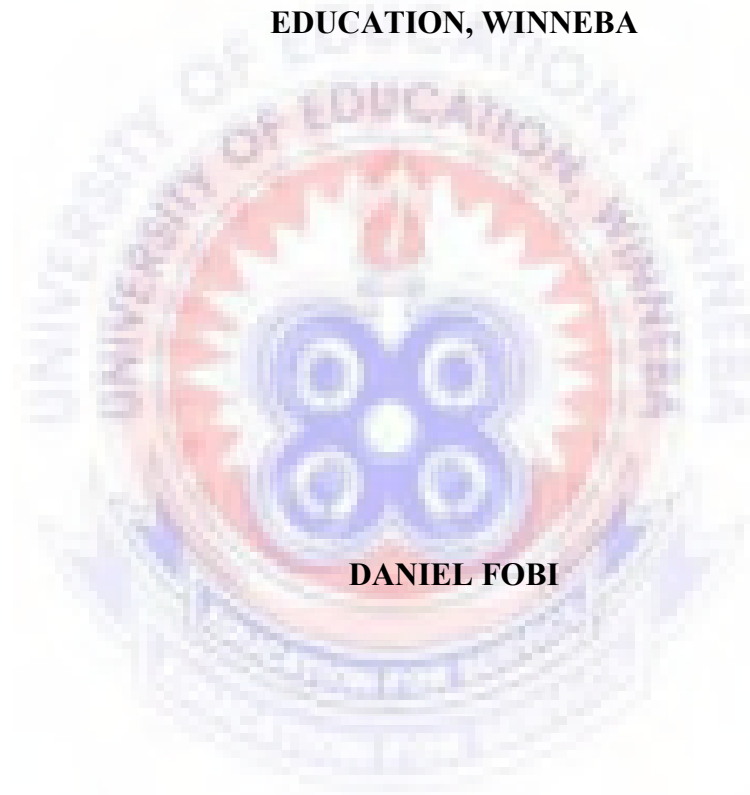


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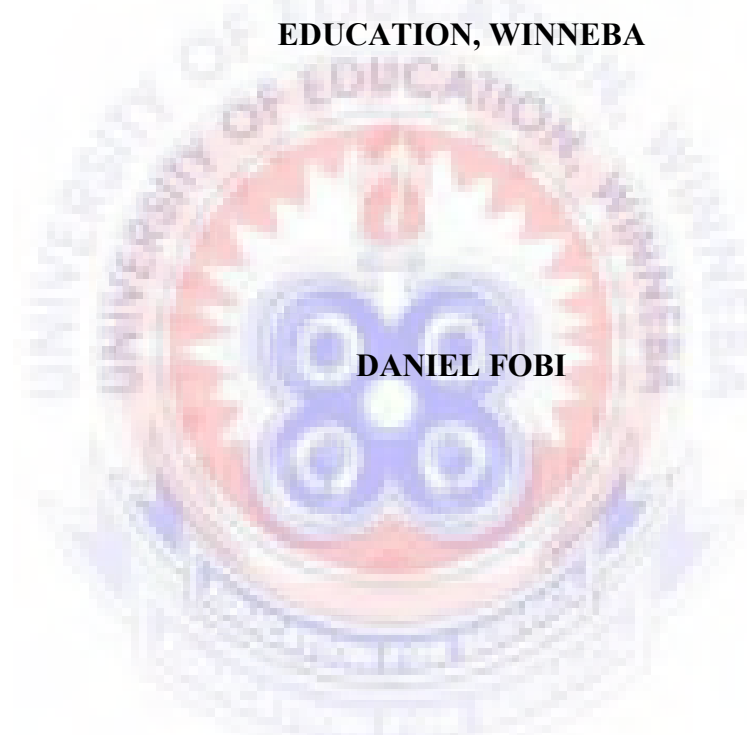


DANIEL FOBI

JULY, 2015

UNIVERSITY OF EDUCATION, WINNEBA

IMPLICATIONS OF DEAF STUDENTS' LEARNING APPROACHES ON THEIR ACADEMIC PERFORMANCE AT THE UNIVERSITY OF EDUCATION, WINNEBA



DANIEL FOBI

A Thesis in the Department of SPECIAL EDUCATION, Faculty of Educational Studies submitted to the School of Graduate Studies, University of Education, Winneba, in partial fulfilment of the requirements for award of Degree of Master of Philosophy (Special Education) degree.

JULY, 2015

DECLARATION

CANDIDATE'S DECLARATION

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

SIGNATURE.....

DATE.....

SUPERVISOR'S DECLARATION

I, Dr. Alexander M. Opong, hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of Thesis as laid down by the University of Education, Winneba.

SIGNATURE.....

DATE.....

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DEDICATION

I dedicate this work to my lovely wife Joyce Adu and to my only beloved son, Nhyira Nana-Yaw Fobi. I also dedicate the work to my parents Mr. and Mrs. Fobi.



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ABBREVIATIONS

UEW - University of Education, Winneba



ABSTRACT

The purpose of this study was to explore the learning approaches deaf students at the University of Education, Winneba (UEW) adopt and their implications on the students' academic performance. Data were gathered from 31 out of 41 deaf students. The participants were purposively sampled from level 200, 300 and 400. Data were gathered through ASSIST (1998) questionnaire and students' academic records. Data were analysed using descriptive statistics, independent samples t-test and multiple regression analysis of SPSS 20. Findings of the study suggest that deaf students at University of Education, Winneba preferred strategic approach to learning followed by the deep approach and the surface approaches to learning. Also, the findings indicated that generally male and female participants did not display significant differences in their approaches to learning. Results of the study further suggested that participants' approaches to learning (deep, strategic and surface) did not predict their academic performance. The study recommended that further investigation could be done using longitudinal study. Such a study should examine whether the approaches to learning of deaf students change over time as they go through their university education.

CHAPTER ONE

INTRODUCTION

1.0 Background to the Study

Studies on approaches to learning and their implications on the academic performance of deaf students have been of interest to educational researchers for over 30 years (Duff, 2002; Richardson, 2009). The approaches deaf students adopt to learn often vary from one student to another. The problem relates to the type of approaches deaf students adopt and the implications of those adopted approaches on the students' academic performance. Bennett (1999) contended that students from divergent cultural backgrounds tend to exhibit greater diversity in their approaches to learning than students from relatively convergent cultural background. Richardson explained that quantitative studies on individuals' approaches to learning have revealed that an individual student may exhibit different approaches to study. In this study, the terms –approaches to learning” and –approaches to studying” would be used interchangeably to mean the ways in which deaf students learn at the university level. Students' approaches to learning have been shown to be dependent on a number of factors. Biggs (1987) and Zeegers (2001) identified some factors, amongst are: personal factors (e.g., student gender, age, prior experiences) and contextual factors (for example, teaching/ learning activities/methods, perceived workload, assessment procedures, and institutional values). Thus, two learners may adopt different approaches to learning within the same context and a single learner may adopt different approaches to learning in different contexts (Prosser & Trigwell, 1999).

Approaches to learning are therefore influenced by student characteristics such as learning environment, and learning outcomes.

The quarterly report of the Resource Centre for Persons with Disabilities at the University of Education, Winneba (UEW) for 2014/2015 academic year indicated that the university is the only public institution of higher learning in Ghana that has quite a large number of deaf students. The university has 41 deaf students at Winneba main campus and 14 at the Kumasi campus who study in the same lecture room with their hearing counterparts and write the same examinations. The statistics available also indicated that in Ghana, University of Ghana has one (1) deaf student, University of Cape Coast has no deaf student, Kwame Nkrumah University of Science and Technology has no deaf student, and Presbyterian College of Education have twenty (20) deaf students, and all the private universities have none. However, very little research has been conducted on the approaches these deaf students employ to study at the university, and the implications of those approaches on their academic performance.

Some studies for example, those Crawford, Gordon, Nicholas, and Prosser (1998), Zeegers (2001), and Snelgrove and Slater (2003) have highlighted the relationship between students' approaches to learning and their academic performance to a large extent because previous studies did not investigate that. While studies by Gijbels, Dochy, Van den Bossche, and Segers (2005) suggested that the learning approaches, such as the deep and strategic learning approaches are, in general, associated with higher quality learning outcomes and a surface approach with lower quality outcomes, results of other studies have contradicted those findings. For example, Zeeger and Ladan, Balarabe, Sani, Musa, Salihu, and Salihu (2014) found out that surface approach to learning helps students to attain high

academic achievement. The deep approach to learning requires that students get understanding of what they learn and draw their own conclusions. Surface approach, on the other hand, requires that students memorise what they learn and reproduce them whenever required. Strategic approach learners, in their quest for attaining high academic grade, choose to either use the deep or surface learning approach in order to be successful.

At the University of Education, Winneba (UEW), a search at the Osagyefo Library at the University (online: Institutional Repository of the university) on the 3rd and 4th of May, 2014, in the presence of the university librarian and second year Master of Philosophy (MPhil) Special Education students, indicated that no study had been conducted in Ghana on the ways deaf students learn and their implications on the academic performance. Even the few studies that were conducted in Africa on students' learning approaches and their implication on their academic performance, did not consider deaf students. This study, when successfully conducted, would highlight the approaches deaf students at UEW employ to study and their implications on the academic performance of these students. This would help to contribute to the existing body of knowledge in the literature.

1.1 Statement of the Problem

Although there have been studies that focus on the approaches to learning among deaf students in tertiary institutions elsewhere (Sadlo & Richardson, 2003), in Ghana not much research has yet been conducted on the approaches deaf students adopt to learn and their implications on their academic performance. The problem in this study centred on the approaches deaf students employ and their implications on the students' academic performance.

At UEW, where the number of deaf students is quite large, and have enrolled to pursue different degrees, no empirical study has been conducted to make known the approaches to learning among deaf students and the relationship between the learning approaches and their academic performance. A search on the Institutional Repository at the UEW website at the Osagyefo Library on the 3rd and 4th of May, 2014 indicated that no study had been conducted on the approaches to studying and their implications on the academic performance of deaf students at the universities in Ghana.

This study was concerned with finding out whether deaf students employ any one of or a combination of the deep, surface and strategic approach to learning. The study also sought to explore the gender differences in the adoption of the approaches to learning among deaf students. The study would also explore the relationship that exist between the learning approach/approaches of deaf students and their academic performance.

1.2 Aim

The aim of this study was to explore the learning approaches deaf students at the University of Education, Winneba (UEW) adopt and their implications on the students' academic performance.

1.3 Research Objectives

The objectives of this study were to:

1. Determine the predominant learning approach deaf students employ to study at UEW.

2. Explore gender differences in the adoption of approaches to learning among deaf students at UEW.
3. Identify the implications of the adopted approaches to learning on the academic performance of the students.

1.4 Research Questions

The study was guided by the following research question.

1. What learning approach do deaf students employ to study?
2. What differences exist among male and female deaf students in the choice of learning approaches?
3. What is the relationship between approaches to learning and academic performance among deaf students?

1.5 Hypothesis

The study was guided by the following hypotheses:

H₀₁: There is no statistically significant difference between male and female deaf students with regards to their approaches to learning.

H₀₂: There is no statistically significant relationship between learning approaches and academic performance of deaf students.

1.6 Significance of the Study

Results of the study would provide empirical information on the approaches to learning among deaf students at the University of Education, Winneba (UEW). This would help lecturers to know the kind of methodology to use in teaching the deaf at the university. Again, results of the study would highlight gender differences in the

adoption of approaches to learning among deaf students at UEW. Results of the study would also reveal the approaches to learning of deaf students at UEW and their implications on the students' academic performance. This would help deaf students in tertiary institutions to choose the learning approach that would maximize their academic performance. Findings of the study would also serve as a source of reference for other researchers who may want to conduct similar studies in different locations or replicate this study. It would also contribute to existing body of knowledge in the literature.

1.7 Delimitation

The study was delimited to approaches to studying, deaf students, Approaches and Study Skills Inventory for Students (ASSIST) and academic performance of deaf students. The level hundred (100) deaf students were not included because they were in their first semester and had not gained experience in the university community in terms of learning. Level 100 students also had not written any end-of-semester examination yet. They had also not yet spent out full academic year at the university. The study focused on Level 200, 300 and 400 deaf students because they have more than one year learning experience in the university. They also have accumulated Grade Point Average (GPA) which could be used to assess their academic performance.

1.8 Limitations

It was normal to encounter some challenges during project works of this kind. The researcher confronted some challenges because of the fact that the sample size was smaller than what he anticipated. It would have been easier to generalise the

findings of this work if the sample size for study was large. Again, getting GPA from the participants was also an arduous undertaking. To address this problem, the researcher had to exclude Level 100 deaf students.

However, it is important to note that in spite of these limitations, the validity of the research findings and conclusions had not been compromised.

1.9 Operational Definition of Terms

Approaches to Learning: An approach to learning is a way students are motivated to learn and use appropriate strategies.

Deep Approach: This approach to learning is the one which implies that a student learns for understanding.

Surface Approach: This approach to learning is the one in which students memorises the subject matter and aims only to recall information and pass examination

Strategic Approach: This approach to learning is one in which students are motivated by a desire for high grades.

Deaf Students: They are students finding difficulty in hearing sounds or using their ears to hear speech and sound well and use Sign Language to communicate.

Implications: Implications are conclusions that can be drawn from something as a result of an effect of something on it.

Academic Performance: The extent to which a student achieve their educational goal what is termed as academic performance

1.10 General Layout of the Study

The thesis is presented in six chapters. Chapter one comprises the background to the study, statement of the problem, aim and objectives of the study, research questions, significance of the study, delimitations of the study, limitations, operational definition of terms and general layout of the study. Chapter two focuses on the literature review taking into account the research objectives and the theoretical framework of the study. Chapter three deals with the methodology including sample and sampling techniques, research design, population, instruments used in data collection and analysis, description and distribution of instruments. Chapter four covers the presentation and analysis of data collected and Chapter five focuses on interpretation and discussion of results. Finally, chapter six deals with the summary, conclusions and recommendations.

