the first trials. In this phase, a link is established between the cat's response its desire to open the door and depart and the stimulus the odd surroundings inside the box (Catania, 1999). According to Thorndike (as cited in Hergenhahn, 1982), learning is a process that occurs gradually and is independent of cognitive processes like contrast or perception. According to connectionism theory, learning is the creation of connections, which suggests that learning improves the connection between causes and effects. According to Thorndike's conclusion (Hergenhahn, 1982), all mammals, including humans, learn in the same way.

From his thorough research on the subject, Thorndike developed three laws of learning (Catania, 1999). There are two components to the exercise law. The first component is the law of use, which maintains that frequent use strengthens the connection between a stimulus and an action. The second component of this law is the law of disuse, which asserts that there is less of a link between a stimulus and a reaction when it is not used (Catania, 1999). One more essential component of the law of exercise is the time rule. This situation is also covered by the timing rule, which states that a relationship is weaker or less strong the longer the time elapses between a stimulus and a response (Hergenhahn, 1982).

The Law of Effect is the second law proposed by Thorndike. The law states that actions are learned when a stimulus reaction is appropriate. That is, the stimulus-response association will become stronger if it produces a desired result. Catania continued by stating that an organism will not learn the reaction if a stimulus is insufficient or disruptive; in other words, if the connection causes discomfort or annoyance, the stimulus-response relationship is compromised. Readiness is the third law in Thorndike's theory. According to Thorndike, if someone is ready for an activity, they

will be happy to know it and their connection will be powerful; nevertheless, doing an activity for which a person is not ready will be like punishing them, which will make learning useless.

Thorndike's theory of connectionism is connected to research on large class sizes through the law of exercise. This law suggests that lecturers should give students enough opportunities to practice the material several times throughout time in order to make learning more productive and integrative. As a result, both students and the lecturer will accomplish their objectives and targets, rendering the lecturer effective. However, any lecturer will have a tough time completing this work in a large class situation. The lecturer will experience time constraints, stress, and tiredness due to work overload from marking several papers and quizzes, handling disciplinary matters with students, and keeping up friendly interpersonal contact with every student in the class. The effectiveness of teaching may be significantly affected by these variables.

2.3 Social Learning Theory

The researcher gained insight into how individuals learn in social contexts and how educators create engaging learning experiences through the application of Vygotsky's Social Learning Theory. Rather of viewing the student as a passive recipient of knowledge from the teacher, this concept views the learner as an active participant. Additionally, it supports the Zone of Proximal Development (ZPD), where a student with a lower cognitive level works with other students and the teacher who are more capable. According to Vygotsky, students pick up knowledge through their interactions with instructors, fellow students, along with additional professionals.

Teachers can also establish a learning environment where students engage with one other via discussions, teamwork, and feedback. Vygotsky asserts that learning happens in all contexts and is closely related to social environment (Blake and Pope, 2008). Therefore, teaching strategies that

encourage the exchange of expert knowledge when students collaborate to do research, present their findings, and finish a final project support the development of a cooperative learning community. Vygotsky believed that education was useless if students did not make academic progress. In a similar spirit, Moalosi (2013) asserts that multiple forms of instruction are necessary for effective learning as opposed to just one. This idea is pertinent to this study because it argues that lecturers should see their students as active participants in the class. As a result, it promotes learner-centered practices, such as allowing students to participate in a class and collaborate. Teachers can create an environment where students, especially those who struggle, may acquire knowledge from experienced classmates or any other professional, even though they face many challenges in large classes. This allows students to work in an environment that reaches the Zone of Proximal Development (ZPD).

2.4 Conceptual Framework

Conceptual framework it is a concept map that connects ideas, important issues, dependent variables, independent variables, and moderating variables, as well as their interactions to produce the study's outcome. For instance, Watson (2007) offers a conceptual framework on collective innovation. She notes that research on social innovation has been done in a number of academic fields, looking at it both individually and collectively. However, the academic community maintains that "there is no conceptual framework to integrate what the context is for the creative processes of the agents and who they are when creativity occurs" (p. 421). This kind of framework would help researchers define the concept, outline its conceptual scope, arrange concepts in relation to one another, and pinpoint gaps in the body of literature. Major topics linked to it are summarized in this portion of the study. The following ideas are covered in the review:

1. Class size
2. Large class size
3. Teacher effectiveness

2.4.1 Class Size

Chingos and Whitehurst (2011) state that a large body of research has been done on the connection between student learning and class size. According to Grover and Mathew (2011), eighty class size studies were found in the United States in 1979 during a randomized assessment of the literature. Most of these studies looked into the relationship between student achievement and the variety of class sizes. One of the few factors in education that is recognized to affect student learning and is also subject to government regulation is class size. The major impediment to comprehending these findings is the possibility of various other, difficult-to-observe changes between schools with different class sizes. For example, better schools are much more likely to have the means to run courses with fewer students, creating the false impression that fewer students are preferable when, in fact, family issues were the cause.

According to Schanzenbach (2014), the introduction of transparency, standardized testing, private schools, and the most recent shift to common core standards have all had a substantial impact on public education over the past thirty (30) years. Researchers have been able to quantify the long-term influence of schooling on students' standardized test outcomes thanks to the availability of new statistics that track a large number of students as they enter the employment.

The topic of class size has come up in light of the most recent events and constitutional issues. One of the educational policies that has been examined the most is class size. A large and solid amount of evidence indicates that class size positively affects student performance. Many research

has been conducted on the impact of class size on student outcomes; nonetheless, a number of conclusions provide insight into the connection between student progress and class size (Schanzenbach 2014).

Class size is defined as the total number of students enrolled in a course, program, or classroom as well as the total percentage of students in a school, county, or educational institution, according to the GER (2014). The term may also be used to describe the total enrollment of pupils at a school at a particular grade level or "class," however the latter usage is less common in public institutions. It may also be used to describe the quantity of students who participate in educational activities outside of the typical classroom. Class size is defined by Ronald (quoted in Omwirhiren & Anderson, 2016) as the precise number of students a teacher is teaching at any one time.

Michael (quoted in Omwirhiren & Anderson, 2016) states that the total number of students in a class is the number of students who are completely under a professor's supervision and care throughout the whole of the academic year. The student-teacher ratio, or the related reverse teacher-pupil ratio, has been used by a number of academics and policymakers to investigate the impact of class size; however, Michael, as described in Omwirhiren & Anderson, 2016, states that this statistic does not accurately capture class. Boozer and Rouse (2001) claim that the student-teacher ratio may provide a misleading sense of class size due to the possibility of teachers being positioned unevenly across the space. Some teachers have to spend most, if not all, of their time mentoring other educators because their course loads have been lowered.

Class size and the student-to-teacher ratio varied, according to Ehrenberg, Brewer, Gamoran, and Wilms (2017). The reality is very different. The student-teacher ratio often takes into account doctors who hold full- or part-time jobs as administrators, librarians, special education support staff, traveling teachers, or in other non-classroom roles. Thus, the student-teacher ratio is a

generally acknowledged measure of the human capital used in direct and indirect child education. How many students the educator is teaching at any given time determines the size of the classroom. A teacher's position, responsibilities, and amount of time spent in the classroom during the school day determine how much the student-teacher ratio differs from the average class size, which is always less (Ehrenberg et al., 2017). Because it is directly correlated with per-child spending, the student-teacher ratio is significant from an administrative and financial standpoint. Still, this is the proportion of students that are genuinely present and involved with the teacher and each other from a psychological perspective (Ehrenberg et al., 2017).

According to Ehrenberg et al. (2017), these factors make changing the size of the class a feasible way to improve student performance and learning. Not only does class size rank among the most important variables in learning or information 'output' theoretically, but it is also one of the most variable that policymakers can easily adjust. However, there are a number of variables that affect how much learning occurs. Some discuss the classroom and the educational environment in which the class is held (e.g., class size), while others focus on the experience and motivation of the student as well as more general community factors (Ehrenberg et al., 2017).

2.4.2 Large Class Size

In certain countries, a class of thirty students is not regarded as large, but in other countries, lecturers may find it difficult to manage a class of that size (Rhalmi, 2016). A lot of lecturers work with more than forty students. Lecturers who complain about having large class sizes may have good cause. Not only do some poor teachers experience the academic challenges associated with large number of students in a class, but these large class size also led to stress.

On the other hand, Sparks (quoted in Rhalmi, 2016) claimed that a class might be considered large if there are at least 25 people in it. Research indicates that when the number of students in a class is fewer than 20, students perform better. Issues with teaching and learning arise when this barrier is breached (Rhalmi, 2016).