1.11 Summary of Chapter

This chapter presented the introduction to the entire study. In the background to the study, it was discussed that, deaf students may employ different learning approaches depending on factors such as gender, age, assessment procedure and prior experience. This study was purposed to explore the learning approaches deaf students at the University of Education, Winneba (UEW) adopt and their implications on the students' academic performance of such students. Thus, this current research therefore lays a strong foundation for building scientific literature on the collaboration between health and education services of Ghana in early intervention for children with disabilities.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section reviewed related literature of earlier studies conducted on the approaches to learning and their implications on the academic performance. The literature was reviewed from research articles, journals, and books. The literature also includes empirical studies and the theoretical framework. The areas discussed were:

1. Theoretical Framework
2. Conceptions of Learning in Higher Education
3. Learning Approaches among Deaf Students
4. Relationship between Teaching and Learning
5. Relationship of the Approaches to Learning with Instructional and Learning Variables
6. Factors that Account for Different Approaches in Learning
7. Incorporating Understanding of How Learning Occurs into Curriculum Planning
8. Approaches to Learning and Gender

9. Approaches to Learning and Academic Performance
10. Summary of Literature Review

2.1 Theoretical Framework

This study was guided by the BIGGS 3P learning systems: Tertiary learning model. Tertiary institutions comprise of students who have unique learning characteristics and when learning activities are programmed to meet students' unique learning characteristics, the desired learning outcomes would be accomplished (Biggs 1987; 1999; Blankson & Kyei-Blankson, 2008; Hamilton & Tee, 2010; Prosser & Trigwell, 1999). Biggs (1993) proposed a framework for understanding student learning through the consideration of the relationship between what teachers and students do and think and the nature of student learning outcomes (Dart & Clarke, 2000). These resulted in a model commonly referred to as the 3P model. This model relates the main components in a classroom learning in terms of the three P's: **Presage** (students' characteristics and teaching context), **Process** (task processing), and **Product** (nature of outcome). It helps to apprehend the approaches to learning and their useful outcomes in the context of the learning environment. In the 3P model, the presage represents attributes of the students that exist before they enter the classroom. Presage characteristics include background knowledge, intelligence, and preferred approach to learning. The process represents the ongoing approach to learning, which is how students engage in the academic environment. The product represents student performance on assessments (Biggs, Kember, & Leung, 2001)

Over time, Biggs (1978; 1987; 1993; 1999; 2003) has explained this institutional teaching and learning process via his 3P learning systems model. He suggests three P's (presage, process, and product) represent different learning factor levels and their components contribute towards the student's learning process outcomes.

Presage factors set the learning environment characteristics prior to the learning engagement. Here, deaf student factors such as: prior-knowledge, abilities, intelligence, gender, personality and home background, represents student incoming personal learning influences, whilst teaching context factors construct groups' instructional mode, subject area, course structure, and learning tasks as enablers of the learning environment.

Process factors embody the approaches deaf students adopt towards their learning. These learning focused activities may involve surface learning and/or deep learning and/or strategic learning approaches. This means that the deaf students presage factors would enable them to adopt particular learning approach/approaches to learn in a particular learning environment.

Product factors discuss the strategies deaf students engage in their learning acquisition processes. These student learning outcomes may be the quantifiable measures of academic achievement and the qualitative measures of how well material is learned or experienced, and may result in a desired learning outcomes.

2.1.1 Implications for the Study

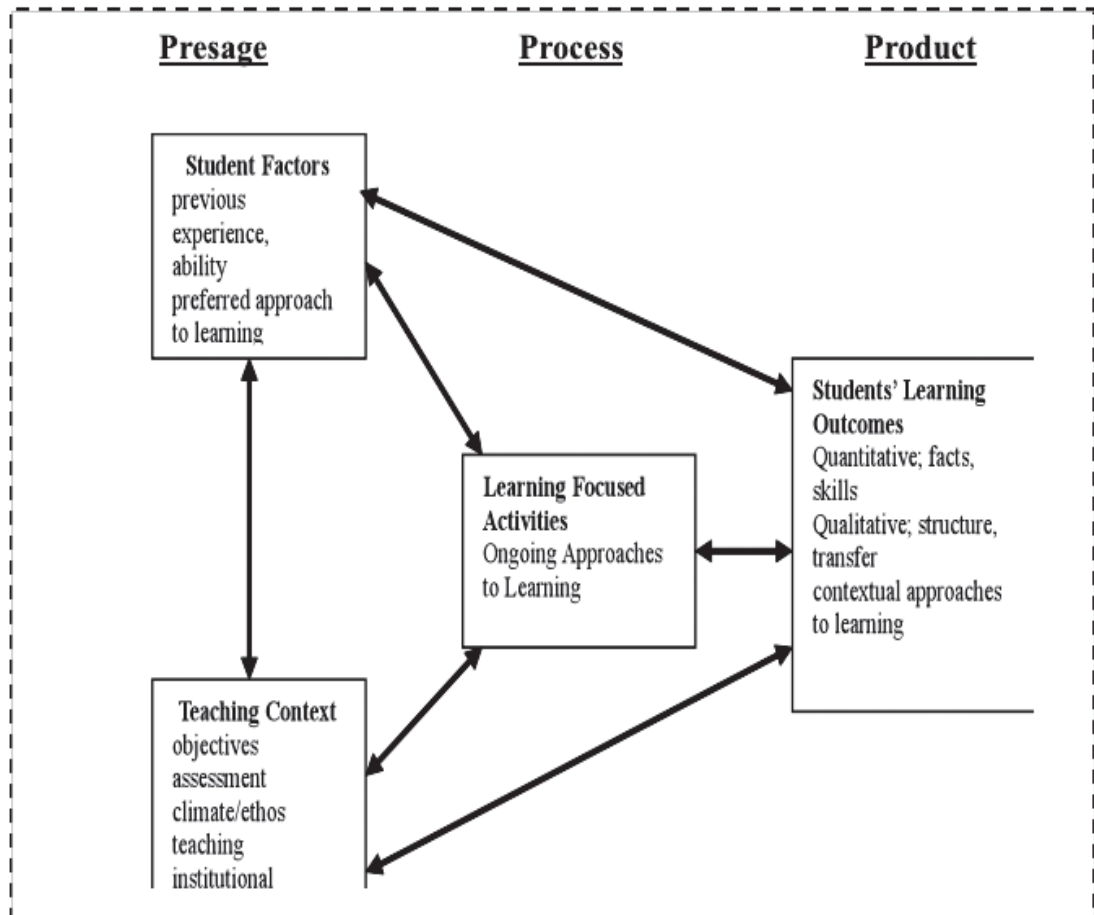
The implication of the 3P model for this study is that deaf students' presage factors (such as prior-knowledge, abilities, intelligence, gender, personality and home background, represents student incoming personal learning influences) would serve

as a catalyst which would propel them to adopt a particular process or processes (deep learning, strategic learning, and surface learning approaches) which would give the desired product (learning outcomes or academic performance).

Biggs's 3P learning systems model interrelates the 3P diagram as shown in Figure 1. It uses two-way arrows to capture the bi-directional components of engaged student learning and knowledge flows. Each learning arrow represents a linear interaction between any two of the interconnecting teaching-learning relationships. The emerging student learning outcomes construct captures the combined net interaction effects of the contributing system. The bold arrows represent the strongest student learning interaction effects - with both the student factors and the teaching context jointly drive the teaching and learning system towards the student's resultant set of learning outcomes.

Biggs (1993) emphasizes that all institutional classes differ and no two teacher-student engagements are exactly the same - with the teacher and the engaging student each acquiring different outcomes from the learning processes. Biggs indicates the impact of an institution alters the systemic strengths of the contributing two way relationships between presage, process, and product components, and therefore alters student learning outcomes.

2.1.2 Figure 1: BIGGS 3P Diagram: Tertiary Learning Model



2.2 Conceptions of Learning in Higher Education

Entwistle (2000) explained that deaf students vary in their approaches to studying. Why should deaf students with the same perceptions of the same course adopt different approaches to studying? One possibility is that the students may adopt one approach rather than another, depending upon their conceptions of learning and their conceptions of themselves as learners.

To explain why different deaf students adopted different approaches on the same course, Entwistle (2000) argued that students who adopt a deep approach take an active role and see learning as something that they themselves do, whereas those

who adopt a surface approach take a passive role and see learning as something that just happens to them.

Nevertheless, conceptions of learning show more variety than this. Bennett (1999) asked 90 people aged between 15 and 73 at institutions of further and higher education in Sweden what “learning” meant to them. He found five different conceptions. They are:

1. Learning as the increase of knowledge
2. Learning as memorising
3. Learning as the acquisition of facts or procedures
4. Learning as the abstraction of meaning
5. Learning as an interpretative process aimed at the understanding of reality.

The implication is that the people of higher education in Sweden saw learning as a process that increase the knowledge ability of individual learners. It also promote their ability to produce facts and be innovated in creating ideas for themselves.

Prosser and Trigwell (1999) carried out a study with 69 psychology students at a university in the Netherlands. They asked students to read a short text and then interviewed them about how they had approached the task of reading the text and how they approached their studies in general. Prosser and Trigwell (1999) were able to classify the students into the five conceptions of learning outlined by Bennett (1999). Most of the students who showed Conceptions had used a surface approach to read the text, but most of the students who showed the Conceptions 4 and 5 had used a deep approach to read the text. Thus, the approaches to studying that students adopt in particular learning tasks are linked to their conceptions of learning. This provides another reason why educational interventions may be of limited effectiveness: deaf students who hold a reproductive conception of learning through

exposure to a subject-based curriculum may simply find it hard to adapt to a more student-centred curriculum (Bennett, 1999).

If learning process is driven by personal interests and directed at obtaining harmony and happiness in changing society, then deaf learners would put in their best efforts in achieving their learning goals. Vermetten, Lodewijks and Vermunt (1999) found that men and women were equally likely to hold these various conceptions of learning, but older students were more likely than younger students to hold the more sophisticated conceptions.

Vermetten et al. (1999) also confirmed the existence of Bennett (1999) five conceptions of learning in 29 students who were taking courses via distance education with the Open University in the United Kingdom. Peters, Jones, and Peters (2007) followed 10 of these students through their studies with the Open University over a period of six years. In their later years of studying, Vermetten et al. (1999) showed the sixth conception of learning found by called “Changing as a person”. Peters et al. argued that the six conceptions constituted a hierarchy through which students proceeded during the course of their studies in higher education (Chamot, 2004).

2.3 Learning Approach among Deaf Students

Studies that emphasise deaf students’ approaches to learning describe and assess students’ learning process (Entwistle & Peterson, 2004). A wide range of research was carried out in describing students’ approaches to learning (Ausbel, 1968; Wittrock, 1974; Marton & Saljo, 1976). Ausbel (1968) in his study on approaches to learning among students gave the terms “meaningful” and “rote learning”. Wittrock (1974) also defined learning approaches as “generative” and “reproductive

processing”. However, it was Marton and Saljo (1976) who categorized the concept of learning approaches into two, as Surface and Deep approaches. Biggs (1987) studied the deep and surface approaches to learning and came out with a third approach to learning as strategic (achievement) approach.

It is generally believed that the use of a deep learning approach is associated with higher quality learning outcomes and a surface approach with lower quality learning outcomes (Gijbels, Dochy, Van den Bossche, & Segers, 2005). In addition, it is argued that a deep approach will contribute positively to learning outcomes (Zeegers, 2001). Therefore, it is considered important that students be encouraged to adopt a deep approach. Felder and Brent (2005) suggest that the goal of instruction should be to induce students to adopt a deep approach to the subjects that are important for their professional or personal development. Entwistle (2000) contended that students may be inclined to approach their courses in one of three ways. The author further reiterated that students with a reproducing orientation tend to take a surface approach to learning, relying on rote memorization and mechanical formula substitution and making little or no effort to understand the material being taught. Those students with a meaning orientation tend to adopt a deep approach, probing and questioning and exploring the limits of applicability of new material. Those with an achieving orientation tend to use a strategic approach, doing whatever is necessary to get the highest grade they can, taking a surface approach if that suffices and a deep approach when necessary.

Various questionnaires were developed to measure approaches to studying in larger numbers of students. They include the Approaches to Studying Inventory (Entwistle & Ramsden, 1983), the Study Process Questionnaire (Biggs, 1987) and Approaches and Study Skills Inventory for Students (ASSIST) (Tait, Entwistle &

McCune, 1998). Investigations using instruments of this sort confirmed that the same students may adopt different approaches, depending upon the demands of different course units (Eley, 1992), the quality of the teaching (Vermetten, et al., 1999), and the nature of the assessment (Scouller, 1998). All these results suggest that one could bring about desirable approaches to studying by appropriate course design, appropriate teaching methods, or appropriate forms of assessment. However, it has been confirmed in research studies comparing problem-based learning and traditional, subject-based curricula: deaf students following problem-based curricula are more likely to adopt a deep approach to studying and are less likely to adopt a surface approach to studying (Newble & Clarke, 1986; Sadlo & Richardson, 2003). In other research, also, interventions aimed at inducing desirable approaches to studying have proved to be largely ineffective (Gibbs, 1994; Kember, Biggs, & Leung, 2004). Eley (1992) found considerable variation in how different students perceived the requirements of the same courses. One possibility is that the effects of contextual factors are mediated by students' perceptions of their academic environment, and therefore educational interventions will not be effective in changing students' approaches to studying unless they also serve to bring about changes in the students' perceptions.

Each of the three different learning approaches to learning has its own characteristics.

2.3.1 The Deep Approach to Learning

The deep approach is a way of learning implies that a deaf student learns for understanding, it is characterized by the students who

- (i) seek to understand the issues and interact critically with the contents of particular teaching materials,

- (ii) relate ideas to previous knowledge and experience, and
- (iii) examine the logic of the arguments and relate the evidence presented to the conclusions (Entwistle & McCune, 2004; Entwistle & Ramsden, 1983).

Students who take a deep approach do not simply rely on memorization of the course materials. They adopt an intrinsic motivation to learn with an intellectual curiosity rather than looking for external rewards. Once the information to be learned makes sense, they try to fit it into the available coherent body of knowledge (Felder, & Brent, 2005). Entwistle and Ramsden posited that the deep learning approach indicates a desire to relate the task to personal experiences outside the study context, see it as a part of one's personal development; seek relationships which help to integrate the parts into a whole, and integrate the underlying structure or intention of the whole task. Students who deploy a deep approach to learning tend to conceive learning as transforming information, to be intrinsically motivated and to use strategies focusing on the meaning of the material to be learned.

Deep approaches to study have consistently been identified as being associated with higher academic scores (Byrne, Flood, & Willis, 2002; Mattick, Dennis & Bligh, 2004; Pimparyon, Caleer, Pemba, & Roth, 2000; Sadlo & Richardson, 2003; Stiernborg, Guy, & Tinker, 1997). Deep-level learning, notably motivation to seek meaning, understanding of underlying principles and identification of relationships between ideas and concepts, has been shown to be a prerequisite for self-directed learning (Kreber, 2003) and has also been shown to be consistent with the ability to be critically reflective (Leung & Kember, 2003). Few authors have found no meaningful relationship between deep approaches to studying and achievement. Those authorities attribute the reason for the absence of a relationship as being the

characteristic overload of the curriculum towards examination procedures requiring little more than the reproduction of factual material to attain higher grades (Diseth & Martinsen, 2003).

Millis (2010) explained that teaching for deep learning requires teachers to identify the most important elements in their course, and to design and develop sequenced activities that will enable students to grapple deeply with these key concepts or skills outside of class. The concepts are further reinforced with in-class or online activities involving active learning and student-student interactions. She further reiterated that assignments and activities for deep learning can be structured in numerous ways within disciplines to aid students explore in-depth and get fair ideas of what they are learning. The author went on to state that faculty interested in deep learning should ask themselves these questions:

1. Does my homework assignment challenge students to grapple with key course material (the knowledge base) with a focus on concepts, integration of knowledge, and a cumulative experience?
2. Is there a written product turned in by each student to provide evidence of this engagement and to allow students to build on their individual learning?
3. Is the homework assignment sufficiently motivating, with an emphasis on intrinsic motivation and a sense of “ownership” of the material, often brought on by choice?
4. Have I designed a motivating reward system that builds in individual accountability but encourages cooperation?
5. Do I use class time or structure online experiences to get students actively involved with the material?

6. Does this active involvement include interactions with others, such as student-teacher interactions and student-student interactions?

These questions when successfully answered would aid faculty members to tailor their teaching methodology to aid students employ the deep approach to study.

Marambe, Edussuriya, Somaratne, and Piyaratne (2009) analysed whether students who claim to be using deep learning strategies perform better at the Forensic Medicine examination. The objective of their study was to investigate possible associations between reported learning strategies and performance at different components of the Forensic Medicine examination between two successive batches of medical students at the Faculty of Medicine, University of Peradeniya, Sri Lanka. Reported learning strategies of two successive groups of medical students were measured using the adapted Sri Lankan version of the Inventory of Learning Styles, the Adyayana Rata Prakasha Malawa (ARPM). The inventory scale scores were computed for each student and entered into a data base. The scores for each component of the Forensic Medicine examination namely; essay, multiple choice questions and viva voce and the total score were added to the data base. The Spearman rank correlation test was performed to identify possible associations between learning strategy scores and performance at different components of the examination. The number of respondents were 142 out of 173 of the 2003/2004 (82%) and 107 out of 188 students (57%) of the 2002/ 2003 –A” batches of fourth year medical students having completed three terms of work in Forensic Medicine respectively. Contrary to expectations, the results failed to show a significant association between academic performance and frequent use of deep processing strategies or self-regulation. Since examinations drive the learning process it could be that the assessment demands cause the students to use both surface and deep learning

strategies to the same extent. This study was quite different from the current study because it did not consider students with deafness.

2.3.2 The Surface Approach to Learning

The distinctive surface learner is one who skims the surface of the subject matter and aims only to recall information and pass examination. The primary factor that motivates learners who employ the surface approach is fear of failure (Entwistle & McCune, 2004). Students adopting this approach may not understand why they are learning certain subject matter, its relevance, and how the information fits together as a whole (Entwistle, 2000). Students who deploy a surface approach tend to conceive learning as reproducing knowledge, to be extrinsically motivated and to use strategies focusing on the reproduction of those materials. For this reason, surface learners have inadequate flexibility in their learning, as they may not transfer concepts to new situations. Surface learning approaches focus on the elements of a task rather than the whole; tend to define it as a memory task, and see the subject matter as external to one's self. Students who take a surface approach:

1. Try to learn in order to repeat what they have learned
2. Memorise information needed for assessments
3. Make use of rote learning
4. Take a narrow view and concentrate on detail
5. Fail to distinguish principles from examples
6. Tend to stick closely to the course requirements
7. Are motivated by fear of failure (Bennett, 1999)

Negative relationships between surface approach to learning and academic achievement have also been found in distance learning environments (Richardson,

Morgan, & Woodley, 1999), and in research with Irish accounting students (Byrne et al., 2002) and Thai nursing students (Pimparyon et al., 2000). In contrast, Diseth and Martinsen (2003) found evidence that would not appear to support this relationship. When the nature of the assessment procedures was explored, however, it was suggested that higher grades were achievable by reproducing facts in examinations rather than by demonstrating deep understanding of the subject material.

Age, too, has been shown to be a significant variable in the investigation of approaches to studying employed by students, with older students identified as scoring higher on deep orientation and lower on surface orientation than younger students (Kreber, 2003; Richardson, 1994).

Candy (1990) posited that students who adopt surface approach are predominantly motivated by either a desire simply to complete the course or a fear of failure. The author further reiterates that the intention is to fulfil the course requirements by memorizing and reproducing the material they believe is likely to come up in the assessments. The result of surface approach is just a superficial level of understanding. It was concluded by the author that if learner's intentions and strategies are limited to surface learning, their ability to function at more advanced levels, to solve problem, to apply principles and to deal with novel or unanticipated situations is severely limited.

2.3.3 The Strategic Approach to Learning

Richardson (2009) contended that the strategic approach is based on extrinsic motivation. Students are motivated by a desire for high grades and the ego enhancement of achieving them. The strategy in this approach is to become the most efficient learner, maximizing one's chance of achieving the highest grades. This is

achieved through effective time management, organized study, and a heightened awareness of the assessment requirements.

The strategic approach is that approach which students are said to take when they wish to achieve positive outcomes in terms of obtaining a pass or better in a subject. Richardson (2009) explained that students taking this approach:

1. Intend to obtain high grades
2. Organise their time and distribute their effort to greatest effect
3. Ensure that the conditions and materials for studying are appropriate
4. Use previous exam papers to predict questions
5. Are alert to cues about marking schemes

Pashler, McDaniel, Rohrer and Bjork, (2009) investigated students' approaches to studying histology and pathology. With the introduction of virtual microscopes in Health Science at Murdoch University, Australia, in 2006, it was crucial to investigate how this new technology impacted on students' approaches to learning. The ASSIST survey was administered to 35 students at the beginning and end of the semester to identify any changes. Results indicated that, when the technology was integrated into the curriculum with appropriate learning activities, students using virtual microscopes moved more towards a strategic approach to learning but expressed a preference for a deep approach to teaching. This study is different from the current study. This because the current study focussed on the implications approaches to learning of deaf students on their academic performance but did not take into account new technology.

2.4 Relationship between Teaching and Learning

There is a direct link between learning objectives and teaching methods. The choice of teaching methods will have a strong influence on how deaf students approach learning in a subject (Richardson, 2009). For example, if the objectives in a subject include verbs indicating higher level cognitive abilities a teacher wants to encourage in deaf students, like "apply," "deduce", "generalise", "hypothesise", "reflect", "analyse", "solve", and "justify" then you would need to use teaching methods which would support the development of these abilities. Richardson (2009) postulated that these teaching/ learning strategies will inevitably involve activity on the part of students; perhaps through a problem-based learning (PBL) organisation, or other regular forms of group or syndicate work, or through individual contract learning. If students undertake these active approaches to learning then they are being encouraged to become involved, to be thoughtful about the content and thus, to take a deep approach to their learning in the subject.

By contrast, the traditional form of university instruction, the conventional lecture, rewards passivity in students rather than active involvement, and has less chance of developing those higher level cognitive abilities which are usually stated in learning objectives (Richardson, 2009).

2.5 Relationship between Approaches to Learning and Instructional and Learning Variables

The ways students approach learning have been shown to be dependent on a number of factors. Some of the factors are grouped as personal (for example, student gender, age, prior experiences) and contextual (e.g., teaching/learning

activities/methods, perceived workload, assessment procedures, institutional values (Biggs, 1987; Zeegers, 2001). Duff (2002) found that age is positively correlated with deep approach and metacognitive awareness and negatively correlated with surface approach. Zeeger explained that age and life experience may also be contributing factors in determining the approach to learning.

Biggs (1987) compared earlier science students' approaches to learning with art-based students' approaches to learning. He described science students as being fundamentally different in their approaches to learning compared to the students in arts-based courses and reported a higher use of surface approach and adopting an achieving approach.

When investigating the impact of the teaching/learning activities on the differences in the approaches to learning of students, Newble and Clarke (1986) demonstrated that students in a problem-based medical course displayed to a larger extent deep approaches to learning and to a lower extent surface approaches to learning as compared to students in a traditional medical course.

Zeegers (2001) explored the change in students' approaches to learning over time within the same unit of science students. Findings of his study support the view that student perceptions of study tasks, time restraints, content overload, past and present teaching, and assessment procedures have some impact on the general approach to learning being adopted by the students. Furthermore, from a student's perspective, it may be more strategic for them to rely on study strategies which they believe will lead to success.

Prosser (2004) explained that surface approaches to learning are generally associated with the perceptions that the workload is too high and that assessment is

testing reproductive learning, whereas deep approaches to learning are associated with the perceptions that teaching is good and goals and standards are clear.

Lizzio, Wilson, and Simons, (2002) found that the perceptions of heavy workload and inappropriate assessment push students to adopt surface approaches to learning, but the perception of workload has no systematic relationship to students' use of deep approaches to studying. The perception of a good teaching environment influences students towards the adoption of deep approaches to learning, and conversely, students' perceptions of a bad teaching environment lead to surface approaches to learning. The strongest predictors a deep approach to learning are students' perceptions of the quality of the teaching and the appropriateness of the assessment.

In recent research, the relationship between students' approaches to learning and learning outcomes has been emphasized to a large extent (Crawford, Gordon, Nicholas, & Prosser, 1998; Snelgrove, & Slater, 2003; Zeegers, 2001). Although the results seem to be inconsistent, the use of a deep learning approach is, in general, associated with higher quality learning outcomes and a surface approach with lower quality learning outcomes (Gijbels, Dochy, Van den Bossche, & Segers, 2005). It is also believed, in general, that a deep approach will contribute positively to the learning performance (Zeegers, 2001). Therefore, encouraging students to adopt a deep approach is considered important.

In simple terms, the approaches to learning are influenced by student characteristics, learning environment, and learning outcomes. When the relationship between the approaches to learning and these variables is considered, it is possible to say that the approaches to learning are not simply, or only, student characteristics. The approach to learning that will be adopted by a student is determined by a large

number of variables. Therefore, if proper strategies are applied, it might be possible to move students learning approaches from a surface to a deep orientation.

Dart and Clarke (2000) suggest two ways of helping teachers to facilitate their students' search for meaningful learning. First, teachers need to help their students develop qualitative conceptions of learning, that is, learning is about developing meaning and understanding. Secondly, teachers can promote deep approaches to learning through the creation of learning environments that students perceive as safe, supportive, and offering helpful relationships. Teachers can also present opportunities for exploration, inquiry, and experimentation by providing problems to be solved.

2.6 Factors that Account for Different Approaches in Learning

The factors that account for the different approaches deaf students employ to study include; the demands of different course units (Eley, 1992), the quality of the teaching (Vermetten, et al., 1999) and the nature of the assessment (Scouller, 1998). The student's approach to studying can be shaped by many factors, including prior experience, expectation of outcomes and perception of the learning context, as well as the context itself (Peters et al., 2007). Thus, two deaf learners may adopt differing approaches to studying within the same context and a single learner may adopt different approaches to studying in different contexts (Prosser & Trigwell, 1999).

When teachers understand better how deaf students are learning or approaching studying, they can design courses which best meet their needs and which encourage the types of learning appropriate to medicine. Richard (2009) argued that if we wish to encourage a deep approach to learning and long term retention of knowledge and skills (which is highly relevant to professionals because it emphasises learning in

context and relating earlier experience to current learning) then we can create a learning environment which facilitates this. However, everyone adopts all types of learning at different times. Every learning approach may be appropriate for certain situations.

Examining the approaches to study of this relatively heterogeneous group of students can help to provide an insight into common factors within the learning environment that may be influencing the approaches adopted by this group of students (e.g., teaching methodologies and assessment). It can also be employed to look at influencing factors particular to the students themselves, such as study skills, age, and personal circumstances.

2.7 Incorporating Understanding how Learning Occurs into Curriculum

Planning

When how learning happens is considered and understood, researchers and teachers can design courses and teaching sessions to facilitate different types of learning. Below is a summary of key aspects of the curriculum, of teaching and of assessment which incorporate learning theories.

The curriculum should:

- be linked to organisational goals
- clearly define goals and standards
- clearly relate to teaching methods and assessment
- define essential information utilise appropriate learning resources
- control and rationalise student workload
- emphasise vocational relevance
- be designed to encourage reinforcement of learning

- include and reward opportunities for reflection and experiential learning

When all the factors mentioned above is taken into consideration by teachers and curriculum planners, deaf students will appreciate the need to adopt the learning approach that will promote their academic success.

2.8 Approaches to Learning and Gender

Different studies have shown that male and female students learn differently from each other (Ebel, 1999, Gurian & Stevens, 2004). For example, a meta-analysis study done by Severiens and Dam (1994) showed that men had a greater preference than women for the abstract conceptualisation mode of learning. Besides, men were more often interested in the courses for the qualifications they offer while women were more often interested in learning for learning's sake.

The impact of gender has been inconsistent in relation to determining different approaches to learning among students. Some studies on gender differences in approaches to learning have identified female students as adopting a deeper analytical approach than male students and demonstrating more achievement orientation (Sadler-Smith, 1999). However, Chio and Forde (2002) and Kreber (2003) have identified no clear gender difference. It has also been identified that deep and strategic approaches to learning in female students were related to higher academic achievement, and an instrumental approach was related to poor academic performance, although these relationships were not present in male students (Byrne et al., 2002).

Lu, Jia, Gong and Clark (2007) conducted a study on a sample of 300 students consisting 150 male and 150 female students of secondary education from Varanasi, with the view to assess to gender difference in approaches to learning. Approaches to

learning of students were measure with ASSIST (1998). The findings revealed that there was a significant difference in approaches to learning of male and female students. Girls were found to adopt the strategic and deep approaches to learning than boys however no figures were indicated in their study. Lu et al. (2007) did not consider how deaf students learn in their study and that is a gap.

In another study, Dorval (2000) noted that in language learning tasks connected with problem-solving, male and female students showed clear differences in their approaches to learning tasks. Male students produced mass of short spurts of speech while female students produced big blocks of talk, were obedient, and there was much attentive listening and sympathizing. Dorval (2000) further explained that male students prefer learning tasks connected with competition in hierarchical groups, while female students learn by collaboration in small groups in which mutual liking is important. Some of these gender differences in learning could be explained from a biological point of view, where studies have reported that genetic differences in males' and females' brain structure predispose them to excel in different areas (Havers, 1995; Noble, Brown & Murphy, 2011, Gurian & Stevens, 2004). Hence, males tend to be naturally proficient in spatial and mathematical abilities while females are more verbally proficient. Hormonal differences are also thought to contribute to the learning approaches of males and females (Gurian, 2002) where higher levels of testosterone in males cause them to be more aggressive and impulsive. Therefore, males may find it difficult to sit still and be "obedient" over long periods of time unlike females. A nationwide government-initiated study of over 4,000 secondary school students in Malaysia by Zalizan et al. (2001 as cited in Nadia, Nor, Sharifah, Khadijah, & Voviana, 2010) have shown that female students tend to perform better academically than male students in school. The researchers

found significant differences in learning styles among male and female students using Kolb's Learning Styles Inventory. The study found that majority of female students' preferred concrete sequential and abstract sequential learning styles as compared to their male counterparts.