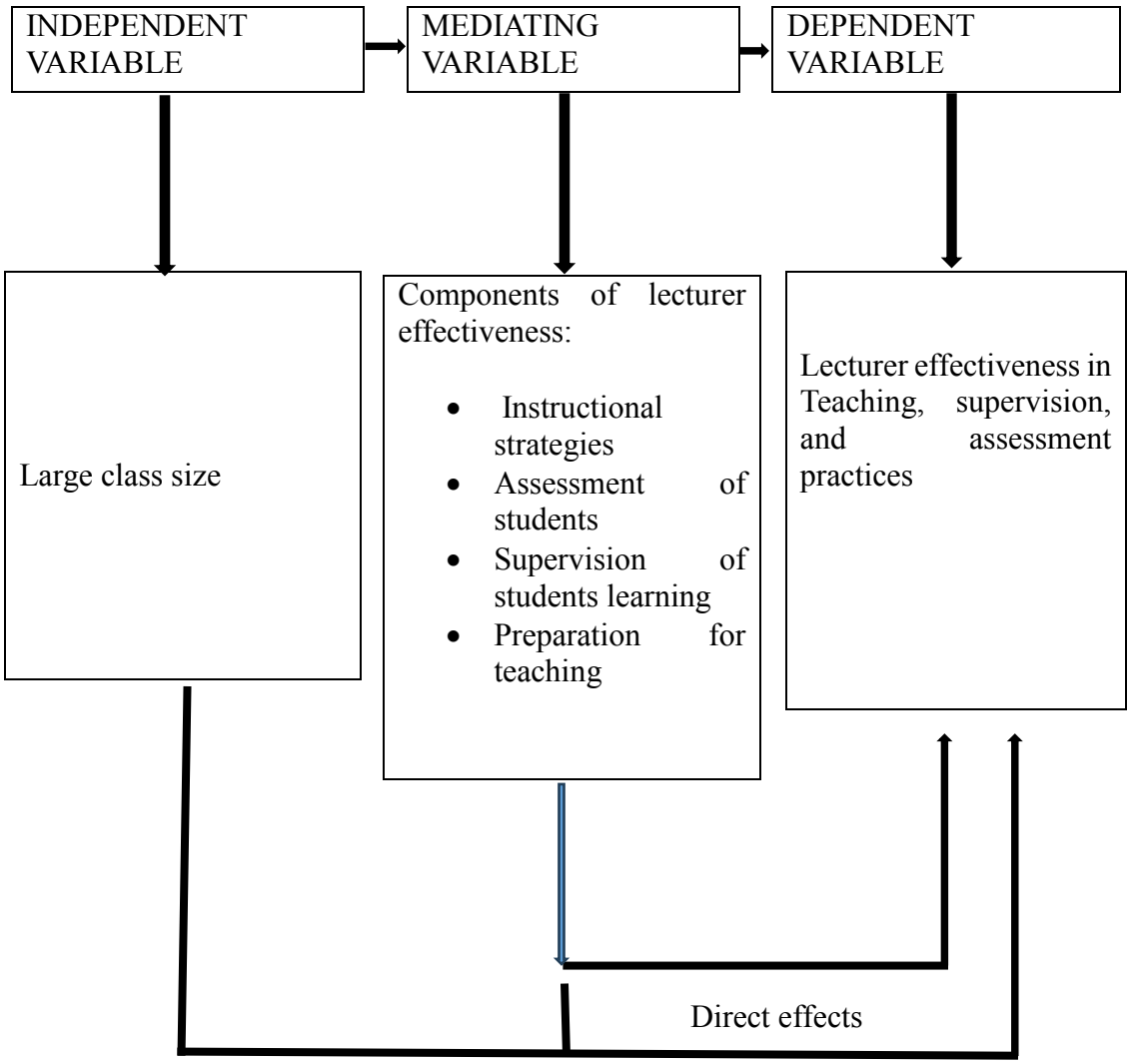
2.4.3 Teacher Effectiveness

Teacher effectiveness is defined by Campbell, Kyriakidis, Muijs, and Robinson (2004) as the impact of classroom factors on student achievement, including teaching methods and techniques, teaching objectives, classroom layout, and the utilization of classroom resources. Teacher productivity can be described as the degree to which specific educational objectives and goals have been achieved, from a goal-oriented perspective (Lipowsky, 2003).

Teacher effectiveness, according to Prasad and Prasad (2005), is the capacity or willingness of educators to have a positive influence on the learning, attitudes, and behaviors of their students. According to Anderson (2004), a teacher is considered effective if they can accomplish goals set by other interested parties, including lawmakers, education agencies, and other levels of government, school administrators, and many more, in addition to their own. This definition states that in order to achieve these goals, a lecturer needs to be equipped with the knowledge and skills necessary to do so, as well as the ability to use them effectively.

Figure 1

Flow chart on large class size and lecturer effectiveness



The figure-1 show how factors including preparation for teaching, instructional strategies, and assessment of student learning all have an indirect impact on how effective lecturers are when their classes are large. This implies that in evaluating a lecturer's efficacy, we should consider how well or poorly they perform in each of these crucial teaching component areas. As a result, their total efficacy as a lecturer is demonstrated by how well they perform across all of these components.

Therefore, the study suggests that before analyzing the relationship between the independent variable (large class size) and the dependent variable (lecturer effectiveness), we first ascertain the influence of large class size on each of the mediating variables (components of lecturer effectiveness) that were selected for this analysis. Ultimately, by looking at the components collectively, we will be able to ascertain the way large class sizes affect lecturers' efficacy.

2.5 Review of empirical studies

2.5.1 Effects of large class size on lecturers' instructional pedagogy

Large class sizes hinder lecturers from attending to struggling students or helping them learn, according to a study conducted by Yelkpieri et al. (2012) at the University of Education, Winneba. The study used a cross-sectional sample survey, surveying 42 lecturers and 342 students. Direct observation and surveys were used as data collection methods.

Research on the effects of large class numbers on English instruction and learning in Saudi secondary schools was conducted by Bahanshal (2013). Individual interviews were conducted with six Saudi secondary English teachers in order to gather information for exploratory qualitative study. The results show that because they do not feel supported by their teachers, students in large classes seem demotivated and do not care about the lessons or activities that are taught.

As stated in the 2020 paper Challenging, Exciting, Impersonal, and Nervous: Academic Experiences with Large Class Teaching by Hubbard & Tallents (2020). The study used a survey-based methodology that enabled a methodical comparison of experiences in order to examine the academic experience of teaching large classes. The study sampled 36 junior and 43 senior lecturers. Academic development programs should include time to support academics dealing with large groups, as the study found evidence that most teaching preparation programs lack a specific focus on managing large classes.

Furthermore, Almulla (2015) conducted a study to evaluate teachers' perspectives of how class size affects instruction. This study had 30 participants. The researcher used a survey to collect feedback from the teachers. The results of the study show that although there are other factors influencing instruction, teachers in large classes feel that class size has a significant influence on the different teaching strategies used.

2.5.2 Effects of large class size on lecturer's assessment practices

In order to assess teaching large classes in a higher education setting, Matoti and Lenon (2018) carried out an exploratory case study of first-year university students in the province of the Free State in South Africa. There were 248 first-year education students in the study. The study found that lecturers employ collaborative projects. To make sure that students are following university policies, individual assessments are still utilized. Teachers employ collaborative marking to meet the University's evaluation deadlines. They get together and mark the scripts at the same time. Since each lecturer is responsible for ensuring that the marking is completed correctly, this system has its own set of challenges. The marks must be checked, arranged precisely, and recorded on the assessment sheets prior to being forwarded to the Examinations Department, there is a significant degree of cooperation required here. This is a procedure that requires a good deal of time.

The challenges of instructing in large classes at UNAM (University of Namibia) are also covered by Mushaandja and Molosiwa (2021): A Case Study of the Hifikepunye Pohamba Campus. The research used a qualitative case study methodology. Nineteen student teachers, three representatives of campus management, and three teacher educators who instruct courses of at least one hundred pupils made up the study's participants. There were twenty-five participants in all. According to the data, student instructors were assessed in Hifikepunye Pohamba Campus (HPC's) large class size through the use of projects, quizzes, assignments, online discussion

forums, and practical exercises. To make the marking process simpler, some teacher educators were tempted to limit the number multiple choice questions. However, some students might not perform well because this multiple choice technique only allows for one type of inquiry. Additionally, students felt that the multitude of group assessment exercises did not fairly represent the progress of each individual student.

Also, Thabang (2021) conducted a study titled "Teaching in the Age of Massification: Examining the Experiences of Education Scholars in Teaching Large Classes in Higher Education in South Africa." Informed by the interpretivist paradigm and qualitative research methods, this study used a descriptive exploratory case study methodology. With eight (8) participants from different disciplines, the study produced a wide range of viewpoints. Large class sizes appeared to be a significant challenge for participants during assessments, according to the statistics. Participants said that in order to correctly give tests in the face of these problems, they had to employ a number of tactics. According to the participants, their preferred methods of assessment were exams, essays, group projects, and tests, or a mix of these strategies for a comprehensive analysis. Large class size generally suffer from poor teaching and evaluation, which has a detrimental effect on the standard of higher education in South Africa. Research has shown that assessment is unquestionably significant for achieving instructional and educational objectives and enhancing student achievement (Mulryan-Kyne, 2010; Jawits, 2013; Hornsby, 2013; Maringe et al., 2014; CHE, 2010; CHE, 2019; Mahabeer, 2019).

In Ghana's northern region, Anass (2020) looked into how people regarded the effect of large class numbers on college instructors' effectiveness. A quantitative descriptive survey technique was used to collect data from 192 tutors in the sample. According to the survey, tutors generally felt that large class sizes had an impact on how frequently they administered exams to students in order to

evaluate their instruction. Moreover, it was discovered that the majority of tutors believed that having high class sizes hindered their ability to pose interesting inquiries during instruction rather than fact-finding ones. This provides a useful foundation for drawing the conclusion that large class sizes affect student evaluations.

2.5.3 Effects of large class size on the academic performance of university students

Chifamba and Constantino (2022) claim that teaching large classes presents challenges for lecturers. The data for this case study was gathered through qualitative methods, including in-person interviews with seven senior academics at Zimbabwe's Chinhoyi University of Technology and open-ended questionnaires given to a census sample of 38 junior lecturers. The results show that class size significantly affects both learning quality and student performance. Thus, large classes are linked to poor student performance. According to the report, if higher education institutions continue to attract huge numbers of students, they must also recruit adequate academic staff to handle the volume. By actively engaging with their material, students in these conducive learning contexts will do better academically and develop advanced mental abilities like analytical reasoning and problem-solving, which are attributes of profound learning.

At public tertiary institutions in Lagos, Nigeria, Akinyemi, Lawal, and Babatunde (2021) assessed the effects of time management and class size on students' academic achievement. With a sample size of 1800 people, the study employed a descriptive research methodology similar to a survey. According to the study, there is a significant inverse relationship between student academic achievement and class size in Lagos State's public tertiary institutions. This shows that both class size and student academic achievement are predicted by and influenced by it.

Christiana, Cletus, Sarah, and Jacob (2024) carried out a follow-up investigation on large class sizes in Nigerian universities. According to the study, large class sizes significantly affect students' academic progress and have to be reduced, if not eliminated. Larger lecture classes have been associated with a number of negative outcomes (Ayanwoye2021). These outcomes include a decline in the quality and quantity of student-teacher interaction, a decrease in student engagement with the subject matter, a decrease in the number of students who committed to their courses, and a decrease in student motivation and participation in class. All of these factors lead to a lower standard of education for Nigerian teachers and students. This threat needs to be addressed right away in order to prevent the entire Nigerian educational system from collapsing.

Al-Obaydi and Al-Bahadi (2017) looked into the connection between English as a Foreign Language (EFL) college students' academic achievement and big class sizes. The term "large class" typically refers to classes with more than 60 students, according to the survey. This study provided insight into the relationship a topical topic that requires further investigation between class size and students' academic achievement. Its goal is to demonstrate the high percentage of challenges brought on by large class sizes and the relationship between large class sizes and student academic achievement. This study's population comprises of university students, with a major sample size of 80. In order to identify problematic areas in large class numbers and connect them to students' final grades which are determined by their academic performance, the researchers create a scaled questionnaire. This connection was found using the person correlation coefficient. The results of initial correlation analysis indicate a negative relationship between student academic achievement and class size.