Jones, Reichard and Mokhtari (2003) carried out a gender analysis of academic achievement and the way students learn at Karnataka. The sample comprised of 600 students including 325 boys and 275 girls. Academic achievement was taken as the average grades of two previous years. The results of study showed that there was no significant difference in academic achievement of boys and girls. But the results indicated a significant difference in academic achievement of urban and rural students with urban students had higher academic achievement than rural counterparts. However the study did not show significant difference in the way students learn with respect to gender. Their study did not include students in the tertiary institutions. Deaf students were also not considered in the study.

Coffield (2000b) carried out a study on family and school factors that affect the academic achievement and learning approaches of residential school children studying in ninth and tenth classes on a sample of 120 students of Hyderabad city. Data were collected through an interview schedule developed by the investigator to study the family factors. The result indicated significant gender difference in academic achievement and girls were found to be superior to boys in academic achievement. However the study did not indicated any significant difference between girls and boys in their learning approaches. The current study is set apart from their study because the current study used ASSIST (1998) to gather data for from deaf students. Coffield did not consider deaf students in his study.

Coffield (2000b) investigated the relationship between some social-psychological variables and learning styles and the academic achievement of students in Azad Kashmir. The sample comprised of 640 boys and 360 girls. Annual examination scores for three consecutive years were aggregated as measure of academic achievement of the students. The findings indicated a positive relationship between parents' education and academic achievement of their children. Girls were also found to have better academic achievement than boys because of the learning styles they adopted. The sample for Coffield study is larger than the deaf students in the current study.

Cano (2007) conducted a study on neuroticism, learning approaches and academic achievement as related to gender and culture. The sample selected for the study was 400 students of eighth class belonging to urban and rural area of Punjab. School records and Eysenck's personality inventory was used for data collection. Results revealed a significant difference between boys and girls of rural areas on academic achievement and approaches to learning. However no figures were quoted in their study. Cano did not consider the learning approaches of deaf students.

Winder (2001) investigated gender differences in parental involvement and adolescents' mathematics achievement through a longitudinal study. The sample was taken from national longitudinal study of 13,881 students of class eighth to twelfth from the city Austin in Texas. The scores attained by the students in mathematics test were considered as academic achievement of the students. The findings indicated gender differences in academic achievement. The current study employed the correlational study which is different from the longitudinal study used by Winder (2001).

The findings concerning gender differences in approaches to learning are less clear. By comparison, research using versions of the Revised Approaches to Studying Inventory (RASI) identifies males scoring higher on Deep Approach and females scoring higher on surface approach (Duff, 1999, 2002; Sadler-Smith, 1996; Sadler-Smith & Tsang, 1998).

2.9 Approaches to Learning and Academic Performance

In Nigeria, Ladan, Balarabe, Sani, Musa, Salihu, and Salihu (2014) explored the learning approaches as predictors of academic performance of undergraduate students in Ahmadu Bello University, Zaria. The objectives of the study were to determine the predominant learning approach, identify factors that influence the choice of students learning approach and explore the relationship between approaches to studying and academic achievement of undergraduate students of Ahmadu Bello University, Zaria. A non-experimental descriptive survey method was employed. Three hundred and ninety-five questionnaires were administered out of which 375 were returned. The study revealed that 81.1% of the students were aware of learning approach and the predominant learning approach mostly used by Ahmadu Bello University, Zaria undergraduate students is surface approach. The study identified personal factors, family factors, school factors and peer factors and social factor as factors that influence the students learning approach. It also showed that there was a significant relationship between learning approach and academic achievement. This study is set apart from the study of Ladan et al (2014) because this study would discuss the relationship between gender and the preferred learning approaches among deaf students at the UEW.

Nordin, Wahab, and Dahlan (2013) conducted an empirical study on approaches to learning among trainee teachers in Malaysia. The objectives of the study were: 1)

to identify the approaches to learning used by trainee teachers of UiTM, Shah Alam; 2) to identify the difference between approaches to learning and gender; 3) to identify the relationship between approaches to learning and academic achievement of trainee teachers of UiTM, Shah Alam. A total of 255 respondents participated in this study. Results showed that there was a positive but low relationship between deep and strategic approaches to learning on academic performance. Findings of the study revealed that majority of the respondents were inclined towards using deep and strategic approaches to learning. However, there was also evidenced that these trainee teachers tend to used surface approaches. The difference between Nordin et al. (2013) and the current study is that the correlational design whilst Nordin et al. employed the survey design.

Gürten, Turan and Senemoğlu (2013) explored prospective teachers' learning approaches, learning preference and the relationship between learning preference, learning approaches with achievement and students' perception of achievement. Approaches and Study Skills Inventory for Students (ASSIST) was used to determine the approach and study skills of students. Findings of Gürten et al. (2013) indicated that academic achievement was positively related to strategic approaches, and perception of achievement was positively related to strategic approaches but negatively related to a surface approach to learning. There was a difference in using strategic approaches in favour of female students. There was a positive relationship between academic achievement and strategic approach. However, zero correlation was found between academic achievement and surface approach. Strategic approaches to learning were found to be the best predictors of academic performance in the present study. Students' satisfaction with their major was positively correlated with strategic approaches but negatively related to surface approaches and deep

approaches. Gürten et al. (2013) did not include deaf students in their study but the current study included deaf students.

This study is in line with the work of Nordin et al. (2013) in that the objectives are similar. However, this study differs from the study conducted by Nordin et al. because this study employed the correlational design and involved deaf students who were small in number, whilst Nordin et al. employed the descriptive survey design and involved a large number of hearing trainee teachers.

Also, Shaari, Mahmud, Abdul Wahab, Abdul Rahim, Rajab, Mohamed Saat, et al. (2011) conducted the study on personality, intelligence and approaches to learning as predictors of academic performance. A sample of 158 undergraduate students from University College of London, participated in the study. The results indicated significant relationship of intelligence with academic achievement and learning approaches.

Similarly, Cano (2007) explored the predictors to academic achievement among students and found that both intelligence and approaches to learning are significant factors in predicting students' academic achievement. His research revealed that high usage of deep approach to learning with general intelligence resulted in better academic performance. This is because students with successful academic achievement are more prone to use deep approach to learning than those who are less successful (Zeeger, 2001).

Douglas, McClelland and Davies (2008) studied the effect of multiple intelligence teaching strategies on academic achievement of eighth grade math students. Data was collected from the 60 school students of North Carolina. The data were collected by conducting a test on mathematic achievement using multiple strategies method on the group and traditional direction instructional method on the

other group. The results of the study indicated that students who were taught in an environment utilizing multiple intelligence strategies had higher achievement in math test.

Tight (2010) examined the relationship between engineering students' beliefs about intelligence and their self-efficacy for learning course material and their perceived use of deep learning strategies. The data were collected from 437 engineering students from public university from South-western United States. By using implicit theory of intelligence scale, motivated strategies for learning questionnaire and course grades were received from university office. The results showed that intelligence beliefs were not predictor of course grades

Mayya, Rao, and Ramnarayan (2004) developed the Approaches to Learning Inventory (ALI) and administered to explore the learning approaches, learning difficulty and academic performance of undergraduate students of physiotherapy, at the College of Allied Health Sciences, Manipal. University examination marks of these students were collected. Learning approach and learning difficulties were summarized by computing mean, standard deviation and percentage of students experiencing some of the academic and non-academic problems. Spearman's correlation was computed between standardized scores of examination marks, learning approach and learning difficulty scale scores. Academic performance showed significant negative correlation with surface approach and various problems of learners like fear of failure and lack of confidence, non-academic distractors and poor English language ability. The study demonstrated significant positive association between surface approach and various problems of the learners. This present study is different from the work of Mayya et al. (2004) because this study discussed only the relationship between learning approaches and academic

performance of deaf students at UEW and did not take into consideration their learning difficulties.

Diseth (2002) explored the relationship between intelligence, approaches to learning and Academic Achievement. Three different tests of intelligence and the Approaches and Study Skills Inventory for Students were administered to 89 Norwegian undergraduate psychology students. The purpose was to investigate the relationship between intelligence, approaches to learning and academic achievement. Factor analysis supported a one-factor solution of the three intelligence tests as an expression of general intelligence. No relationship between general intelligence and approaches to learning was observed. The Wechsler Adult Intelligence Scale (WAIS) vocabulary test of intelligence and the surface approach to learning were negatively correlated. The WAIS vocabulary test of intelligence and the surface approach to learning predicted academic achievement. A curvilinear relationship between surface approach and academic achievement was observed. Multiple regression analysis showed interaction effects between deep–strategic and surface–strategic approaches to learning as predictors of academic achievement.

Previous studies such as Diseth and Martinsen, (2003) have supported a relationship between approaches to learning and academic achievement, with high achievement typically predicted by deep and/or strategic approaches and low achievement predicted by a surface approach to learning. On the other hand, intelligence have been considered to account for about 25% of the variance in academic achievement. However, individual differences in personality and motivation have been considered to be equally important for academic achievement as intelligence.

Also, Entwistle, Tait and McCune (2000) explained that in the subsequent years of a degree course especially when the evaluation system directly rewards a display of conceptual understanding, students will demonstrate high scores on the deep approach which will relate to academic success. Byrne et al. (2002) and Tan (2005), all stated that students who adopt desirable learning approaches, especially by scoring higher on deep approach and strategic approach scales, achieve a high level of academic success.

Mayya et al. (2004) explored the learning approaches and difficulties of undergraduate students in an Indian university using locally-developed Approaches to Learning Inventory; they found that majority of students' sampled utilised deep approaches to learning. However, among the percentage of students who used the surface approach, this study found that their tendency to adopt that approach had a significant association with various learner problems such as having a fear of failure and lack of confidence. Hence, this shows that when students feel anxious or overwhelmed, they are more likely to adopt the surface approach to learning.

Busato, Prins, Elshout and Hamaker (2000) investigated intellectual ability, learning style, personality and achievement motivation as a predictor of academic success in higher education. In the sample 409 first- year psychology students of Netherlands were included for the purpose. The results confirmed that intellectual ability was associated positively with academic success of the students.

Gürten et al. (2013) employed the Approaches and Study Skills Inventory for Students (ASSIST) in their study involving 284 sophomore trainee teachers at a Turkish University. The findings showed that strategic approaches to learning was positively correlated to academic achievement and was the best predictor of achievement in their study. Concurrent with the literature discussed in this study,

their study found that females engaged in surface approach to learning more than males. Other studies also support the conclusions that deep and strategic approaches to learning tend to be correlated with academic accomplishment (Cano, 2005).

Subasinghe and Wanniachchi (2009) examined the correlation that existed between approach to learning and the academic performance of a group of medical students. The study was designed as an observational descriptive cross sectional study involving 2007 year batch of students of the Faculty of Medicine, Colombo. The approach to learning was assessed using Biggs's Revised Two Factor Study Process Questionnaire (13) and academic performance was determined by results of the Introductory Basic Sciences examination. Results of the study revealed that both the predominant motive and strategy of learning belong to the deep category with mean scores for both being 14.6 out of 25. The mean scores for deep and surface approaches were 29.2 and 24.9 out of 50 respectively. Out of the study group 65.5% (n=109) were deep learners and 32.7% (n=54) were surface learners. Seventy three percent (n=76) of deep learners and sixty percent (n=32) of surface learners had achieved a high academic performance, and learning approach and academic performance correlated significantly. Gender did not have a significant effect on the approach to learning

Sadler-Smith (2006) carried out a research to investigate the relationship between education of parents and academic achievement of students on a sample of 85 school students of semi-rural settings in Rajasthan. The results revealed that the children whose parents were educated performed higher in academics than the children whose parents were illiterate. Further the results indicated that parental education was significantly related to the academic achievement of the students.

Unfortunately, not all results show a significant relationship between a deep approach to learning and the academic performance of students (Byrne et al. 2002; Gijbels et al., 2005; Kember et al., 2004). Some studies found that deep approach did not result in higher grades (Trigwell & Prosser, 1991). A number of empirical evidence has shown that students who adopted deep approaches to learning tended to earn higher grades, had long-term information retention, actively sought integration of information, earned more credits per year, and had high qualitative learning outcomes (Entwistle, 1983; Marton & Säljö, 1976a; Ramsden, 1992; Trigwell & Prosser, 1991). Watkins (1998) used structural equation modelling (SEM) to deconstruct the relationship among academic causal attributions, self-concept, learning approaches, and learning outcomes. Their analysis found that students who adopted deep learning approaches had higher self-concept and academic achievement; the responses of students who adopted a surface learning approach were negatively related to locus of control and academic achievement (Watkins, 1998). Similarly, Boyle, Duffy, and Dunleavy (2003) concluded that a meaning-directed learning style generated statistically significant positive correlations with GPA while a reproduction-directed learning style did not correlate with any academic performance variable. Other researchers used SEM to explore causal models of academic achievement (grade point average) among first- and third-year college students enrolled in a science course in Australia (Zeegers, 2004). Zeegers found that prior academic achievement was the best predictor of academic achievement, but after that variable was removed and subsequent models developed, a positive relationship between deep approaches to learning and academic achievement ($B=.15$ for the first-year and $B=.12$ for third year models) was noted. Also noted was a

negative relationship between a surface approach to learning and academic achievement ($B = -.16$ for the first-year and $B = -.25$ for the third-year models).

Lizzio, Wilson and Simons (2002) used a higher-order path to investigate the relationship between prior academic achievements, students' perceptions of their academic environment, students' approaches to learning, and academic achievement. The results indicated that a surface approach to learning was a stronger predictor of a students' GPA than deep approaches to learning because the nature of the assessments were related to the memorization of declarative or procedural knowledge. However, Lizzio et al. also found that a deep approach is related to the self-reported development of generic skills related to enjoyment and lifelong learning, including written communication, problem solving, analytic skills, teamwork, ability to plan one's own work and confidence in tackling new situations.

A growing body of studies has examined the relationship between approaches to learning and outcomes in physics (Jones et al. 2003), accounting courses (Byrne et al. 2002), chemistry courses (Pimparyon et al. 2000), and computer-based curriculum (Lang, 2006) but the results were mixed. Lang (2006) identified the characteristics of students at risk among first year university students in physics and concluded that students who adopted a deep approach earned higher grades, failed or withdrew from a physics course less often. Similarly, Byrne et al. (2002) confirmed the effects of students' approaches to learning on their academic performance among Irish accounting students, although the operational definitions of student approaches to learning and outcomes differed in that the Byrne et al. study included a strategic approach and an instrumental approach. After dividing the academic outcome into three subscores—a group presentation score, a problem solving questions score, and an essay question score—Byrne et al. found that a deep approach and a strategic

approach have a statistically significant relationship with problem-solving questions, while the instrumental approach (i.e., a surface approach), has a negative relationship with problem solving questions. Furthermore, a deep approach and a strategic approach were positively associated with high academic performance and the instrumental approach was related to poor performance. On the contrary, researchers typically found that the key strategy toward success in the natural and social science disciplines was to use a surface approach due to the nature of assessment methods (multiple choice exams), the methods of presenting course materials (lecture), and the types of knowledge (facts and definitions) (Prosser & Trigwell, 1999; Duff, 1999, 2002; Sadler-Smith, 1996; Sadler-Smith & Tsang, 1998).

Another group of studies found a weak and mixed relationship between deep approaches to learning and academic achievement (Diseth, 2003; Diseth et al., 2006). Watkins et al. (2001) concluded that the correlations between approaches to learning and academic achievement were weak although the results were consistent across cultural and educational levels. Ross-Gordon and Brown-Haywood (2000) used SEM to investigate the effects of subject-matter knowledge, strategic processing, and interest in domain-specific performance among 77 students enrolled in an educational psychology course. They concluded that the adoption of surface-level strategies positively predicted their posttest performance while the adoption of deep-level strategies inversely predicted their posttest knowledge. The plausible explanation was that the assessment emphasized declarative knowledge in the form of multiple-choice questions (Ross-Gordon & Brown-Haywood, 2000). Gurian and Stevens (2004) also used SEM to investigate the relationship between course experience and approaches to learning with academic achievement. They concluded that deep and surface approaches were not significantly related to academic

achievement in the form of multiple choice question examination. Watkins (2003) argued that the assessment system determined if students benefited from a deep approach to learning; the relationship between study approaches and grades is moderated by the nature of the assessment relative to whether it emphasized reproduction or the understanding of knowledge (Lizzio et al., 2002).

In delineating the link between deep approaches to learning and portfolio grades, Lizzio et al. (2002) found that meaning-directed learning positively correlated with students' portfolio grades while reproduction directed learning negatively correlated with students' portfolio grades. The study also resulted in empirical evidence that students who engaged in portfolio assessments were more likely to adopt deep approaches to learning compared to students who participated in multiple choice question examinations. The process of constructing a portfolio stimulated reflection and analysis and required deep approaches to learning. Researchers of a recent study suggested that those who adopted a deep approach to learning perceived the portfolio as stimulating their thinking and as requiring in-depth understanding and meaningful learning (Prymachuk, Easton & Littlewood, 2009). Prymachuk et al. (2009) found teachers' feedback and students' perceptions of that feedback was motivating, supported learning, and encouraged the adoption of deep approaches to learning. Thus, compared to those who adopted a surface approach, students who adopted a deep approach read teacher feedback carefully, applied the feedback to their portfolio, and improved their work.

Scholars have suggested that adopting deep approaches to learning resulted in positive feelings for students that included enjoying the process, devoting themselves to studying, and looking forward to studying. (Ramsden, 1992). Burton and Sztaroszta (2007) conducted a study to determine the relationship between student

learning strategies and examination performance and found that adopting deep approaches to learning resulted in positive affective outcomes for students. For example, they felt the educational material was interesting and simple and they were willing to spend more time on studying. Hofer (2004) indicated that using the deep approach to handle a task generated positive feelings, interest, a sense of importance, challenge, and exhilaration in students during the process. Empirical studies also found that deep approaches to learning were associated with satisfaction, whereas the surface approach was related to dissatisfaction (Biggs, 1987; Pimparyon et al., 2000).

Another group of small studies addressed the relationship between deep approaches to learning and intellectual and personal development. Kember et al. (2004) investigated differences and relationships between learning styles and critical thinking among 184 undergraduate students. They argued that critical thinking was positive and correlated with deep processing ($r = .35$) and fact retention ($r = .18$). Their results confirmed their hypothesis that students who had higher scores on the deep processing scale were skilled critical thinkers. They concluded that critical thinking can be taught through students' learning strategies. Similarly, Lietz and Matthews (2010) argued that the adoption of deep approaches to learning as a teaching method improved the gains of higher-order thinking skills among 124 students in the course of a two semester introductory biology series. Fox, McManus, and Winder (2001) investigated the relationship between student approaches to learning and their stage of cognitive development. Based on Perry's scheme of intellectual and ethical development, Fox, McManus, and Winder developed the cognitive development inventory with three levels of Perry's theory, including dualism (i.e., knowledge is absolute and dualistic), relativism (i.e., knowledge is contextual and relative), and commitment of cognitive development (i.e., students

make commitments to ideas, values, and behaviors). They found that students who reported a more dualistic way of thinking tended to adopt a surface approach to learning; students who reported a more relativistic and committed way of thinking tended to adopt a deep approach to learning.

In an effort to establish the causal linkages between deep processing strategies and reflective thinking, Coffield (2000a) conducted a path-analytical study to investigate the relationship among learning approaches, self-efficacy beliefs, reflective thinking, and academic achievement. Using Mezirow's theory of classified reflective thinking that included four stages—habitual action, understanding, reflection, and critical reflection—Coffield (2000a) found that a surface approach predicted habitual action and a deep approach predicted understanding and reflection. Coffield (2000a, 2000b, 2008) conducted a series of studies based on structural equation modelling to establish cause-and-effect relationships between deep processing strategies and critical thinking, and found that reflection and critical thinking contributed to academic performance. Coffield (2000) also conducted a longitudinal study to examine mastery goals, self-efficacy, deep processing, and critical thinking among 264 second-year educational psychology students and found that deep processing and critical thinking had a reciprocal relationship. Based on these findings, Coffield (2008) explored the developmental course of the deep learning approach and critical thinking over two years with latent growth curve modelling procedures. The findings indicated that the initial state of critical thinking was related to a rapid increase in the adoption of deep learning strategies. This confirmed a significant bidirectional relationship between critical thinking and the deep learning approaches. Coffield (2008) concluded that —critical thinking in this

case may serve as an informational source to help students engage in deep learning strategies” (p. 292).

Deep approaches to learning have positive influences on intellectual, personal, and cognitive development (Gürten et al., 2013; Pimparyon et al., 2000). Pimparyon et al. (2000) investigated the effect of deep approaches to learning on college outcomes by various disciplinary categories. They concluded that senior college students who frequently engaged in deep learning behaviors reported gaining more in intellectual and personal development (i.e., they acquired a broad general education, learned effectively on their own, understood themselves, and solved complex, real-world problems), earned higher grades and had greater satisfaction with their collegiate experiences. Deep learning also influenced the development of moral reasoning because complex and higher-order expressions of cognition were found to be related to moral reasoning development (Gürten et al., 2013). Among three subscales of deep approaches to learning, Gürten et al. argued that integrative learning defined as integrating information from various sources and diverse perspectives had a modest impact on moral reasoning gain among first-year undergraduates.

Another study focused on the relationships among conceptions of learning, approaches to studying, personal development, and personal change from first year to after graduation (Richardson, 2009). Richardson found that students who regarded learning as the construction of knowledge and who adopted a deep approach instead of a surface approach reported a greater development of cognitive skills and greater academic change. They also found that students who adopted a surface approach reported negative development of cognitive skills, mathematical skills, academic change, and social skills.

Ramburuth and McCormick (2001) studied the relationship between the observed approaches to learning and the academic achievement of 122 first-year students in a nursing course. They found a positive correlation between a deep approach to learning and high qualitative levels in academic achievement. However they found no such correlation to quantitative differences in outcome.

In this respect, Lietz and Matthews (2010) pointed out the fact that a deep approach to learning was rarely rewarded by the evaluation system. The reason therefore may be that the evaluation mainly assesses knowledge for which the use of a surface approach suffices to be successful (Scouller, 1998).

Nevertheless, many studies have explored approaches to learning in school context as discussed in the literature, however this study is set apart from those studies because this study considered deaf students approaches to learning in the university setting and the relationship between those employed approaches and their academic performance. Also most of the studies discussed in the literature employ the survey design and involved very large number of participants. However, this study used the correlational design which included few deaf students. In the university setting, deaf students face different conditions that may affect their learning. Thus, understanding deaf students' approaches to learning is important to improve learning in university settings. Additionally, in order to empower deaf students to assume responsibility for creating a sustainable future, these students should be motivated to employ learning approaches that will give them the room to explore and understand for themselves what they learn. Furthermore, with the significant expectations placed on inclusive education programmes in Ghana, it is important to know how deaf students experience the teaching and learning approaches at their universities and how those experiences impact their academic

performance. Hence, this study intends to examine the learning approaches employed by deaf students at UEW and the relationship between the learning approaches and their academic performance.

2.10 Summary of the Literature

This chapter reviewed related literature on the research topic, empirical literature and the theoretical framework. The chapter discussed the following strands: Conceptions of Learning in Higher Education, Learning approaches among students, Incorporating understanding how learning occurs into curriculum planning, Relationship between teaching and learning, Relationship of the approaches to learning with Instructional and Learning Variables, Factors that account for different approaches in learning, Approaches to learning and gender, Approaches to learning and academic achievement. The theoretical framework was also discussed.



CHAPTER THREE

METHODOLOGY

3.0 Introduction

This section describes the methods that were used to gather data for the study. It covers the research approach, research design, population, sample size, sampling techniques, research instrument, validity of the study and reliability of the study, procedure for data collection and data analysis.

3.1 Research Approach

This study employed a quantitative research approach because the study explored the relationships between deaf students' approaches to learning and their implications on the students' academic performances. Punch (2005) posited that quantitative research approach is in two main strands, one strand is defined in the tradition of experimental and the other is the correlational survey strand. This study adopted the correlational survey strand to explore the relationship between learning approaches of deaf students and their academic performance at the University of Education, Winneba. Creswell (2012) and Rossi and Freeman (1995) explained quantitative research as a type of educational research in which the researcher asks specific narrow questions, collect numeric (numbered data) from participants, analyse these numbers using statistics, and conduct the inquiry in unbiased, objective manner. The authors further contended that quantitative research involves techniques that are employed to obtain numerical data. Thus they provide exact or precise quantitative numerical data for studying people.

3.2 Research Design

The study employed correlational research design to explore the relationship between learning approaches and the academic performance of deaf students at the University of Education (UEW). Also the sample for the study was 31 deaf students which meets the requirement for the minimum acceptable sample for a correlation study so a more accurate relationship was established between approaches to learning and academic performance of deaf students at UEW. Fraenkel and Wallen (2009) explained that the minimum acceptable sample size for a correlational study is considered by most researchers to be no less than 30. Data obtained from a sample smaller than 30 may give an inaccurate estimate of the degree of relationship.

Samples larger than 30 are much more likely to provide meaningful results. The authors reiterate that a major purpose of correlational research is to clarify the understanding of important phenomena by identifying relationships among variables. Fraenkel and Wallen (2009) expounded that correlational studies investigate the possibility of relationships between only two variables. The present study sought to find the relations of two variables. They are: approaches to learning, and academic performance. The researcher did not try to influence the variable in the study. A second purpose of correlational research is prediction: If a relationship of sufficient magnitude exists between two variables, it becomes possible to predict a score on one variable if a score on the other variable is known. Wallen and Fraenkel (2001) noted that in correlational research, researchers investigate possible relationships among variables without trying to influence those variables. Although correlational studies cannot determine the causes of relationships, they can suggest them. These suggestions often provide the basis for future experimental studies (Wallen & Fraenkel, 2001).

3.3 Population

The population for the study was 41 deaf students comprising 22 males and 19 females aged between 20 and 39 years with an average age of 25 years. The students were in the Departments of Special Education (SPED), Information and Communication Technology (ICT) and Graphic Design (GD). The population was chosen for the study because the group of deaf students at UEW shared similar characteristics such as disability, age, and all graduated from the same Senior Secondary School.

3.4 Sample Size

The sample size for the study was 31 deaf students comprising 21 males and 10 females aged between 21 and 39 years with an average age of 25 years. Twenty of the participants were from the Department of Special Education, 5 from Information and Communication Technology Department, and 6 from the department of Graphic Design. Fifteen of the participant were in level 200 and 13 in level 300 and 3 in level 400. Level 100 deaf students were not included in the study because they were in their first semester and had not written any university exams. Levels 200, 300 and 400 deaf students were chosen because they were accessible and could give relevant data for the study.

All the participants had their secondary school education at Secondary Technical School for the Deaf at Mampong-Akuapem. Two of the participants had post-Secondary education at Presbyterian College of Education at Akropong in the Eastern Region. The remaining 29 participants had only Secondary School education before entering into University of Education, Winneba. None of the deaf students had additional disability. The hearing level of the deaf students ranges from severe to profound hearing loss. Their communication mode at UEW is manual communication (Sign Language). They depended on interpreting service during lecture and examination periods. Population and sample of the participants are illustrated in Table 3.1

3.4.1 Table 3.1. Population and Sample of Participants

| Levels | Population | Sample |
|--------|------------|--------|
| 100 | 10 | 0 |
| 200 | 15 | 15 |
| 300 | 13 | 13 |

| | | |
|-------|----|----|
| 400 | 3 | 3 |
| Total | 41 | 31 |

Source: Author's Computations from field Data, March 2015

3.5 Sampling Techniques

Purposive sampling was used to sample the participants for the study. This was because the participants were the deaf students who could give relevant information about approaches to learning of deaf students at the University of Education, Winneba their implications on their academic performance. Fraenkel and Wallen (2009) explained that purposive sampling techniques is a technique in which researchers use their judgment to select a sample that they believe, based on prior information, will provide the data they need. Avoke (2005) further contended that in purposive sampling technique the researcher handpicks the cases to be included in the sample on the basis of their judgment of typicality.

3.6 Research Instrument

Research instruments used to gather data for this study were Approaches and Study Skills Inventory for Students (ASSIST, 1998) and deaf students' academic records.

3.6.1 Approaches and Study Skills Inventory for Students (ASSIST, 1998)

The ASSIST (1998) was adapted for the study (see Appendix A). ASSIST derives from Marton & Saljo's (1976, 1997) ideas on approaches to learning, combined with Entwistle and Ramsden's (1983), and Ramsden and Entwistle, (1981)

descriptions on approaches to studying. The ASSIST has shown excellent reliability and stability (Richardson, 2009). It was developed specifically for use in educational settings and has been previously used in determining the approaches to studying among tertiary students with disability (Richardson, 2005). ASSIST consists of four sections, but only the section measuring the three approaches to learning was used in the study. Majority of deaf students in Ghana have difficulties with English Language during their studies on university campuses (Oppong, 2003). The ASSIST was used to determine the deaf students' approaches to learning. This was because of its simple language and structure of questions. Also few expressions that could pose challenge for the students were reworded to meet the participants' learning needs. Thirty-seven out of the fifty-two question items were reworded. They were the items: 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 22, 23, 25, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 41, 42, 43, 46, 48, 50 and 52. Table 3.2 gives an illustrations of the question items that were reworded. Furthermore the easy self-assessed scoring system facilitated a reliable classification for educational purposes.