2.5.4 Challenges lecturers encounter when teaching and assessing students in large classes

In order to assess the teaching of large classes in higher education institutions, Matoti and Lenon (2018) carried out an exploratory case study of first-year university students in the Free State province of the Republic of South Africa. 248 first-year education students from a variety of fields made up the study's sample. The results of the survey showed that teachers were extremely unhappy about the lack of resources brought on by crowded spaces. Their lack of discipline makes it difficult to maintain order in the classroom. They make an effort to engage and motivate their students to participate in class. While students did not express dissatisfaction over script grading or feedback delays, lecturers were of the view that, marking of scripts delays.

A study on the difficulties of teaching large classrooms at the University of Namibia, namely at the Hifikepunye Pohamba campus, was conducted by Mushaandja et al. (2021). 25 participants participated in the research project, which employed a qualitative case study design. Students will therefore have a wide range of learning requirements and talents, all of which need to be recognized and satisfied. Similar to this, Mgeni (2013) discovers that lecturers at the University of Arusha encountered two difficulties while instructing large classes: encouraging students to engage and pay attention. When students are not paying attention, teaching and learning become challenging. Another barrier to education was the lack of connection between professional educators and student teachers due to the large number of students in classrooms.

According to research conducted in 2022 by Chifamba and Constantino on the subject of difficulties lecturers have when managing large class sizes. The data for this case study was gathered through qualitative methods, including in-person interviews with seven senior faculty members at Zimbabwe's Chinhoyi University of Technology and open-ended questionnaires given to a census sample of 38 junior lecturers. A packed classroom (n=38) was the most often cited

issue by respondents, followed by a lack of student participation in the learning process (n=36) as a result of insufficient contact between students, lecturers, and other students. This would lead to a weak conceptual grasp (n=36), which would hinder critical comprehension of the module's material.

Research on the difficulties and methods lecturers have when instructing English writing skills in large classes was conducted by Nia and Fithriani (2023). The research methodology utilized for this case study was qualitative in nature. Semi-structured interviews were carried out with four English professors from four North Sumatra universities. Four challenges that participants faced during their EFL sessions were revealed by the investigation. These all have to do with four things: 1) insufficient experience and knowledge; 2) poor time and class management; and 3) a shortage of space, facilities, and resources.

2.6 Summary of the Literature Reviewed

The available research on psychological issues that addresses teaching and learning environments seems to point out that large classes, especially in higher learning and social interactions, are less successful than smaller classes, but confirmation shows that large classes are not as substandard and ineffective as is widely assumed. Many researchers and professors agree that large classes can be extremely beneficial for inspiring and encouraging both students and teachers. The research argues that class size is important since it affects both lecturers and students. Large classes are often used to address management and organizational challenges, rather than educational ones. However, establishing a link between class size and educational standards is difficult since contextual factors affect both groups and individuals in various ways. Class size also affects lecturers' teaching styles and strategies, as well as their approaches and techniques for controlling the classroom, all of which have a significant impact on educational quality in large classrooms.

Additional assistance with teaching and learning is incredibly valuable. Again, what has been examined suggests that research on the impact of larger class sizes on student learning experiences shows that the standard of instruction and assessment is far more significant than the number of students in the class itself.

Nonetheless, increased enrollment rates create additional challenges since they make teaching more difficult. Professors have to collaborate with a more diverse student group. The evidence on the effects of large class sizes on teaching and learning supports the link between class size, interpersonal aspects of group-based adaptation, and student behavior. The majority of research found that classroom management in large classrooms is slightly more challenging, and students' achievements and conduct during the lesson are lower than in smaller ones. It has been stated that huge classes do not produce an educational climate that promotes academic activities and achievement. Student compliance or discipline is seen to be more difficult in larger classes due to the increased number of students to pay attention to. Existing data suggests that larger class numbers are positively associated with increased levels of lecture stress, which ultimately leads to lecturer exhaustion. Large class sizes clearly have a negative impact on lecturers' motivation, Furthermore, research on the impact of large class sizes on lecturer evaluation techniques was reviewed, and the majority of participants agreed that in large classes, feedback from assignments and tests is ineffective because marking of students' exercises is often done on the outer edges. To handle the large number of students they must analyze, lecturers typically use objective-type assessment questions that are simple to mark, score, and record. In accordance to a World Bank assessment, packed classes are unpleasant and difficult for both lecturers and students in terms of continuous review, grading, and offering specialized attention to individuals who require additional assistance. To summarize, the examined literature on the subject of large class size was

a significant component of this study since it provided the researcher with insights into what would be included in the questionnaire used to gather data for the report.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The research project aimed to look into the effects of large class size on lecturers' effectiveness in teaching, supervision, and assessment practices at the University for Development Studies. This section outlines the approach that was used by the researcher to conduct the study. The section also discussed research design, approach, philosophy, study area profile, population, sampling, and sample size calculation, research tools, instrument reliability and validity, data processing plan, and ethical considerations.

3.2 Research Philosophy

The study utilized a mixed-methods approach, which is important to the pragmatic paradigm. This paradigm arose from philosophers who believed that it was unattainable to obtain the 'truth' concerning the real world solely through a single scientific technique, as recommended by the positivist paradigm, or to determine social reality, as constructed by the interpretivist paradigm. The interpretivist regarded a single research paradigm insufficient. Rather, some philosophers (such as Alise and Teddlie, 2010; Biesta, 2010; Tashakkori and Teddlie, 2003a & 2003b; Patton, 1990) contended that what was required was a worldview that would provide research procedures that were deemed most suited for examining the subject at hand. As a result, these philosophers sought more realistic and pluralistic approaches to study, allowing the combination of methodologies to throw more light on participants' real-life actions, the ideas that support those behaviors, and the potential adverse effects of those behaviors. This led to the development of Pragmatic paradigm, which encourages the use of several approaches to evaluate human

behavior. The assumptions of pragmatism seem to align more with this study. This is because the study addresses' the issue of how large class size affects lecturers teaching pedagogies, supervision and assessment techniques, and academic performance of students would encapsulate the collection of both quantitative and qualitative data. Considering the data at hand, pragmatism school of thought provide the right window to address the key issues in the study adequately. Pragmatism is also vital for this study because some of the related empirical studies applied it. On that basis, this study therefore embraces the pragmatic paradigm as the philosophical underpinning of the study.

3.3 Research Design

In this research, the author used an exploratory sequential combination of methods technique to arrive at results about lecturer effectiveness. The exploratory approach will help to broaden and clarify the effects of large class numbers on lecturer effectiveness in terms of teaching, supervision, and evaluation procedures. Exploratory sequential mixed method is a sequential method to collecting and analyzing data that is both qualitative and quantitative. In the first part, a researcher extensively investigates the problem been studied; in the second phase, they use the post-positivist approach to discover and quantify the parameter and quantitative phenomenon. This design used to gathered and analyzed qualitative evidence, then proceed to the acquisition and analysis of statistics. This design begins with the collection and analysis of qualitative data. Based on the qualitative results, quantitative measures or instruments are created (Terrell, 2012; Wisdom & Creswell, 2013), and a researcher quantitatively investigates the selected parameter and interprets how the quantitative data generalizes and expands on the qualitative findings (Creswell & Plano Clark, 2018). According to Heesen, Bright & Zucker 2019, one of the clear benefits of employing an exploratory sequential strategy is that it offers a method that, in comparison, offers more robust

validity. First,(Flick, 2018) claims that the interview-based qualitative methodological technique is appropriate for addressing open questions and expanding concepts derived from such findings. Subdomains of ideas can be investigated thanks to the vast amounts of data generated by interviews. Additionally, interviews are the most effective direct data collection method for comprehending the depth and complexity of issues. The theory is supported by these gathered concepts derived from the wealth of data gathered (Breitbart, 2010). Regarding the survey quantitative methodological technique, (Bajpai, 2016) claims that primary sources of data offer numerous advantages; it is mentioned that primary findings are often relevant to the research goals because they are gathered individually. Compared to using only one strategy, applying both qualitative and quantitative approaches to a single research effort provides a greater chance to gain a deeper understanding of the study topic while achieving a higher level of validity and accuracy (Symonds, 2010; Gorard, 2010; & Neuman, 2014). This work introduces a sequential, interpretative, exploratory methodology based on contextualize and a pragmatic worldview. To lay the groundwork for the kind of knowledge approach that this study has chosen, it is crucial to first establish the foundation for this worldview.

3.4 Research Approach

The study employed a mixed method approach. Research using multiple methods is increasingly considered as another major research methodology, and scholars are working to define it (Giddings and Grant 2007; Johnson et al. 2011). It is unclear if seeking for a single definition is necessary or desirable. To be clear, we use the term as defined by Tashakkori and Creswell (2007, p. 4): "research in which the researcher gathers and interprets data, combines the findings, and draws conclusions using both qualitative and quantitative approaches or methods in one research project or area of inquiry." Because it combines pragmatist philosophical frameworks, a mixed-methods

design has various advantages when dealing with complicated research problems. According to Fetters, (2016) mixed method is integrating qualitative and quantitative data to create relevant explanations for research questions It also offers an appropriate foundation, technical versatility, and in-depth understanding of small issues (Maxwell, 2016). In simple terms, using mixed approaches allows researchers to answer their research problems with sufficient range and depth (Enosh, Tzafrir, & Stolovy, 2014) while also generalizing the findings and repercussions of the examined issues to the entire community. Furthermore, quantitative and qualitative results can be combined, and vice versa. A mixed-methods approach, therefore, provides the greatest potential of solving study issues through integrating two sets of strengths while balancing for the weaknesses of each method (Johnson & Onwuegbuzie, 2004).

Therefore, "mixed-method research approach have grown highly relevant to tackling influence of research questions" (Saville, 2012; p. 7). Combining two approaches may be preferable to using only one approach since it is more likely to produce profound findings into the research phenomenon which are not possible to comprehend using only qualitative or quantitative methods. A mixed-methods strategy can integrate and cooperate several data sources, allowing for the investigation of complex problems (Poth and Munce, 2020). The most difficult task for a mixed-method researcher is determining which Mixed Method Research (MMR) design is appropriate for a certain study. The study's purpose and the evident prioritization of the qualitative and quantitative components will have a significant impact on the design's applicability. As a result, young researchers may lack assurance when selecting one of numerous ideas, particularly when each has drawbacks and potential concerns. Furthermore, many researchers struggle with integrating qualitative and quantitative data (Wisdom and Creswell, 2013).

3.5 Profile of the Study Area

The University for Development Studies (UDS) is Ghana's first publicly owned university in the northern regions. The Ghana Government founded it in May 1992 with the goal of "mixing the world of academia with the perspectives of the community with the intent to enable productive relationships between both sides for the development in general of Northern Ghana, in particular, and the country as a whole." (UDS, 1992).