Question items on the ASSIST comprised of fifty-two (52) different question items rated (1 = strongly disagree, 2 = disagree, 4 = agree and 5 = strongly agree). The 52 question items are grouped under three main learning approaches (deep, strategic and surface learning). Deep approach to learning has four sub-scales. The subscales are seeking meaning, relating ideas, use of evidence and interest in ideas. Each sub-scale has four question items. They are: seeking meaning (4, 17, 30 and 43), relating ideas (11, 21, 33 and 46), use of evidence (9, 23, 36 and 49) and interest in ideas (13, 26, 39 and 52). Strategic approach to learning has five sub-scales. The sub-scales are organising studying, time management, alertness to assessment demands, achieving and monitoring effectiveness. Each of the five sub-scales under

the strategic approach to learning has four question items. They are: organising studying (1, 14, 27 and 40), time management (5, 18, 31 and 44), alertness to assessment demands (2, 15, 28 and 41), achieving (10, 24, 37 and 50) and monitoring effectiveness (7, 20, 34 and 47). Also, surface approach to learning has four sub-scales. They are lack of purpose, unrelated memorising, syllabus-boundness and fear of failure. Each of these sub-scales has four question items. They are: lack of purpose (3, 16, 29 and 42), unrelated memorising (6, 19, 32 and 45), syllabus-boundness (12, 25, 38 and 51) and fear of failure (8, 22, 35 and 48).

The ASSIST was previously known as the Approaches to Study Inventory (ASI) (Entwistle & Ramsden, 1983) but developed over time to be Revised Approaches to Study Inventory (RASI) (Tait et al., 1998) and then the ASSIST (Tait, Entwistle & McCune, 1998). The instrument is being continually refined and improved (Entwistle, 2000).

3.6.3 Deaf Students' Academic Records

The academic records consisted of only first-year examination records for each participant. First and Second semester examination results formed the First year results. Only the first-year examination results for Level 200, 300 and 400 deaf students formed the data for their academic performance.

University examination marks of participants were collected. Consents of participants were sought and they agreed to provide their results slips which contained their Grade Point Average (GPA). The study used GPA as the measure of academic performance. GPA is a standardised measure of overall academic performance across all courses completed by the student (Zeegers, 2001).

3.7 Validity of the Study

The ASSIST (1998) is a standardized instrument and as such had been validated (Richardson, 2009).

3.8 Reliability of the Study

Cronbach alpha coefficients were extracted using SPSS 20 to test the internal reliability of the 52 items. This procedure is applied to test the extent to which items within a scale are measuring the same dimension. In the case of the ASSIST questionnaire, for example, 52 items in the questionnaire measured students' approaches to learning. The Cronbach alpha coefficient indicates the extent to which they do so.

The ASSIST contained 16 items that measure deep approach to learning, 20 items that measure strategic approach to learning and 16 items that measure surface approach to learning. The deep approach had a Cronbach Alpha of 0.84, strategic approach had Cronbach Alpha of 0.80 and surface approach had a Cronbach Alpha of 0.87. Table 3.3 illustrates the Cronbach Alpha of the questionnaire.

3.8.1 Table 3.3. Cronbach Alpha of ASSIST

| Items | Number of items | Cronbach's Alpha |
|--------------------|-----------------|------------------|
| Deep approach | 16 | 0.84 |
| Strategic approach | 20 | 0.80 |
| Surface approach | 16 | 0.87 |

Source: Author's Computations from field Data, March 2015

3.9 Procedure for Data Collection

Permissions were sought from the heads of departments whose students participated in the study through an introductory letter that was given to the researcher (see Appendix B). The researcher trained three Sign Language interpreters on how to administer the ASSIST. The training was done in a day. The researcher explained the purpose of the study to them. The researcher gave the questionnaires to the trained Sign Language interpreters for them to administer on the participants in their respective departments (Special Education, Graphic Design and Information and Communication Technology). The questionnaires were administered and collected on 10th December, 2014. Each of the Sign Language interpreters administered the questionnaires on deaf students in one department. This was because those Sign Language interpreters were assigned to those respective departments as interpreters. Also the deaf in those respective departments were familiar with the interpreters. This helped the participants to feel at home in responding to the question items. Again, the researcher met the participants with the Sign Language interpreters on 12th December, 2014. The purpose of the meeting was to ask for the participants' academic records. The researcher explained that any data that would be collected was meant for research purposes. The researcher went on to explain to the participant that their identity would not be disclosed in the study. The participants agreed and promised to meet the researcher to provide the printed copies of their results. The researcher spent one week (Monday 15th December, 2014 to Friday 19th December, 2014) to gather the printed results from the participants.

3.10 Pilot Study

A pilot study was conducted on 9 deaf students on a satellite University in University of Education, Winneba- Kumasi Campus (UEW-K). The validated items

of the ASSIST were piloted on the deaf students at UEW-K. The deaf students at UEW-K had no contact with the deaf students at UEW. This prevented the deaf at Kumasi from transferring the question items to their colleagues in Winneba. Respondents were subjected to the same conditions as planned for the main study. As a result of the pattern of responses, it was indicated that there was not ambiguous question item. This was because the deaf at UEW-K could respond to all the question items without any difficulty

3.11 Data Analysis

Descriptive statistics was employed using means, standard deviations and bar graph to analyse collected data on predominant learning approach of deaf students at UEW. Descriptive statistics helped to identify the learning approach with highest mean and for that matter the predominant approach. Again independent samples t-test was used to analyse data on gender differences in the adoption of approaches to learning among deaf students at UEW. Independent samples t-test was employed because significant difference in the learning approaches with respect to gender. Multiple regression analysis was used to analyse collected data which sought to explore the relationship between the approaches to learning by and deaf students at UEW and their academic performance. The reason for the regression method of analysis was that it lends itself more to the analysis of data from correlational designs that investigate the relationship between two or more naturally occurring, non-manipulated and measurable variables.

3.12 Ethical Consideration

For ethical clearance, the researcher discussed with the participants for them to participate voluntarily in the study without any form of compulsion. To guarantee their confidentiality, the researcher did not ask students to provide data that reveals personal identification. The rights of respondents and other parties involved at every stage of this study were particular treated with utmost care. The following considerations as stated above were made to promote and protect the rights and interests of participants at the difference stage of the study.



CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.0 Introduction

This part dealt with presentation and analysis of research findings. It analysed the research findings of the study under the three main objectives that were raised in the study in chapter one.

4.1 Research objective 1: Predominant Learning Approach Deaf Students

Adopted to Study at UEW.

Research objective one sought to identify the predominant learning approach among deaf students at UEW. In order to address research objective 1, a descriptive statistics analysis was run using SPSS 20 in order to determine which learning approach was predominant among deaf students at UEW. Table 4.2 shows the results of the descriptive statistics on the learning approaches deaf students employ at UEW.

4.1.1 Table 4.1 Descriptive Statistics of Learning Approaches of Deaf Students

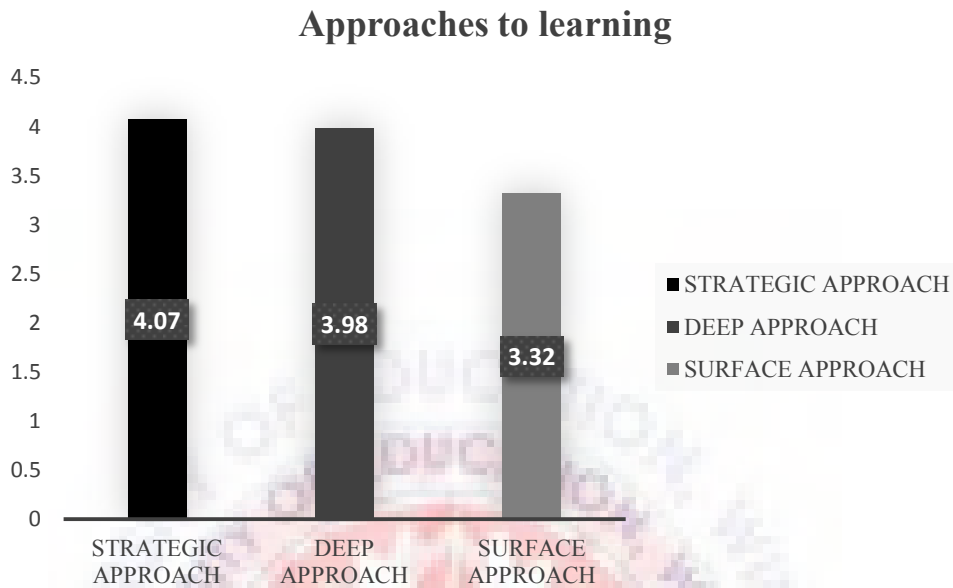
at UEW

| Approaches to learning | Mean (M) | Std. Deviation (SD) | Percentage (%) |
|------------------------|-------------|------------------------|----------------|
| Strategic approach | 4.07 | 0.41 | 36 |
| Deep approach | 3.98 | 0.51 | 35 |
| Surface approach | 3.32 | 0.48 | 29 |
| MEAN OF MEANS | 3.79 | | 100 |

Source: Author's Computations from field Data, March 2015

Mean scores, standard deviation and percentages of the learning approaches of deaf students are presented in the Table 4.1. Results from the respondents responses were used to estimate mean of means of 3.79. Comparing the mean of means of 3.79 to the individual mean of the approaches employed by the deaf students at UEW in Table 4.1, it can be concluded that strategic approach (M = 4.07, SD = 0.41) and deep approach (M = 3.98, SD = 0.51) were higher than the mean of means of 3.79. Surface approach to learning (M = 3.32, SD = 0.4) was lower than the mean of means. Figure 4.1 illustrates the learning approaches employed by deaf students at UEW.

4.1.2 Figure 2: A Bar Graph Indicating Deaf Students' Approaches to Learning at UEW.



Source: Author's computations from field data, March 2015

It was observed from Figure 4.1 that majority of the deaf students (36%) preferred to use the strategic approach to learning. The rest of the deaf students 35% and 29% preferred to use the deep approach and surface approach to learning respectively.

These results suggest that the respondents most preferred approach to learning was the strategic approach followed by the deep approach. Also comparing the mean of surface approach to learning ($M = 3.32$, $SD = 0.48$) to the mean of means of 3.79, it was clear to state that minority of deaf students employed the surface approach to learn at University of Education, Winneba (UEW).

4.1.3 Table 4.2. Sub-scales in Approaches to Learning Employed by Deaf

Students at UEW

| Approaches to learning | Mean | Standard deviation |
|---------------------------------|-------------|--------------------|
| <u>Deep approach</u> | | |
| Seeking meaning | 3.67 | 0.89 |
| Relating ideas | 3.89 | 0.69 |
| Use of evidence | 4.02 | 0.57 |
| Interest in ideas | 4.34 | 0.44 |
| <u>Strategic approach</u> | | |
| Organized studying | 4.13 | 0.65 |
| Time management | 4.02 | 0.60 |
| Alertness to assessment demands | 4.06 | 0.60 |
| Achieving | 3.85 | 0.90 |
| Monitoring effectiveness | 4.31 | 0.42 |
| <u>Surface approach</u> | | |
| Lack of purpose | 2.96 | 0.61 |
| Unrelated memorizing | 3.21 | 0.80 |
| Syllabus boundness | 3.60 | 0.63 |
| Fear of failure | 3.49 | 0.87 |
| Mean of means | 3.81 | |

Source: Author's computations from field data, March 2015

Table 4.2, presents the data on further descriptive analysis of the sub-scales in the learning approaches employed by deaf students at UEW. Comparing the means of the various sub-scales under the three approaches to learning the mean of means, the results revealed that the sub-scales of strategic approaches shows higher mean scores namely; Monitoring Effectiveness (M = 4.31, SD = 0.42), Organised Studying (M = 4.13, SD = 0.65), Alertness to Assessment Demands (M = 4.06, SD = 0.59), Time Management (M = 4.02, SD = 0.60) and Achieving (M = 3.85, SD = 0.89). The result also indicated that the three subscales of deep approaches show high mean scores namely; Relating Ideas (M = 3.89, SD = 0.69), Use of Evidence (M = 4.02, SD = 0.57) and Interest in ideas (M = 4.34, SD = 0.44). However, Relating Ideas shows a mean score below the mean of means of the subscales (M= 3.89, SD = 0.69). On the

other hand, all the sub scales of surface approaches showed lower mean scores as compared to the mean of means of the different sub-scales. Their means and standard deviations were: Syllabus Boundness (M = 3.61, SD = 0.63), and Fear of Failure (M = 3.49, SD = 0.87). Unrelated Memorising (M = 3.21, SD = 0.80) and Lack of Purpose (M = 2.96, SD = 0.87). These results revealed that the most preferred learning approach among deaf students at UEW is the strategic approach, followed by the deep approach and surface approach.

4.2 Research objective 2 and hypothesis 1: Gender Differences in the Adoption of Approaches to Learning among Deaf Students at UEW

H₀₁: *There is no statistically significant difference between male and female deaf students with regards to their approaches to learning.*

Research objective two and null hypothesis one was purposed to explore the difference in gender among deaf students at UEW in their approaches to learning. To explore the difference in gender among deaf students at UEW in the three approaches to learning, an independent samples t-test was run and results are shown in Table 4.3.

Table 4.3 Independent Samples T-Test on Gender Differences in Approaches to Learning

| Approaches to learning | Gender | N | Mean (M) | t-value | Sig value |
|------------------------|--------|----|----------|---------|-----------|
| Deep Approach | Male | 21 | 4.07 | 1.52 | 1.37 |
| | Female | 10 | 3.78 | | |
| Strategic Approach | Male | 21 | 4.18 | 1.89 | 0.08 |
| | Female | 10 | 3.85 | | |
| Surface Approach | Male | 21 | 3.41 | | |

| | | |
|--------|------|------|
| | 1.67 | 0.11 |
| Female | 10 | 3.11 |

Source: Author's Computations from field Data, March 2015

To establish the gender differences in the three (deep, strategic and surface) approaches to learning among deaf students at UEW, an independent t-test was used. As can be seen in Table 4.3, a comparison of the means from the two independent groups under deep approach to learning suggest that female deaf students who adopted the deep approach to learn were less ($M_f = 3.78$) than male deaf students who employed deep approach to learn ($M_m = 4.07$). Table 4.3 also shows that the mean for male deaf students ($M_f = 4.18$) was higher than the mean for female deaf students ($M_m = 3.85$) regarding the use of strategic approach to learning. Considering the surface approach to learning among deaf students at UEW, it can be deduced from Table 4.3 that majority of male deaf students employed the surface approach to learning than the female deaf students. This can be seen in their means ($M_m = 3.41$, $M_f = 3.11$).

To test whether the differences in mean of approaches to learning between the male and female deaf students were statistically significant, an independent-samples t-test was performed. The results of this test revealed that there was no statistically significant difference in the means for approaches to learning between the two gender groups. This means that the null hypothesis one was accepted. Table 4.3 shows the results of independent t-test of approaches to learning and gender. From Table 4.3, it can be seen that there were no significant differences between deep approaches, strategic approaches and surface approaches on gender. For the deep approaches, strategic approaches and surface approaches, where $t = 1.53$, $p = 1.37 > 0.05$; $t = 1.891$, $p = 0.08 > 0.05$; $t = 1.67$, $p = 0.41 > 0.05$ respectively. These findings

indicated that generally male and female deaf students at University of Education, Winneba did not display significant differences in approaches they adopted to learning. Both male and female students adopted deep, strategic and surface approaches to learn.