The University for Development Studies was founded in response to new higher education paradigms that emphasized the significance of institutions playing a greater part in tackling issues affecting society, particularly in remote areas (Effah 1998). Because of its mission and community, the university prioritizes the disadvantaged, which is reflected in the tactics used for instruction, research, and publicity. The emphasis on practical, grounded in research, and field-based training. The institution additionally carries out research and contributes to community efforts to create an atmosphere that encourages future community and economic development. This is the third trimester Field Practical Program, which integrates academics and centered on communities' fieldwork.

3.6 Population

The study's population of interest comprised people, groups, organizations, or other entities that one wishes to comprehend and to who's the study's findings can be generalized to, as well as the primary group involved in the analysis (Salkind, 2010). This study's population included lecturers and students from the University for Development Studies. The university has 799 lecturers (UDS Vice-Chancellor Report, 2023), with 640 men and 159 women. Furthermore, there are 28,014 students, with 13,697 men and 14,317 females (UDS Vice-Chancellor report, 2023).

3.7 Target Population

The study's population of interest is 16,428 consisting 16,135 students and 293 lecturers.

3.8 Sampling and Sample Size Determination

Sampling is important when conducting research simply because it enables researchers to choose an objectively informed group for a study. A sample is a selected group of the general population (Kamper, 2004) that is assigned to a particular category. According to Hallberg (2013), the quality and adequacy of a population sample directly affect the validity of research generalizations. The sample size was determined by multi-stage sampling technique that included Campuses, Faculties, Departments, students, and lecturers from the University for Development Studies. Multi-stage sampling is the progressive transition from a broad to a narrow sample (Ackoff, 1953).

First stage, the study adopted Simple Random Sampling (SRS) to choose one campus from the three campuses for the research.

Second stage, five Departments were selected from each four (4) schools and two (2) faculties in the Tamale main campus using Quota sampling technique. Also, from the selected departments, 6 lecturers were selected from each department. The quota method is a not randomly generated sampling strategy that selects participants based on specific characteristics, ensuring that the entire sample is representative to the larger community (Davis, 2005).

In step three, the researcher determined the qualifying requirements for students to take part in the research. The criteria were to choose students who had completed at least one academic year at the university. Students were chosen for the study by stratified sampling. In contrast to simple random sampling, this strategy breaks down the entire sample into uniform strata or segments based on demographic factors and then draws a sample chosen at random from all strata (Gravetter and

Forzano, 2012). A sample frame is also required for this approach. The advantages of this strategy include: (1) allowing researchers to collect data from each stratum independently. As a result, variations across groups become more visible, and (2) it is possible to acquire samples from smaller groups.

Table 3.1: Results of the target population and sample size for students' levels

Levels	Target Population	Sample Size
200	6,135	148
300	5,259	127
400	4,741	115
Total	**16,135**	**390**

During the last step, convenient sampling was utilized to pick five heads of departments for interviews. Convenience sampling, which selects participants based on their accessibility, is a common sampling approach among students because it is simpler and less expensive to use than other methods (Ackoff, 1953). This sample method can help overcome several research limitations.

3.9 Sample Size Determination

The researcher used Yamane's (1967) equation to get the number of samples needed for the investigation. The researcher calculated for students and lecturers. Students = 16,135; lecturers = 293. These statistics are only for the Tamale Campus.

n=N/(1+N(e)2)

$$n = 16{,}135/(1 + 16{,}135(0.05)2$$

$$n = 16{,}135/(1 + 16{,}135(0.0025))$$

$$n = 16{,}135/(1 + 40.34)$$

$$n = 16{,}135/(41.34)$$

$$n = 390$$

n=N/(1+N(e)2)

$$n = 293/(1 + 293(0.05)2$$

$$n = 293/(1 + 293(0.0025))$$

$$n = 293/(1 + 0.7)$$

$$n = 293/(1.7)$$

$$n = 172$$

Therefore, the total population size for this research is 562 with a 95% level of confidence.

3.10 Research Instruments

Haussler (1992) defines them as various data collection tools, devices, or processes. The researcher collected data from the lecturers and students sampled for this study through questionnaires and interviews.

3.10.1 Questionnaires

The researcher adopted and used standardized questionnaires to collect quantitative data on the influence of large class sizes on lecturer effectiveness in terms of teaching, supervision, and assessment procedures at a university for development studies. The questionnaire is a popular research instrument for gathering data from people (Kothari, 2002). The instrument was based on Kulsum's Teacher Effectiveness Scale (KTES), which he developed and standardized in 2000. The KTES schedule is self-scoring. The teacher effectiveness scale evaluates a teacher's many duties related to teaching. The original Kulsum (2000) scale is intended to evaluate teacher performance in five areas: classroom management, subject matter expertise, personality qualities, and relationships among students and coworkers.

Nevertheless, the amended lecturer's effectiveness questionnaire for this study is divided into five sections and contains 57 items (see Appendix A). Section A covers lecturer demographics information and has eight (8) items with numerous responses from which academics can choose one. Section B of the questionnaire has eleven (seventeen) questions for lecturers about their instructional pedagogies. Section C has fourteen (14) items that address the perceived implications of large class sizes on lecturers' instructional pedagogies, while Section D contains nine (9) items that investigate reactions to the perceived effects of large class sizes on lecturers' evaluation procedures. Section E also includes nine (9) response items regarding the perceived impact of large class sizes on lecturers' supervision practices.

In addition, the questionnaire for students contains ten (10) items (see Appendix B). Section A focuses on student demographics and includes four (4) items with various replies from which students can choose one. Section B of the questionnaire has six (6) items meant to elicit students'

perceptions of how big class numbers affect their academic achievement in university for development studies.

3.10.2 Interviews

To achieve objective four (4), the researcher used an interview guide (see Appendix C) to elicit information from Heads of Departments. The purpose is to solve the difficulties that lecturers have in large class sizes when teaching, supervising, and evaluating practices at university for development studies. Furthermore, objective five (5) suggests ways that lecturers might use when teaching, supervising, and assessing practices in universities for development studies. Interviews are the most common technique for gathering or producing data in qualitative study design. Hoberg (2001) defines an interview as a two-person conversation organized by a researcher with the express purpose of gathering research-relevant data. The technique collects data via oral speech between individuals, which makes it appropriate for gathering information from informants in their natural social settings. The interview is the primary data collection method, providing direct citations from informants and a direct approach to gathering information on participants' opinions and experiences (Trochim, 2006). Interviews are carried out using an interview template. An interview guide is a research instrument. It consists of a sequence of questions designed to elicit the participants' thoughts, opinions, and feelings regarding a specific problem. The researcher developed a structured interview guide to solicit feedback from respondents. Structured interviews allow the interviewer to ask all participants the same questions in the exact same manner, but they tend to regulate the tone and pace of the interview (Mathers et al. 2002).

3.11 Validity and Reliability

To determine the validity and reliability of the research instruments, a pre-test was conducted with 25 lecturers and 100 students on the Nyankpala campus, which is not part of the area being studied but shares features with the study population. This was done to ensure that the instrument was relevant to the study and free of ambiguity.

However, the pre-test indicated uncertainty in some items, prompting reconstruction to verify that all participants understood them correctly. However, the researcher completed all of the pre-testing modifications to guarantee that it measures what it should.

The adapted questionnaires have a reliability value of 0.82 and a validity coefficient of 0.85. The Cronbach's alpha measure of internal consistency was used to assess the reliability of the instrument's sections (B-E) for lecturers and Section B for students, which included several aspects of lecturer effectiveness. The computations were done using the Statistical Package for Social Sciences (Version 26.0), as shown in the table.

Table 3.2: Reliability coefficient for each of the sections

Variables	Reliability coefficient (α)
Employment of instructional pedagogies	.751
Lecturer instructional pedagogies	.705
Lecturer assessment practices	.718
Lecturer supervision practices	.852
Student performance	.710

Source: Field survey (2024)

Table 3 demonstrates that the coefficients of dependability for the various portions of the instruments are satisfactory, with all of them more than.70, which is considered the minimum Cronbach's alpha for a reliable instrument. Cronbach's alpha value for section B (employment of instructional pedagogies) is.751; for section C (lecturer instructional pedagogies), the value is.705; for section D (lecturer assessment practices), the value is.718; for section E (lecturer supervision practices), the value is.851; and for student performance, the value is.710. This means that the instrument is highly dependable.

For the interview guide, the transcription of the information from the field were returned to the informant using the Member Check technique for verification before being included in the study report.

3.12 Methods of Data Analysis

The filled questionnaires were numbered serially and coded into Statistical Package for the Social Sciences (SPSS) version 26. The analysis included the coding, organizing, describing, explanation and conclusion drawings. The analysis was carried out in three stages.

The first analysis focused on descriptive statistics including computation of frequencies, means, and standard deviation. Data on research question one, two and three were analyzed with means and standard deviations.

On the subject of research question four, the data were wholly analyzed using thematic analysis. Thematic was applied in analyzing challenges lecturer's encounter when teaching and assessing of students in large class size in the university.

Finally, research hypotheses were tested using simple linear regression. The analysis was performed to investigate, whether there is statistically significant correlation between large class

size and student learning. Test was performed at 0.05 level of confidence. The details of the data analysis are shown in table 3.3.

Table 3.3: Summary of Data Analysis Matrix

Objective	**Type of Data**	**Research Instrument**	**Data Analysis Strategies**
Perceived effects of large class sizes on lecturers' instructional pedagogy	Quantitative	Questionnaire	Descriptive statistics
The perceived effect of large class sizes on lecturers' assessment techniques	Quantitative	Questionnaire	Descriptive statistics
The perceived effects of large class sizes on students' academic achievement.	Quantitative	Questionnaire	Descriptive statistics
Challenges lecturers encounter when teaching, supervising and assessing large classes	Qualitative	Interviews	Thematic analysis.
Ho: There is no statistically significant correlation between larger class sizes and student learning.	Quantitative	Questionnaire	Linear regression

Source: Author's Construct

3.13 Ethical Considerations

The study's author described the study's benefits to respondents and society, as well as its goals. Again, informed consent was obtained and voluntarily provided in response. Respondents may also refuse to participate or drop out. Thus, participants' respect, confidentiality, and interests were

safeguarded. Respondents have the right to understand the investigation's objective, procedures, and outcomes. Finally, the study adhered to all norms governing the conduct of research in the country as a whole, and the University for Development Studies in particular.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION OF RESULTS

4.1 Introduction

The current section comprises research data, analysis, and develops the interpretations in response to the research issues and hypotheses established by the study's objective under the following:

i. To determine the perceived effect of large class sizes on lecturers' instructional pedagogy.

ii. To investigate the perceived effects of large class size on lecturer's assessment and supervision practices in University for Development Studies.

iii. To examine the perceived effects of large class size on the academic performance of students in the University for Development Studies.

iv. Investigate the challenges lecturers encounter when teaching, supervision and assessment of students in large classes in the university.

4.2 Return Rate of Instruments

The study's author went into the field with a questionnaire and an interview guide to gather information from lecturers and UDS students. Table 4.1 displays the instruments' return rates.

Table 4.1: Return rate of Instruments

Instruments	Number sent out	Number returned	Percentage (%)
Questionnaires for lecturers	172	172	100
Questionnaire for students	390	390	100
Interview	5	5	100
Total	**567**	**567**	**300**

Source: Field Data (2024)

From the table, it is evidence that out of 172 surveys distributed to UDS lecturers, 172 (100 %) completed and returned them. Furthermore, out of 390structured questionnaires distributed to students, 390 (100 %) successfully completed and returned them. The qualitative data for this study came from interviews with five Heads of Departments. However, the researcher was able to interview 5 HoD, representing 100 % of the sample.

4.3 Demographic Characteristics of Respondents

To gain understand of the components in this study, data on respondents' demographic characteristics such as gender, qualification, and experience were collected. Table 4.2 displays the findings for the demographic factors of the lecturers who took part in the research.

Table 4.2: Demographic Data of Lecturers (N=172)

Variable	Frequency	Percent (%)
Experience		
1-4	87	50.6
5-10	70	40.7
11-15	11	6.4
16-25 and above	4	2.3
Total	**172**	**100**
Gender		
Male	133	77.3
Female	39	22.7
Total	**172**	**100**
Highest Qualification		
M.ED	2	1.2
M.SC	1	0.6
MPhil	127	73.8
PhD	42	24.4
Total	**172**	**100**

Source: Field data (2024)

From table 4.2, it shows that almost every lecturer taught for four (4) years, with 87 representing 50.6%. In terms of gender, the majority of the lecturers (133) were males, accounting for 77.3%, while the female lecturers (39) represented 22.7%.

Finally, the highest qualification revealed that the majority of the lecturers were Master of Philosophy holders, with 127 accounting for 73.8%. The least qualification was Master of Science, 1 would represent 0.6%.

Table 4.3: Demographic Data of Students (N=390)

Variable	Frequency	Percent (%)
Age		
Below 18	11	2.8
18-24	178	45.6
25-35 and above	201	51.5
Total	**390**	**100**
Gender		
Male	131	33.6
Female	259	66.4
Total	**390**	**100**
Levels		
200	148	38
300	127	32.5
400	115	29.5
Total	**390**	**100**

Source: Field data (2024)

The table above clearly demonstrates that most of students are between the ages of 25 and 35, with 201 making up 51.5%. The smallest age group was under 18, with 11 people accounting for 2.8%. In terms of gender, nearly all of the students (259, 66.4%) were females, with 131 men (38%). Finally, it is obvious that level 200s represented the majority of respondents, with 148 accounting for 62.1%.

4.4 Analysis of Main Data

This section analyzes the data in light of the research question posed in the first chapter of this study. The analysis and interpretations of the results are described below.

Table 4.4: Instructional Pedagogies employed by UDS lecturers' (N=172)

Instructional Pedagogy	Mean(M)	Standard Deviation (SD)	Interpretation
Group work	3.08	.783	High
Lectures	4.49	.644	Very high
Whole class discussions	2.84	.800	Average
Think-pair-share	1.90	.731	Low
Debate	1.86	.767	Low
Brainstorming	2.70	.796	Average
Talk for learning	2.00	.924	Average
Problem Based Learning	2.41	1.159	Average
Excursions/Fieldtrips	1.39	.841	Low
Use of educational games	1.33	.651	Low
Peer teaching	2.15	.795	Average
Flipped classroom approach	2.58	.851	Average
Case study method	2.51	1.040	Average
Socratic questioning	1.98	.911	Low
Project based learning	2.10	1.065	Average
Inquiry based learning	2.35	.959	Average
Experiential learning	2.27	.980	Average

Source: Field Data (2024)

From table 4.4, it indicates that, UDS lecturers often employed varied pedagogical approaches in teaching students. For instance, Group work had (M=3.08, SD=.783); Lectures (M=4.49, SD=.644); Whole class discussions (M=2.84, SD=.800). These findings confirmed prior study (Deslauriers, 2011; Freeman, 2014; Kay, 2019; Murphy, 2021), which found that lectures are a

prevalent method of teaching in higher education. Critics claim that the lecture style concentrates on the lecturer rather than the student. Students may struggle to remain engaged and focused throughout a lengthy presentation, resulting in problems retaining knowledge (Alaagib, 2019; Sudarmika, 2020; Zeng, 2020). The lecture style prioritizes recall over analytical thinking and ability to solve problems (Schmidt, 2015). According to a meta-analysis conducted by Freeman et al. (2014), students in traditional lecture courses were more likely to be unsuccessful than those in engaged lecture courses. Traditional lectures are still an effective way to impart vast amounts of information, and they can be well received when delivered by an engaging speaker in a methodical and systematic way (Kay et al., 2019). The aforementioned findings may be attributed to the large class sizes.

However, the majority of the lecturers' surveyed rarely used students centered instructional methods. Specifically, think-pair-share had a mean score of (M=1.90, SD=.731); Debate (M=1.86, SD=.767); Excursion/Fieldtrips (M=1.39, SD=.841); Use of educational games (M=1.33, SD=.651); Socratic dialogue/Question and answer technique (M=1.98, SD=.911). The above findings could be attributed to the large class sizes that lecturers must handle. These results are aligned with the research done by Wickramasinghe & Upeksha (2016), who discovered that lecturers' teaching techniques varied. As a result, they employ a range of teaching approaches based on the kind of course, the students' characteristics, the number of students, and the available technology.

Though there are numerous teaching strategies and methods, not all of them can ensure an interactive and innovative learning environment. This includes student-centered instruction, educational games, Socratic questions, think-pair-share, group discussions, debates, flipped classrooms, and role-playing. Furthermore, applying and executing these creative and interactive

teaching approaches in classrooms will surely improve educational quality while also making studying more pleasurable for students (Wickramasinghe & Upeksha, 2016).

Furthermore, others believe that education is a powerful tool for social change and transformation, and they contend to improve the standard of education is to employ innovative and engaging teaching methods. As a result, academics are nearly compelled to be innovative in how they deliver their courses, teach new skills, and prepare students for the challenges of the twenty-first century (Bawuro 2018).

4.5 Nature of classes handle by UDS lecturers

Table 4.5: Category of class sizes often taught by UDS Lecturers' (N=172)

Class size	Frequency	Percentage (%)
20-50 students	5	2.9
51-100 students	15	8.7
More than 100 students	152	88.4
Total	**172**	**100**

Source: Field data (2024)

Table 4.5 shows that 5 lecturers, or 2.9% of the sample population, manage 20-50. There were 15 lecturers, representing 8.7%, who handled 51-50 students. Finally, 152 lecturers (88.4%) handle more than 100 students. These results contradict the GTEC recommendation of 27:1 for any large class size at the universities in Ghana (GTEC, 2012).

Research objectives 1: To determine the perceived effect of large class size on lecturers' instructional pedagogy

The initial objective of the research was to look into the effect of large class sizes on lecturers' instructional technique. To achieve this goal, measurable data from surveys were examined using mean and standard deviation to determine lecturers' perceptions of how big class sizes affect their teaching methods.

Lecturers were compelled to rank their approaches to instruction on a rating system of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The minimum required value of 3.0 was calculated through adding replies to the scale and dividing by the total number of scales (1 + 2 + 3 + 4 + 5 = 15/5 = 3.0).

All assertions greater than 3.0 are agreeable, whereas those less than 3.0 are disagreeable.

Table 4.6 presents the results of the data analysis.

Table 4.6 Perceived effects of large class size on lecturers' instructional pedagogies (N=172)

Lecturers Perception on Effects of Large Class on their instructional pedagogies	**Mean(M)**	**Standard Deviation (SD)**	**Interpretation**
Large class sizes have an impact on my ability to engage all students in my lesson.	4.47	.790	Very high
The large class size limits my ability to use a variety of activities/learning methods in my lesson.	4.19	.879	Very high
Large class sizes limit my ability to use teaching methods that are relevant to the course objectives.	3.49	1.132	High
Large class sizes limit my ability to engage my students in using a variety of problem-solving techniques.	3.98	.805	High

Large class sizes limit my ability to use audio-visual aids to enhance my teaching effectiveness.	3.20	1.324	High
Large class sizes impair my ability to provide clear instructions and explanations of concepts during lessons.	3.30	1.261	High
Large class sizes limit my ability to engage my students in practical activities that have a clear goal of improving their understanding/achievement.	4.00	1.160	Very high
Large class sizes limit my ability to listen to and respond to each student individually during my lessons.	3.96	1.028	High
A large class size limits my ability to focus on each student individually during my lesson.	4.24	.784	Very high
Large class sizes have an impact on my ability to ensure that all of my students understand what I teach during my lessons.	4.31	3.867	Very high
Large class sizes limit my ability to establish clear performance objectives and parameters in order to hold my students accountable.	3.02	1.105	High
Large class sizes have an impact on how I provide opportunities for students to take responsibility for their own learning.	3.25	.998	High
Large class sizes affect the clarity of teaching.	2.98	1.277	Average
In the end, the large class size has an impact on my habit of summarizing the lessons I teach.	2.49	1.268	Average

Source: Field data (2024)

Table 4.6 summarizes the consequences of large class sizes on lecturers' instructional pedagogies. The research indicates that lecturers' instructional pedagogies were rather high, with a mean ranging from 2.49 to 4.47. Lecturers' ability to involve all students in their lessons (M=4.47, SD=.790); Use a diversity of learning modalities in class delivery(M=4.19, SD=.879); lecturers

find it difficult to adopt teaching methods (M=3.49, SD=1.132); difficult to engage students in a variety of problem-solving techniques (M=3.98, SD=.805); It is clear that big class sizes affects their ability to use audio-visuals (M=3.20, SD=1.324); giving clear instructions and explanations is a problem of engaging students in practical activities (M=4.00, SD=1.160); lecturers finds it difficult to listen and respond to individual students (M=3.96, SD=1.028); attention cannot be given to all students (M=4.24, SD=.784); my failure to ensure that every student understands what I teach throughout my classes. (M=4.31, SD=3.867); Problem of defining specific goals and achievement limits to hold my students responsible (M=3.02, SD=1.105); providing chances for students to take charge of their own learning poses a challenge for lecturers. (M=3.25, SD=.988). Few lecturers averagely agree to their clarity of teaching (M=2.98, SD=1.277); and their habit of summarizing lessons (M=2.49, SD=1.268). These findings are comparable to those of Khan and Iqbal (2012), who discovered that an overcrowded class is one in which students exceed the class's authorized capacity. Large class size hamper methods of instruction and learning, and one of the primary goals of lecturers in a lecture hall is to offer each student with adequate attention to ensure they can thrive academically (Ayud, Saud, and Akhtar 2018). Earthman (2002) discovered that large class size discourage students from paying attention and impede their progress. He also noticed that lecturers had a limited amount of time in the hall to lecture while also working with underperforming students.