4.3 Research objective 3 and hypothesis: 1. Implication among the Approaches to Learning on Academic Performance of Deaf Students at UEW.

H₀2: *There is no statistically significant relationship between learning approaches and academic performance of deaf students.*

Research objective three and null hypothesis two was meant to identify the relationship that existed between the approaches to learning among deaf students and their academic performance at UEW. In order to achieve this objective, a multiple regression analysis was run on the responses of the respondents. Grade point average which represents the academic performance was set at the dependent variable and the three learning approaches (deep, strategic and surface) among deaf students at UEW were set as the independent variable.

4.3.1 Table 4.4 Multiple Regression Analysis on Academic Performance.

| Variables | Unstandardized Coefficients | Standardized Coefficients | R square | t-value | Sig.-value |
|------------------|------------------------------------|----------------------------------|-----------------|----------------|-------------------|
| (Constant) | 2.09 | | | 2.68 | 0.01 |
| Deep Approach | 0.37 | 0.45 | | 1.55 | 0.13 |
| Strategic | -0.19 | -0.19 | | -0.77 | 0.45 |

| | | | | |
|----------|-------|-------|-------|------|
| Approach | | | | |
| Surface | -0.04 | -0.04 | -0.17 | 0.87 |
| Approach | | | | |

0.11

Dependent Variable: GPA *Source: Author's Computations from field Data, March*

2015

Table 4.4 shows unstandardized (b) and standardized (beta) regression coefficients, the multiple correlation coefficients R square and the value of t and its associated sig-value for each variable that entered into the equation. As shown in Table 4.4, deep approach, strategic approach and surface approach are collectively explained 11% ($R^2 = 0.11$) of the variance in academic performance. This suggested that there are other factors which contribute or predict the academic performance of deaf students at UEW.

Based on multiple regression analysis, as shown in Table 4.4, the finding reveals that out of the three predominant approaches to learning, none of them was found to be significant. The t-values and p-values of the three approaches are; Deep approach ($t = 1.55, p = 0.13 > 0.05$), Strategic approach ($t = -0.77, p = 0.45 > 0.05$) and Surface approach ($t = -0.17, p = 0.87 > 0.05$). The total amount of variance of the criterion variable that was predictable from the three predictors was 11.1%. These results suggest that in this study, deaf student at UEW approaches to learning (deep, strategic and surface) could not predict the academic performance of such students in the university and hence the null hypothesis two was accepted.



CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses findings of the study. The discussions aimed at answering the research questions in chapter one.

5.1 Research Question One: What Learning Approach do Deaf Students at UEW Employ to Study?

Results of the study indicated that out of the three predominant approaches to learning, the most preferred among the deaf students at UEW was the strategic approach, followed by the deep approach and surface approach. This result is consistent with the studies of (Nordin , Wahab, & Dahlan, 2013; Fox, McManus, & Winder, 2001; Gürlen, Turan & Senemoğlu, 2013; Subasinghe & Wanniachchi, 2009) which suggest that majority of the students were inclined towards strategic and deep approaches to learning and the less predominant learning approach among students is the surface approach.

Findings however contradict the work of Ladan, Balarabe, Sani, Musa, Salihu, and Salihu (2014) who explored the learning approaches as predictors of academic performance among undergraduate students in Ahmadu Bello University, Zaria, Nigeria. Their study revealed that 81.1% of the students were aware of learning approaches and the predominant learning approach that majority of students was surface approach. The study identified personal factors, family factors, school factors and peer factors and social factors as factors that influenced the approaches students adopted to learn. Findings of the present study are contrary to findings of the previous study by Ladan et al. (2014).

The strategic approach is based on extrinsic motivation. Students are motivated by a desire for high grades and the ego enhancement of achieving high grades. The strategy in this approach is to become the most efficient learner, maximizing one's

chance of achieving the highest grades. This is achieved through effective time management, organized study, and a heightened awareness of the assessment requirements (Leung & Kember, 2003).

Participants in the present study indicated that apart from the strategic approach, they preferred the deep approach as the second option with the reason being that the deep approach to learning motivated them to seek meaning, understand underlying principles and identify of relationship between ideas and concepts (Kreber, 2003). Leung and Kember (2003) reiterated that deep approach to learning has also been shown to be consistent to help deaf student develop the ability to be critically reflective.

The surface approach was the least preferred learning approach participants adopted with the reason that the surface approach often made them perform far below average in examinations. This reason is consistent with Entwistle and McCune (2004) who advised that the surface approach does not give confidence to students in examinations. Majority of students shun away from adopting surface approach to learning as a result of fear of failure on their part in examinations. Deaf students who adopt the surface approach may not understand why they are learning certain subject matter, its relevance, and how the information fits together as a whole (Entwistle, 2000). Entwistle further explained that students who deploy a surface approach tend to conceive learning as reproducing knowledge, to be extrinsically motivated and to use strategies focusing on the reproduction of those materials. For this reason, surface learners have inadequate flexibility in their learning, as they may not transfer concepts to new situations.

Findings of this study are supported by BIGGS 3P learning systems: Tertiary learning model. Process level spells out the approaches deaf students adopt towards

their learning (Biggs, 1993). These learning focus activities may involve surface learning and/or deep learning and/or strategic learning approaches. This means that the deaf students presage factors would enable them to adopt particular learning approach/approaches to learn in a particular learning environment.

The implication here is that deaf students' presage factors (prior-knowledge, abilities, intelligence, gender, personality and home background, represents student incoming personal learning influences) would serve as a catalyst which would propel them to adopt a particular process or processes (deep learning, strategic learning, and surface learning approaches) which would also give the desired product (learning outcomes or academic performance).

5.2 Research Question Two: 2. What Differences Exist Among Male and Female Deaf Students in the Choice of Learning Approaches?

Research question two was meant to explore the differences that existed among male and deaf students at UEW in learning approaches. Results from respondents indicated that generally male and female deaf students at University of Education, Winneba did not display significant differences in the three approaches to learning, which is deep, strategic and surface. This research finding is not in congruence with what is in literature. For example, Byrne, Flood, and Willis (2002) identified that deep and strategic approaches to learning among female students were related to higher academic achievement, and surface approach was related to poor academic performance, although these relationships were not present in male students. Also, Lu et al. (2007) revealed that there was a significant difference in academic achievement of male and female students. Girls were found to be better performers than boys.

In another study, Dorval (2000) noted that in language learning tasks connected with problem-solving, male and female students showed clear differences in their approaches to learning tasks. In this sense, male students produced mass of short spurts of speech while female students produced big blocks of talk, were obedient, and there was much attentive listening and sympathizing. Dorval (2000) further explained that male students prefer learning tasks connected with competition in hierarchical groups, while female students learn by collaboration in small groups in which mutual liking is important. Some of these gender differences in learning could be explained from a biological point of view, where studies have reported that genetic differences in males' and females' brain structure predispose them to excel in different areas (Havers, 1995, Noble et al., 2011, Gurian & Stevens, 2004). Hence because of this, males tend to be naturally proficient in spatial and mathematical abilities while females are more verbally proficient. Hormonal differences are also perceived to contribute to the learning approaches of males and females (Gurian, 2002) where higher levels of testosterone in males cause them to be more aggressive and impulsive. Therefore, males may find it difficult to sit still and be "obedient" over long periods of time unlike females. A nationwide government-initiated study of over 4,000 secondary school students in Malaysia by Zalizan et al. (2001 as cited in Nadia et al., 2010) have shown that females tend to perform better academically than males in school. The researchers found significant differences in learning styles among gender using Kolb's Learning Styles Inventory where female students preferred concrete sequential and abstract sequential learning styles compared to males.

Muller (1998) investigated gender differences in parental involvement and adolescent's mathematics achievement through a longitudinal study. The sample was

taken from national longitudinal study of 13,881 students of class eighth to twelfth from the city Austin in Texas. The scores attained by the students in mathematics test were considered as academic achievement of the students. The findings indicated gender differences in academic achievement.

Studies on gender differences in approaches to learning are inconclusive. Wilson, Smart, and Watson (1996) reviewed work using either the Approaches to Studying Inventory (ASI) or the Study Process Questionnaire (SPQ). Investigations utilising the SPQ offer a far from definitive picture on gender difference“ (Wilson et al., 1996, p. 60). By comparison, research using versions of the Revised Approaches to Studying Inventory (RASI) identifies males scoring higher on Deep Approach and females scoring higher on surface approach (Duff, 1999, 2002; Sadler-Smith, 1996; Sadler-Smith & Tsang, 1998).

Findings of this study can be explained by the 3P model of Biggs. Considering the gender and approaches to learning among deaf students at UEW, it was observed that it could be likened to presage stage of the 3P model. At the presage stage, the concept refers to how individual deaf students differ in approaching learning in the same teaching contexts, (i.e., preferred approach; Biggs et al., 2001). The implication here is that deaf students' presage factor (gender, prior-knowledge, abilities, intelligence, personality and home background, represents student incoming personal learning influences) would serve as a basis for determining the learning approach in the university. However, this study gave a different account which suggests that there is no significant difference in gender on the approaches to learning employed by deaf students in UEW. Thus, even though the 3P model identifies factors that could account for deaf students employing different learning approaches, the current study did not support that account.

5.3 Research Question Three: What is the Relationship between Approaches to Learning and Academic Performance of Deaf Students at UEW?

Research question three was purposed to explore the relationship between the approaches to learning employed by deaf students at UEW and their academic performances. The results from the analysis suggest (see Table 4.4) that in this study, deaf students at UEW approaches to learning (deep, strategic and surface) could not predict the academic performance of such students in the university. Findings from this study are in agreement with the works of (Diseth & Martinsen 2003; Noble, Brown & Murphy, 2011) who study concluded that the correlations between approaches to learning and academic achievement were weak although the results were consistent across cultural and educational levels.

However, other studies such as (Ladan, Balarabe, Sani, Musa, Salihu, and Salihu, 2014; Nordin et al., 2013; Gürten, Turan and Senemoglu, 2013; Shaari et al., 2011; Cano, 2007; Cano, 2005) have shown that there was a significant relationship between learning approach and academic achievement.

Gürten et al. (2013) reported a positive relationship between academic achievement and strategic approach. However, no correlation was found between academic achievement and surface approach. Strategic approaches to learning were found to be the best predictors of academic performance in the present study. Students' satisfaction with their major was positively correlated with strategic approaches but negatively related to surface approaches and deep approaches.

Mayya et al. (2004) found that academic performance showed significant negative correlation with surface approach and various problems of learners like fear of failure and lack of confidence, non-academic distractors and poor English

language ability among Physiotherapy at College of Allied Science, Manipal. The study demonstrated significant positive association between surface approach and various problems of the learners.

Furthermore, Diseth (2002) reported no relationship between general intelligence and approaches to learning was observed. A curvilinear relationship between surface approach and academic achievement was observed. Multiple regression analysis showed interaction effects between deep–strategic and surface–strategic approaches to learning as predictors of academic achievement.

Also, Entwistle et al. (2000) explained that in the subsequent years of a degree course especially when the evaluation system directly rewards a display of conceptual understanding, students will demonstrate high scores on the deep approach which will relate to academic success. Byrne et al. Willis (2002) and Tan (2005), all stated that students who adopt desirable learning approaches, especially by scoring higher on deep approach and strategic approach scales, achieve a high level of academic success.

A number of empirical studies have shown that students who adopt deep approaches to learning tend to earn higher grades, have long-term information retention, actively seek integration of information, earn more credits per year, and had high qualitative learning outcomes (Entwistle, 1983; Marton & Säljö, 1976a; Ramsden, 1992; Trigwell, & Prosser, 1991). Watkins (1998) found that students who adopted deep learning approaches had higher self-concept and academic achievement; the responses of students who adopted a surface learning approach were negatively related to locus of control and academic achievement (Watkins, 1998). Similarly, Boyle et al. (2003) concluded that a meaning-directed learning style generated statistically significant positive correlations with GPA while a

reproduction-directed learning style did not correlate with any academic performance variable. Other researchers used SEM to explore causal models of academic achievement (grade point average) among first- and third-year college students enrolled in a science course in Australia (Zeegers, 2004).

Nevertheless, many studies have explored approaches to learning in school context as discussed in the literature, however this current study is set apart from those studies because this study considered deaf students approaches to learning in the university setting and the relationship between those employed approaches and their academic performance.

Additionally, in order to empower deaf students to assume responsibility for creating a sustainable learning in future, these students should be motivated to employ learning approaches that will give them the room to explore and understand for themselves what they learn. Furthermore, with the significant expectations placed on inclusive education programmes in Ghana, it is important to know how deaf students experience the teaching and learning approaches at their universities and how those experiences impact their academic performance. However in this study it is evident that approaches to learning among deaf students at UEW did not predict their academic performance even though literature has opposite view of the same account. This finding suggests that other variable other than the learning approaches of deaf students are useful in predicting their academic performance.

For instance, the concept of approaches to learning is involved in each stage of the 3P model. As explained earlier (in chapter two) at the presage stage, the concept refers to how individual students differ in approaching learning in the same teaching contexts that is preferred approach (Biggs et al., 2001). At the process stage, approaches to learning are the behaviors in which students engage while learning that

is ongoing approach (Biggs, 2003). Finally, at the product stage, the approaches to learning refer to the effects of assessment on student learning strategies (Biggs, 1993a).

The implication here is that deaf students' presage factors (prior-knowledge, abilities, intelligence, gender, personality and home background, represents student incoming personal learning influences) would serve as a catalyst which would propel them to adopt a particular process or processes (deep learning, strategic learning, and surface learning approaches) which would give the desired product (learning outcomes or academic performance).



CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the summary, implications of the findings, conclusions and Recommendations for future research.

6.1 Summary

The purpose of this study was to explore the approaches to learning and their implications on the academic performance of deaf students at the University of Education, Winneba. Thirty-one deaf students were purposively sampled from a population of 41 students. Data were gathered through ASSIST (1998) questionnaire and students' academic records. Data were analysed using descriptive statistics, independent samples t-test and multiple regression analysis of SPSS 20.

Findings of the study show that participants' predominant approach to learning was the strategic approach followed by the deep approach and the surface approach. Generally male and female deaf students did not display significant differences in the three approaches to learning (deep, strategic and surface approaches). Results of the study suggest that the approaches to learning (deep, strategic and surface) that the participants adopted could not predict their academic performance.