O'Hanlon (2019) discovered that larger lecture courses were associated with poorer levels of student engagement with the subject matter, shorter program commitments, weaker levels of student participation with the curriculum, and lower levels of student enthusiasm and participation in class. According to Farrell (2019), large class numbers create challenges that may limit or remove instructional approaches that are commonly used in smaller class environments. The

analysis identified multiple barriers to efficient instruction, such as managing assessment that they agree with the course content and learning outcomes, guaranteeing fair participation in teacher-determined groups, dealing with student questions, organizing time, managing the components of choice, and enhancing technology skills to improve teaching, learning, and assessment.

Again, research suggests that lecturers in large classes may struggle to deliver individual attention, tailor education, and establish meaningful student-teacher interactions (Gauuan et al, 2023). This can lead to a dependence on traditional lecture-based instruction, which may be less engaging and successful for all students (Shoubin et al, 2021).

Finally, lecturers believe that large classes make it difficult to implement a variety of innovative and successful instructional techniques (Altun & Yucel-Toy, 2015; Quinlan & Fogel, 2014), so they use teacher-focused approaches that limit the capacity of students to engage with the topic and reduce educational questioning (Almulla, 2015; Ozerk, 2001). Large class sizes provide educational challenges since speaking, reading, and writing tasks are difficult to arrange, and individualized work is limited (Mulryan-Kyne 2010).

Research objective 2: Investigate the perceived effects of large class size on lecturer's assessment and supervision practices in University for Development Studies.

The second objective of the research was to investigate the perceived effects of large class sizes on lecturer assessment and supervision procedures. These objectives will be met with quantitative data gathered through questionnaires. The quantitative data was analyzed using mean and standard deviation to study the perceived effects of large class numbers on lecturers' assessment and supervision procedures in universities for development studies.

Lecturers were compelled to rank their teaching methods on a scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The threshold value of 3.0 was calculated

by adding replies to the scale and dividing by the number of scales (1 + 2 + 3 + 4 + 5 = 15/5 = 3.0). All statements above 3.0 agree, while those below 3.0 disagree.

Table 4.7 Perceived effects of large class size on lecturers' assessment practices (N=172)

Lecturers Assessment Practices	Mean(M)	Standard Deviation (SD)	Interpretation
Large class sizes influence how frequently I conduct class tests to evaluate my teaching.	4.26	.847	very high
Large class sizes limit my ability to ask more insightful questions than a fact-find questions while teaching.	3.65	1.172	High
The large class size does not allow me to guide my students to complete their assignments on time.	3.03	1.372	High
Large class sizes affect the objective evaluation of my students	3.78	1.111	High
The large class size affects my discussion of students' performance on tests with them.	3.91	1.169	High
The large class size makes it very difficult to mark all assignments and give feedback to students on time.	4.53	.696	Very high
Large class sizes impact my ability to use a variety of questioning techniques to probe students' knowledge and understanding.	3.64	1.113	High
Due to the large class size, I prefer multiple-choice questions over essay-type questions.	3.62	1.141	High
Large class sizes influence how I mitigate potential biases in assessment.	4.26	.847	Very high

Source: Field data (2024)

It can be seen from table 4.7 that, nearly all lecturers generally agree that, large class size affects their assessment practice with a varied mean of 3.03 to 4.56. For instance, lecturers do not often conduct test to evaluate their teaching (N=4.26, SD=.847); They find it challenging to ask questions that stimulate thought rather than fact-finding questions (N=3.65, SD=1.172); guiding students to complete their assignment is affected (N=3.03, SD=1.372); lectures do not objectively evaluate students (N=3.78, SD=1.111); problem of discussion students' performance with them (N=3.91, SD=1.169); difficulty in markings and giving feedback on time (N=4.53, SD=.696); problem of using variety of question to probe students understanding (N=3.64, SD=1.113); majority of the lecturers prefer multiple choice questions than essay type (N=3.62, SD=1.141); to mitigate potential biases in assessment is affected in large class size(M=4.26, SD=.847).

Based on the findings, it can be concluded that lecturers encountered a variety of difficulties when teaching large class size. Each participant stated that they were unhappy providing assessments and feedback since they had so many students and individual attention was unattainable. Other research has indicated that professors are unable to provide timely and productive feedback to all students (Jokhio, Raza, Younus, & Soomro, 2020; Ouahidi, 2021), this research aligns with the study's findings. Although providing feedback is an important component of teaching, it can also help students improve their skills and increase their ZPD in class (Fithriani, 2019; Susanti, Deepali Mallya, & Indawan, 2020).

Furthermore, lecturers have to coordinate practical assessments and instructions, prepare examination papers, mark a large number of scripts, and do managerial duties. Examinations should be held more frequently, and academics should use the same exam material for different groups of students (Mohamedbhai, 2008). Academics are under pressure to mark a large number of scripts in a short period of time, increasing the risk of human error. Examination questions have

also changed, with lecturers choosing standardized and multiple-choice tests (MCQs) that are easier to grade (Jennifer 2015). Such multiple-choice questions emphasize gaining knowledge rather than application of knowledge. Matoti et al. (2018) found that 60% of students felt prevented from asking questions in class because of the large number of people present.

Furthermore, when teaching a large class size, there may be considerable obstacles in designing, managing, and standardizing evaluation systems (Broadbent, Panadero, & Boud 2018).

Finally, assessment techniques in large courses usually rely on standardized examinations and assignments, which may not fully reflect the breadth of student learning and growth in abilities. Lecturers may struggle to provide timely and meaningful comments on student work, especially when dealing with a large number of examinations (Bobias, 2020).

Research objective 3: Examine the perceived effects of large class size on the academic performance of students in the University for Development Studies.

The third research objective was to investigate the perceived effects of large class sizes on academic achievement among students in University for Development Studies. These goals will be met with quantitative data acquired via questionnaires. The statistics were analyzed using mean and standard deviation to measure the perceived effects of large class sizes on academic achievement among students. Students were task to rank their academic performance activities on a scale of 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree). The threshold value of 3.0 was determined by adding the scale and dividing by the number of scales (1+2+3+4+5 = 15/5 = 3.0). All assertions greater than 3.0 are agreeable, whereas those less than 3.0 are disagreeable.

Table 4.8: Perceived effects of large class size on students' academic performance in university for development studies (N=172)

Students' Academic Activities	Mean	Standard Deviation	Interpretation
Large class size affects my ability to interact with the lecturer and ask questions	3.91	1.339	High
Large class size affects the quality of my learning	3.87	1.235	High
Large class size affects my participation in class	3.78	1.222	High
Do you receive timely and sufficient feedback on your academic performance in larger classes	3.03	1.450	High
Large class size affects how I manage my studies and course work	3.15	1.396	High
Do you believed that larger classes lead to less individualized attention from lectures	4.36	1.006	Very high

Source: field data (2024)

Results from the table illustrate that majority of students agree large class size affects their academic performance with a varied mean between 3.03 to 4.36. Specifically, large class size inhibits my capacity to communicate with the lecturer and offer questions. (M=3.91, SD=1.330); the quality of students learning (M=3.87, SD=1.235); participation of students in lectures (M=3.87, SD=1.222); management of student's studies and course work (M=3.15, SD=1.396).

The findings of the research are align with the study conducted by Nyamupangedengu (2017), who discovered that the emphasis in contemporary education focuses on students' needs, interests, and comfort, allowing them to learn without troubling one another. So, "profound learning is achieved through student's active participation and effective application of what they are learning; thereby enabling them to be socially and academically engaged" (Maroun, 2018, at 7) This is frequently impossible to achieve in large courses, because the more students one academic is responsible for, the more difficult it is to adequately educate and assess.

As previously stated, there exists an inverse relationship between class size and learning outcomes. This technique is consistent with Stephens et al.'s (2015) study on learning outcomes, which found an inverse relationship between class size and learning outcomes. Student learning decreased when class sizes increased. This indicated that the more students in a class, the lower the level of concentration, resulting in poor student achievement (Stephens et al., 2015).

Diette and Raghav (2015) examine the relationship between class size and student achievement using data from a selective liberal arts college. They show that when class sizes expand, students' average grades decrease. Increased class sizes are especially harmful for first-year students and those with low SAT scores. Gaggero and Haile (2019) use a regression discontinuity technique to demonstrate that class size has a negative impact on postgraduate grades at a British university. They employ a policy that splits students into two groups in classes with a set enrollment size.

The potentially negative effects of large class sizes on student learning have been well acknowledged. Students in large classes may struggle to interact with the lecturer, participate in discussions, receive personalized feedback, and access support services. Furthermore, lecturers in huge lectures may struggle to create a positive learning environment, deliver personalized instruction, and accurately measure student progress. (Dewaele et al., 2021, p.922).

Objective four: challenges lecturers encounter when teaching, supervising and assessment practices in university for development students.

Lecturers were interviewed for this study to explain the many obstacles they faced when teaching, supervising, and assessing students' learning activities. The interviewee's perspectives on the study are as follows.

Interviewee A was of the view that "*I find it tough to grade students and provide comments so that they can improve and prepare for final exams. In large courses, it is difficult to maintain complete silence. Also, if students arrive late, they will interrupt the class by dragging furniture, causing steer. It influences the implementation of various instructional tactics to ensure student comprehension. Finally, it limits the types of questions I ask students because of marking and meeting the deadline for posting student results."*

Other views were shared by interviewee B, he said *"there is a problem of handling large class size especially engaging students individually, thereby causing difficulties in addressing their diverse learning needs of students. Students at times don't attend lecturers.in absence of public address system, students find it difficult to hear whatever you are teaching, these will shift their focus from you to their phones, and lastly, what I will say is that, there is a problem of noise".*

Also, interviewee C stated that *"challenges in large class sizes are obvious." Large class sizes are challenging to manage. One disadvantage of projecting is that students struggle to see it. Also, there is no public address system to boost your voice so that they can hear you. Teaching is more than what you see; touching and feeling learning materials helps students understand. Imagine marking 600+ scripts, and the institution will give you two weeks to mark and upload the results."*

Again, interviewee D shared his opinion on the challenges he faced in large class size. He said "*mostly the courses I teach needs demonstrations and practical's but because of large class size, these aspects are neglected affecting effective teaching and learning. Also, often times public address system will not be available resulting me to talk on top of my voice, even with that, students still complained of not hearing especial those at the back, these can affect my health. Students are choked in large classes impeding movements in class. Again, lecture halls are not conducive for large number of students. Fans in the halls sometimes are not working, causing students to fan themselves. When these happens, you will lose their concentrations. Projectors are not enough in the lecture rooms. When it comes to assessments, it is very difficult to continuously assess students and using of different assessment techniques. Individual assessment is difficult. When you give them group assignment, others will be free riders. If teaching and assessment is ineffective, what quality of students are we producing".*

The final interviewee said "*when a class is large without P.A system is very difficult for students to hear. Also, there is difficulties in controlling the students. Lecturers are forced to use multiple choice questions affecting students' expressions. Finally, supervising individual project work".*

Findings from the qualitative data to find out challenges lecturers encounter when teaching and assessing students in large class size is aligned with the following literature (Biggs, 1999; Mulryan-Kyne, 2010; Jawits, 2013; Hornsby, 2013; Maringe et al., 2014; Hornsby et al., 2014; Jennifer, 2015; Chikoko, 2015; Leibowitz, 2016; Allais, 2016; Matoti, 2018), which found that large class size demotivated and discouraged attendance. Students frequently feel anonymous and isolated in large classes, making them less likely to return on a regular basis, especially if they believe the lecture has no direct relevance to them. When students feel anonymous and disengaged in large

classes, they exhibit more distracting behaviors, such as arriving late, leaving early, holding side discussions, texting, and engaging in other laptop activities (Mulryan-Kyne, 2010).

Again, class supervision can be problematic due to discipline issues, increased noise levels, the inability of all students to attend, and the incapacity to perform pair and group work (Adamu, Umar Tsiga, and Simmons Zuilkowski 2022).

Amadehi (2016) discovered that when class sizes increased, individual student learning and outcomes decreased. Large class numbers influence student assessments and evaluations. Student assessment and evaluation are essential components of the teaching and learning process. A crowded classroom environment has an impact on lecturer performance in delivering effective learning in class since it can impede evaluation, feedback, discipline, and class management for students, making it difficult to achieve good abilities (Ara & Hossain, 2016; Ouahidi, 2021).

Similarly, Hadi and Arante (2015) identified six challenges for large-class teachers: delivering feedback, discipline, achievement, student participation, individual attention, and low motivation. Furthermore, evaluation is difficult in every way, including essay correction, oral examinations, and total grading (Iipinge 2018; Kokkelenberg, Dillon, & Christy 2008).

Furthermore, the previous issue of difficulties with exams and assessment marking demonstrates that huge classes undermine excellent teaching and learning in higher education institutions. Furthermore, participants stated that the time spent designing, conducting, and marking the evaluation left academics with no 'life'. They further say that academics see this as a direct threat to the quality of education. Essay topics designed to foster critical thinking and content synthesis were discouraged because they took longer to mark. Overall, large class size suffer from poor teaching and evaluation, which has a negative impact on the quality of South African higher

education. These observations and evidence are supported by studies conducted by (Mulryan-Kyne, 2010; Jawits, 2013; Hornsby, 2013; Maringe et al., 2014; CHE, 2010; CHE, 2019; Mahabeer, 2019), which concluded that assessment is undeniably important in achieving the intended objectives of teaching and learning and improving student performance, and cannot be removed from the educational process.

Again, examination question design has evolved, with most lecturers opting for structured and multiple-choice questions (MCQs) that are easier to mark (Jennifer 2015). Such multiple-choice questions emphasize knowledge acquisition rather than knowledge application. Many countries' higher education institutions face the challenge of teaching large classes. Thus, large-scale class examinations are detrimental to excellent teaching, learning, and assessment, as well as the upholding of academic norms and ethics.

Finally, researchers looked into the effects of big class sizes on lecturers' workloads and well-being. Ismayilli et al. (2022) discovered that lecturers in large courses typically have an increased workload and stress, making it impossible to provide individualized attention and targeted assistance to students. (Susanto et al, 2022) studied the effect of large class sizes on lecturer satisfaction and motivation, discovering that lecturers in smaller courses reported higher levels of job satisfaction and motivation.

4.6 Hypotheses

Ho: There is no statistically significant correlation between large class size and students learning.

H1: There is statistically significant correlation between large class size and students learning.

The purpose of hypothesis one was to see if there is a meaningful relationship between big class sizes and student learning in terms of perceived effects on academic achievement. The hypotheses were tested by means of linear regression.

Table 4.9: Simple linear regression analyses on the effects of large class size on students learning

Variable	B	Std Error	Beta	T	Sig.
Large class size	.119	.078	.116	1.524	.129

Dependent variable: student learning. Predictor variable: a large class size. In the simple linear regression equation, $Y = \beta0 + \beta1X + \varepsilon$, where $\beta0$ is the intercept term, β is the slope or coefficient, ε is the error term, and X is the predictor.

The results from Table 4.9 represent the analysis of simple linear regression which indicates that large class size is not statically significant with a p-value of .129. Upon closer scrutiny of the regression analysis data provided in Table 4.9, it was discovered that the B coefficient for large class size was .119. This suggests that a one-unit increase of large class size is associated with a comparable increase of .119 in students learning. The indicator has a p-value greater than 0.05, indicating it does not strongly predict students' learning.

These contradict various research findings, one of which states that students in smaller class size perform better on exams than those in larger class sizes. The difference in test scores between the two groups is statistically significant, demonstrating that class size influences student achievement (Labhsetwar, 2020).

It is also important to note that, while class size has a statistically significant effect on student learning outcomes, other factors can equally influence student success. In addition to class size,

factors such as teacher quality, instructional strategies, and curriculum design should be considered when developing educational policies and practices (Ake-Little et al, 2020, p. 595).

Finally, a considerable body of data demonstrates that class size has a significant impact on student learning outcomes. Several studies have demonstrated a negative relationship between class size and student achievement (Ng et al, 2021, p. A49). However, the relationship between class size and student learning is complex and can be altered by factors such as student characteristics, topic matter, and teaching methods (Carlini et al., 2019, p. 69).

4.7 Chapter Summary

This chapter dealt with the analysis and presentations of data gathered. . Overall, the studies indicates that lecturers agreed large class sizes influenced their instructional approaches throughout lesson delivery. Lecturers at a University for Development Studies agreed that large class sizes had an impact on their evaluation procedures. For example, it was revealed that large class sizes hinder lecturers' capacity to apply various assessment procedures to test students' comprehension. Students also agreed that large class sizes influenced their academic performance. Lecturers agreed that large class sizes present various obstacles to them. For example, lecturers are required to employ multiple-choice questions, which has an impact on students' expressions.

Finally, it was found out that, there is no statistically significant relationship between large class sizes and student learning.

CHAPTER FIVE

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The study looked into how large class sizes affected lecturers' effectiveness in terms of teaching, and assessment techniques at university for development studies. The study used a mixed method of research and specifically sought to determine the perceived effects of large class size on lecturers' instructional pedagogy, investigate the perceived effects of large class size on lecturers' assessment practices in university for development studies, examine the perceived effects of large class size on academic performance of students in university for development studies, and investigate the challenges lecturers encounter with. The study was conducted among University for Development studies lecturers and students. 172 lecturers and 390 university students were selected through a multistage sampling process. The study's data were gathered utilizing a questionnaire and an interview guide. The information was analyzed descriptively (frequency, percentages, averages, and standard deviations), thematically, and inferentially.

5.2 Summary of Key Findings

1. Lecturers reported that big class sizes affected their teaching methods. For example, lecturers agreed that big class sizes hampered their capacity to engage all of their students in classes and to incorporate numerous activities or learning methods into their lessons.
2. Lecturers perceived large class size to have effect on their assessment and supervision practices. For example, majority of the lecturers agreed that there is difficulty in marking and giving feedback on time (N=4.53, SD=.696). it was also found out that, lecturers prefer multiple choice questions than essay type (N=3.62, SD=1.141)

3. Students perceived large class sizes affect their academic performance. The study found that big class sizes limit students' capacity to connect with the lecturer and ask questions. Furthermore, big class sizes have an impact on students' involvement in lectures.
4. Lectures discussed the different issues they have when teaching, supervising, and assessing students in large class sizes. It demonstrates that lecturers find it difficult to assess students and provide feedback on time, allowing them to amend and prepare for final exams. In large courses, it is difficult to maintain complete silence.
5. Lecturers provide ways for effective teaching and learning in large class size settings. It was discovered that lecturers proposed a quota system for each programme. Furthermore, large classes should be separated into sessions.
6. It was found out that, there is no statically significant between large class size and student learning.

5.3 Conclusions

The study aimed to investigate the effect of large class sizes on lecturers' effectiveness in teaching, and assessment techniques at university for development studies. The study concluded that large class sizes has an impact on lecturers' instructional pedagogies, assessment and supervision procedures, students' academic achievement, issues lecturers confront, and solutions for dealing with large class sizes. The data demonstrated that, both lecturers and students felt large class sizes impede active participation in learning. Students' engagement can also be increased by incorporating diverse strategies and technological resources into instruction and learning. Lecturers should employ engaging pedagogies like think-pair-share, experiential learning, and individual and collaborative methods to help students learn. Teaching large class size presents a number of challenges that have a negative impact on both teaching and learning; so, systematic

methods are required to help mitigate the issue. The study indicates that tackling the issues posed by large class size is crucial to guaranteeing excellent education and student achievement. Institutions can reduce the negative consequences of large class sizes by applying effective pedagogical practices, giving necessary support to lecturers, and creating a conducive learning environment.

5.4 Recommendations

Upon the findings reached in this study, the following have been recommended:

1. To lessen the consequences of large class sizes on lecturers' effectiveness, lecturers should use 21st century skills like digital literacy, as well as innovative and interactive teaching methods like case studies, think-pair share, collaborative learning, and so on.
2. Lecturers could use online platforms to offer quizzes and assessments, which can provide quick feedback to students and assist in identifying areas where the class may be suffering.
3. There is a need for the resources necessary to provide a positive teaching and learning environment for larger class sizes. The resources include the construction of new lecture halls and study pavilions, the installation of public address systems in all lecturing venues intended for major courses, and furniture.
4. The proposed model of student-centered teaching is suggested to increase student participation in large class size. The student is responsible for their own learning and must give evidence of advance preparation for course outcomes.
5. To reduce large class sizes, this may involve hiring more lecturers, increasing the number of teaching assistants, or exploring alternative delivery modes such as blended or online learning.

6. The study can be used as a reference by future researchers who want to conduct large-class size case studies on teaching, and assessment procedures in tertiary institutions.

5.5 Suggestions for Further Research

The following are suggested for further studies.

1. The study's scope is limited because it was conducted at university for development studies. As a result, comparative research among other Universities must be conducted over a large geographic area to ensure that the study is representative and the findings are applicable across the country.

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APPENDIX A

QUESTIONNAIRES FOR LECTURERS

Dear Sir/Madam,

This questionnaire is designed mainly to collect data for a research project titled: ***Effects of large class size on lecturers' effectiveness in terms of teaching and assessment practices at the University for Development Studies.*** As a lecturer in this university, you have been sampled as one of the participants in this survey, and if you agreed to take part in this research, you are humbly reminded to be honest with your responses. Please be assured that any information you provide will be treated with utmost confidentiality and privacy. Additionally, the information will be used for research purposes only. Thank you in advance for your cooperation.

Respectfully,
Sulemana Ahmed.
Tel: 0553718974.

DIRECTIONS: Please, respond to the following statements by ticking [√] in the appropriate curly bracket that follows the statement and write where it required.

I consent to participate in this study [ ]

Section A: Demographic Data

1. Name of university: UDS [ ]

2. Gender: (i) Male [ ] (ii) Female [ ]

3. Highest Educational Qualification: M.ED [ ] M.A [ ] M.SC. [ ] MPHIL [ ]
PHD [ ]

4. How many undergraduate students' theses/dissertations are you supervising?

……

5. How many postgraduate students' theses are you supervising?

……..

6. Years of teaching experience in the university: …….

7. On average, how many students are typically in your classes?

Less than 20 [ ] (ii) 20-50 [ ] (iii) 51-100 [ ] (iv) More than 100 [ ]

8. Academic /Teaching Department: ……

Section B: Lecturer Instructional Pedagogy

Please indicate the frequency at which you have been employing the following instructional pedagogies in your lectures.

KEY: 1=Never, 2=Seldom, 3=Sometimes, 4=Often, 5=Very Often.

S/N	Instructional Pedagogy	Never	Seldom	Sometimes	Often	Very Often
1	Group work					
2	Lectures					
3	Whole class discussions					
4	Think-pair-share					
5	Debate					
6	Brainstorming					
7	Talk for learning					
8	Problem Based Learning					
9	Excursions/Fieldtrips					
10	Use of educational games					
11	Peer teaching					
12	Flipped classroom approach					
13	Case study method					
14	Socratic questioning					
15	Project based learning					
16	Inquiry based learning					
17	Experiential learning					

18. Others, please specify……

……

Section C: Lecturers Perceived effects of Large Class size on their Instructional Pedagogy

Indicate the level at which you agree or disagree with the following statements associated with effects of large class sizes on your instructional pedagogies in this university.

KEY: ***SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree.***

S/N	Lecturers Instructional Pedagogies	SD	D	N	A	SA
1	Large class size affects my ability of involving all students in my lesson.					
2	Large class size affects my ability use a variety of activities/learning methods in my lesson					
3	Large class size affects my ability to adopt teaching method that are appropriate to the course objectives.					
4	Large class size affects my ability to engage my students to use a variety of problem-solving techniques.					
5	Large class size affects my ability to use audio-visual aids to make my teaching more effective.					
6	Large class size affects my ability to give clear instructions and explanations of concept during lessons.					
7	Large class size affects my ability to engage my students in practical activities that have a clear purpose in improving their understanding/achievement.					
8	Large class size affects my ability to listen and respond to all my students individually during my lessons.					
9	Large class size affects my ability to give attention to each student individually during my lesson.					
10	Large class size affects my ability in ensuring that every student understand what I teach during my lessons.					
11	Large class size affects my ability to set clear objectives and parameters for performance to hold my students accountable.					
12	Large class size affects my provision of opportunities for student's to take responsibility for their own learning.					
13	Large class size affects clarity of teaching					
14	Large class size affects my habit of summarizing lessons I teach, in the end.					

15. Others, specify……...……...……
……
……

Section D: Lecturers Perceived Effects of Large Class size on their Assessment Practices

Indicate the level at which you agree or disagree with the following statements associated with effects of large class sizes on your assessment practices in this university.
KEY: ***SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree.***

S/N	Lecturers Assessment Practices	SD	D	N	A	SA
1	Large class size affects how often I conduct class tests to evaluate my teaching.					
2	Large class size affects my ability to ask more thought-provoking questions then fact-finding questions while teaching.					
3	Large class size does not enable me to guide my students to complete their assignment in time.					
4	Large class size affects objective evaluation of my students.					
5	Large class size affects my discussion of student's performance in tests with them.					
6	Large class size makes it very cumbersome to mark all assignment and give feedback to students on time.					
7	Large class size affects my ability to use variety of questioning techniques to probe students' knowledge and understanding.					
8	Because of large class size, I prefer multiple choice questions than essay type questions.					
9	Large class size affects how I mitigate potential biases in assessment.					

10. Other, specify……..……
……
……

Section E: Challenges Lecturers encounter when Teaching and Assessing Large Class Size

Indicate the level at which you agree or disagree with the following statements associated with challenges lecturers encounter when teaching, assessing, and supervising large classes.

KEY: ***SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree.***

S/N	Challenges of Teaching Large Classes	SD	D	N	A	SA
1	Maintaining student engagement.					
2	Addressing diverse learning needs of students.					
3	Keeping up with evolving teaching methods/technologies.					
4	Providing effective feedback and guidance.					
5	Balancing supervision with other responsibilities.					
6	Ensuring fairness and equity in supervision practices.					
7	Ensuring assessments are fair and unbiased.					
8	Aligning assessments with learning objectives.					
9	Grading large volumes of assignments/exams.					
10	Aligning assessments with learning objectives.					

11. Others, specify……
……
……

APPENDIX B

QUESTIONNAIRE FOR UNIVERSITY STUDENTS

Dear Respondent,

The purpose of this study is to examine the effects of large class size on lecturer's effectiveness in terms of teaching and assessment of students in this university. The study is important in the sense that it will help find out about the academic performance of students in higher educational setting. Please answer the questions as frankly as you can. Your participation is this study is voluntary and you can stop at any time or refuse to respond for any reason. Whatever you say will be treated as confidential and used for academic purposes only. Your name or identity will not be associated with the responses you will give. Thank you in advance for your time and cooperation.

Respectfully,

Sulemana Ahmed.

Tel: 0553718974.

DIRECTIONS: Please, respond to the following statements by ticking [√] in the appropriate curly bracket that follows the statement and write where it required.

I consent to participate in this study. [ ]

Section A: Student Demographic Data

1. Gender: (i) Male [ ] (ii) Female [ ]

2. Age: (i) under 18 [ ] (ii) 18-24 [ ] (iii) 25-35 and above [ ]

3. What is your current level? (i) 100 [ ] (ii) 200 [ ] (iii) 300 (iv) 400 [ ]

4. On average, how many students are typically in your class? (i) less than 20 [ ] (ii) 21-50 [ ] (iii) 51-100 [ ] (iv) more than 100 [ ]

INSTRUCTION: Indicate the level at which you agree or disagree with the following statements associated with effects of large class sizes on students' Academic Performance in this university.
KEY: ***SD-Strongly Disagree, D-Disagree, N-Neutral, A-Agree, SA-Strongly Agree.***

Section B: Student Perceived Effects of Large classes on their Academic Performance

S/N	Student's Academic Activities	SD	D	N	A	SA
1.	Large class size affects my ability to interact with the lecturer and ask questions.					
2.	Large class size affects the quality of my learning.					
3.	Large class size affects my participation in class.					
4.	Do you receive timely and sufficient feedback on your academic performance in larger classes?					
5.	Large class size affects how I manage my studies and course work.					
6.	Do you believe that larger classes lead to less individualized attention from lectures?					

7. Others, specify……...……
……
……

THANK YOU

APPENDIX C

INTERVIEW GUIDE

INTERVIEW GUIDE FOR HEADS OF DEPARTMENTS

Dear Sir/Madam,

The purpose of this study is to examine the effects of large class size on lecturer's effectiveness in terms of teaching and assessment of students in this university. The study is important in the sense that it will help find out about the academic performance of students in higher educational setting. Please answer the questions as frankly as you can. Your participation is this study is voluntary and you can stop at any time or refuse to respond for any reason. Whatever you say will be treated as confidential and used for academic purposes only. Your name or identity will not be associated with the responses you will give. With your permission, I will record the conversation so I can transcribe the audio later for reporting in my thesis. Thank you in advance for your time and cooperation.

Respectfully,

Sulemana Ahmed.
Tel: 0553718974.

1. What kind of instructional pedagogy and andragogy do you often employ when teaching your students in this university?
2. What is the average size of your class for all the courses you teach in this academic year?
3. How does large class size affect your instructional pedagogy?
4. How does large class size affect your assessment practices in this university?
5. What is the impact of large classes on your supervision practices?
6. How does large class size affect the academic performance of students in this university?
7. What challenges do lecturers encounter when teaching large class size?
8. What specific challenges do you encounter when supervising and assessing the learning outcomes of students in large classes in this university?
9. Which strategies can be employed to support students when teaching, supervising and assessing the learning outcomes of students in large classes?

APPENDIX D

LETTER OF INTRODUCTION

UNIVERSITY FOR DEVELOPMENT STUDIES
FACULTY OF EDUCATION
EDUCATIONAL MANAGEMENT AND POLICY STUDIES

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P.O. Box TL1350
Tamale
Northern Region
Ghana, West Africa

Our Ref: .....
Your Ref: .....

DATE: 9th April, 2024

The Registrar,
University for Development Studies
Tamale

Dear Sir

LETTER OF INTRODUCTION

The bearer of this letter, Mr. Sulemana Ahmed is a postgraduate student studying at the Department of Educational Management and Policy Studies at the University for Development Studies (UDS).

He requires some information from lecturers to write his thesis titled **"Effect of Large Class Size on Lecturers Effectiveness in Terms of Supervision, Teaching, and Assessment Practices"** as a requirement for his MPhil programme.

Kindly give Mr. Sulemana Ahmed the necessary assistance to enable him gather the information he needs for the research.

I would greatly appreciate it if you could provide the required assistance for his data collection in your outfit. Thank you.

Yours faithfully,

Quansah, JYD
Head of Department