6.2 Implications of the Study

Findings in this study revealed that both the deep and strategic approaches learning were predominant than the surface approach to learning. This implies that majority of deaf students at University of Education, Winneba: *i)* seek to understand the issues and interact critically with the contents of particular teaching materials, *(ii)*

relate ideas to previous knowledge and experience, and *(iii)* examine the logic of the arguments and relate the evidence presented to the conclusions.

Findings of the study also implies that majority of the participants did not simply rely on memorization of the course materials, but they adopt an intrinsic motivation to learn with an intellectual curiosity rather than looking for external rewards. Once the information to be learned makes sense, they try to fit it into the available coherent body of knowledge (Felder & Brent, 2005). Entwistle and Ramsden (1983) posited that the deep learning approach indicates a desire to relate the task to personal experiences outside the study context, see it as a part of one's personal development; seek relationships which help to integrate the parts into a whole, and integrate the underlying structure or intention of the whole task. Also findings of the study reveal that majority of the students preferred the strategic approach to learning. This implies that most deaf students at UEW are motivated by the desire for high grades and the ego enhancement of achieving them. The strategy in this approach is to become the most efficient deaf learner, maximizing one's chance of achieving the highest grades. This is achieved through effective time management, organized study, and a heightened awareness of the assessment requirements. The least preferred learning approach among deaf students at UEW was the surface approach to learning. The results indicated that few deaf students skim the surface of the subject matter and aims only to recall information and pass examination. The primary factor that motivates learners who employ the surface approach is fear of failure (Entwistle & McCune, 2004).

Also, the findings indicated that generally male and female deaf students at University of Education, Winneba did not display significant differences in approaches to learning where deep, strategic and surface approaches were compared.

This means that both male and female deaf students were keen in employing the strategic and deep approaches to learning than the surface approach to learning.

Finally, results of the study suggest that deaf student at University of Education, Winneba approaches to learning (deep, strategic and surface) could not predict the academic performance of such students in the university. This means that other factors such as age of students, gender, background experience, teaching methods, students' perception of academic environment, students learning styles, availability of proficient sign language interpreter, parental support and students motivation could help in predicting the academic performance that their approaches to learning.

6.3 Conclusion

The present findings concluded that the deaf students at University of Education, Winneba preferred the strategic and deep approaches to learning. In addition, it was found that there was no significant difference between gender and the approaches to learning among deaf students at UEW. The findings also revealed that approaches to learning among deaf students at UEW could not predict their academic performance. Future research need to be conducted in order to verify the present findings by taking into considerations the recommendations which has been suggested. The findings of the present study should be seen as a guideline for future research rather than as definite answers.

6.4 Recommendations for Future Research

The findings of the present study should be seen as a guideline for future research rather than as definite answers. It is important to take note that the findings in the present study are not generalizable to all the deaf students in Ghana. There is still a need to examine the approaches to learning in the other higher institutions to

know which approach is most preferred by the deaf students with different sample before a definite conclusion can be made as there were some limitations in this study. These limitations needed to be addressed in future research.

In future research, researchers could consider using a larger sample which are drawn from various higher institutions in Ghana so that the results can be generalized to all students in the country.

There were many direct and indirect effects from the variables that are being examined which the researcher did not take control of. For example, in this study, the researcher found the effects of age of students, gender, background experience, teaching methods, students' perception of academic environment, students learning styles, availability of proficient sign language interpreter, parental support and students' motivation. Thus, it is important for future researchers to examine variables which could possibly moderate or confound the relationship between the variables listed and the academic performance of deaf students.

The researcher would like to suggest that further investigation could be done using longitudinal study. This can help reveal the causal relationship between approaches to learning and academic performance of deaf students. Researchers could also examine whether the approaches to learning among deaf students change over time as they go through their university education.

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APPENDICES

APPENDIX ‘A’

UNIVERSITY OF EDUCATION, WINNEBA

SCHOOL OF GRADUATE STUDIES

Introduction

My name is Daniel Fobi, an MPhil student conducting a research on **Approaches to Studying and their Implications on the Academic Performance of Deaf Students at the University of Education, Winneba.**

This questionnaire is designed to allow you describe, in a systematic way, how you go about learning. This questionnaire asks you to indicate your relative agreement or disagreement to each statement. Please work through the comments, and give your **immediate** response by **circling** the response which is most suitable to you. In deciding your responses, think in terms of **a particular lecture course**. It is also very important that you respond to **all** the questions. Items in this questionnaire are grouped under "A" and "B". **Your responses to the questionnaire will be treated confidentially and used only for academic and research purposes. Do not write your name**

Section A

Background information

Age years

Gender M / F

University Department.....

Level of study

Hearing status: deaf/hard of hearing

5 means strongly agree (✓) 4 = agree (✓?) 2 = disagree (x?) 1 = strongly disagree (x).

Section B

Approaches to learning

✓ ✓? x? x

- | | | | | |
|--|---|---|---|---|
| 1. I manage to find conditions for learning which allow me to learn easily. | 5 | 4 | 2 | 1 |
| 2. When working on an assignment, I keep in mind how best to impress the marker. | 5 | 4 | 2 | 1 |
| 3. Often I find myself thinking whether the work I do in the university is really important. | 5 | 4 | 2 | 1 |
| 4. I usually try to understand the meaning of what I have to learn. | 5 | 4 | 2 | 1 |
| 5. I organise my study time carefully to make the best use of it. | 5 | 4 | 2 | 1 |
| 6. I concentrate on just memorising most of what I have to learn. | 5 | 4 | 2 | 1 |
| 7. I go over the work I've done carefully and see if the work is meaningful. | 5 | 4 | 2 | 1 |
| 8. Often I feel the amount of material I have to learn are too much for me | 5 | 4 | 2 | 1 |

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|---|---|---|---|---|
| 9. I look at evidence in books carefully and try to reach my own conclusions. | 5 | 4 | 2 | 1 |
| 10. It's important for me to feel that I'm doing the best I can on the courses. | 5 | 4 | 2 | 1 |
| 11. I try to relate ideas I come across to those in other topics and courses whenever possible. | 5 | 4 | 2 | 1 |
| 12. I read very little beyond what is actually required to pass exams. | 5 | 4 | 2 | 1 |
| 13. Regularly I find myself thinking about ideas from lectures when I'm doing other things. | 5 | 4 | 2 | 1 |
| 14. I think I'm quite systematic and organised when it comes to revising for exams. | 5 | 4 | 2 | 1 |
| 15. I look carefully at lecturers' comments on course work to see how to get higher marks next time. | 5 | 4 | 2 | 1 |
| 16. I find much of the work in the university not interesting. | 5 | 4 | 2 | 1 |
| 17. When I read a book, I try to find out for myself exactly what the writer means. | 5 | 4 | 2 | 1 |
| 18. I'm pretty good at working whenever I need to. | 5 | 4 | 2 | 1 |
| 19. Much of what I learn is not important to my course. | 5 | 4 | 2 | 1 |
| 20. I think about what I want to get out of this course to keep my studying well focused. | 5 | 4 | 2 | 1 |
| 21. When I'm working on a new topic, I try to see in my own mind how all the I deas fit together. | 5 | 4 | 2 | 1 |
| 22. I often worry about whether I'll ever cope with the work properly. | 5 | 4 | 2 | 1 |
| 23. Often I find myself questioning topics lecturers teach. | 5 | 4 | 2 | 1 |
| 24. I feel that I'm getting on well, and this helps me put more effort into the work. | 5 | 4 | 2 | 1 |
| 25. I concentrate on learning information I have to know in order to pass my exams. | 5 | 4 | 2 | 1 |
| 26. I find that studying academic topics can be quite exciting at times. | 5 | 4 | 2 | 1 |
| 27. I'm good at doing reading assignments given by lecturers. | 5 | 4 | 2 | 1 |
| 28. I keep in mind who will mark my assignment and what their expectations are. | 5 | 4 | 2 | 1 |
| 29. When I look back, I sometimes wonder why I ever decided to come to university. | 5 | 4 | 2 | 1 |
| 30. When I am reading, I stop from time to time to think about what I am trying to learn from it. | 5 | 4 | 2 | 1 |
| 31. I work little by little through the semester, rather than leave it all until the last minute. | 5 | 4 | 2 | 1 |
| 32. I'm not really sure what's important in lectures so I try to write all I can. | 5 | 4 | 2 | 1 |
| 33. Ideas in course books make me form new ideas. | 5 | 4 | 2 | 1 |
| 34. Before I start to work on an assignment and exam question, I think first how best to answer it. | 5 | 4 | 2 | 1 |
| 35. I often seem to panic if I am late to submit my work. | 5 | 4 | 2 | 1 |
| 36. When I read, I examine the details carefully to see how they fit in with what's being said. | 5 | 4 | 2 | 1 |
| 37. I learn hard in order to pass my exams. | 5 | 4 | 2 | 1 |
| 38. I plan my learning closely to just what seems to be required for assignments and exams. | 5 | 4 | 2 | 1 |

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|---|---|---|---|---|
| 39. Some of the ideas I come across on the course are really interesting. | 5 | 4 | 2 | 1 |
| 40. I usually plan out my week's work in advance, either on paper or in my head. | 5 | 4 | 2 | 1 |
| 41. I pay attention to what lecturers seem to think is important and concentrate on that. | 5 | 4 | 2 | 1 |
| 42. I'm not really interested in some courses, but I have to take them for other reasons. | 5 | 4 | 2 | 1 |
| 43. Before working on an assignment, I first try to know why that assignment was given. | 5 | 4 | 2 | 1 |
| 44. I generally make good use of my time during the day. | 5 | 4 | 2 | 1 |
| 45. I often have trouble in making sense of the things I have to remember. | 5 | 4 | 2 | 1 |
| 46. I like to play around with pieces of idea of my own even if they don't get me very far. | 5 | 4 | 2 | 1 |
| 47. When I finish a piece of work, I check through to see if it really meets the requirements. | 5 | 4 | 2 | 1 |
| 48. Often I awake up from sleep thinking about work I won't be able to do. | 5 | 4 | 2 | 1 |
| 49. It's important for me to be able to follow the argument, and see the reason behind things. | 5 | 4 | 2 | 1 |
| 50. I don't have any difficulty in motivating myself to learn. | 5 | 4 | 2 | 1 |
| 51. I like to be told precisely what to do in essays and assignments. | 5 | 4 | 2 | 1 |
| 52. I sometimes get attached on academic topics and feel I would like to keep on studying them. | 5 | 4 | 2 | 1 |

What suggestion would you like to offer in respect to your approach to learning and how to improve academic performances of deaf students at UEW?

THANK YOU FOR COMPLETING THE QUESTIONNAIRE.



APPENDIX B

**DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF EDUCATION, WINNEBA (UEW)**

April 4, 2015

Dear Sir/Madam,

LETTER OF INTRODUCTION

I write to introduce to you Daniel Fobi – an M. Phil student at the Department of Special Education of the University of Education, Winneba.

He is currently working on his thesis: **Approaches to Learning and their Implications on the Academic Performance of Deaf Students at the University of Education, Winneba.**

He would need your assistance to collect data from your school. I would therefore, be grateful if you could provide him with the necessary assistance.

Thank you for time and cooperation.

Yours faithfully,



SAMUEL HAYFORD (PHD)
HEAD DEPARTMENT OF SPECIAL EDUCATION

APPENDIX C

Illustrations of the Question Items that were Reworded

| Original Expressions in ASSIST | Reworded Expressions in ASSIST |
|--|---|
| 1. I manage to find conditions for studying which allow me to get on with my work easily. | 1. I manage to find conditions for learning which allow me to learn easily. |
| 2. When working on an assignment, I'm keeping in mind how best to impress the marker. | 2. When working on an assignment, I keep in mind how best to impress the marker. |
| 3. Often I find myself wondering whether the work I am doing here is really worthwhile. | 3. Often I find myself thinking whether the work I do in the university is really important. |
| 4. I usually set out to understand for myself the meaning of what we have to learn. | 4. I usually try to understand the meaning of what I have to learn. |
| 6. I find I have to concentrate on just memorising a good deal of what I have to learn. | 6. I concentrate on just memorising most of what I have to learn. |
| 7. I go over the work I've done carefully to check the reasoning and that it makes sense. | 7. I go over the work I've done carefully and see if the work is meaningful. |
| 8. Often I feel I'm drowning in the sheer amount of material we're having to cope with. | 8. Often I feel the amount of material I have to learn are too much for me |
| 9. I look at the evidence carefully and try to reach my own conclusion about what I'm studying. | 9. I look at evidence in books carefully and try to reach my own conclusions. |
| 10. It's important for me to feel that I'm doing as well as I really can on the courses here. | 10. It's important for me to feel that I'm doing the best I can on the courses. |
| 11. I try to relate ideas I come across to those in other topics or other courses whenever possible. | 11. I try to relate ideas I come across to those in other topics and courses whenever possible. |
| 12. I tend to read very little beyond what is actually required to pass. | 12. I read very little beyond what is actually required to pass exams. |

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| 15. I look carefully at tutors' comments on course work to see how to get higher marks next time. | 15. I look carefully at lecturers' comments on course work to see how to get higher marks next time. |
| 16. There's not much of the work here that I find interesting or relevant. | 16. I find much of the work in the university not interesting. |
| 17. When I read an article or book, I try to find out for myself exactly what the author means. | 17. When I read a book, I try to find out for myself exactly what the writer means. |
| 18. I'm pretty good at getting down to work whenever I need to. | 18. I'm pretty good at working whenever I need to. |
| 19. Much of what I'm studying makes little sense: it's like unrelated bits and pieces. | 19. Much of what I learn is not important to my course. |
| 22. I often worry about whether I'll ever be able to cope with the work properly. | 22. I often worry about whether I'll ever cope with the work properly. |
| 23. Often I find myself questioning things I hear in lectures or read in books. | 23. Often I find myself questioning topics lecturers teach. |
| 25. I concentrate on learning just those bits of information I have to know to pass. | 25. I concentrate on learning information I have to know in order to pass my exams. |
| 28. I keep in mind who is going to mark an assignment and what they're likely to be looking for. | 28. I keep in mind who will mark my assignment and what their expectations are. |
| 29. When I look back, I sometimes wonder why I ever decided to come here. | 29. When I look back, I sometimes wonder why I ever decided to come to university. |
| 30. When I am reading, I stop from time to time to reflect on what I am trying to learn from it. | 30. When I am reading, I stop from time to time to think about what I am trying to learn from it. |
| 31. I work steadily through the term or semester, rather than leave it all until the last minute. | 31. I work little by little through the semester, rather than leave it all until the last minute. |
| 32. I'm not really sure what's important | 32. I'm not really sure what's important |
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| in lectures so I try to get down all I can. | in lectures so I try to write all I can. |
| 33. Ideas in course books or articles often set me off on long chains of thought of my own. | 33. Ideas in course books make me form new ideas. |
| 34. Before starting work on an assignment or exam question, I think first how best to tackle it. | 34. Before I start to work on an assignment and exam question, I think first how best to answer it. |
| 35. I often seem to panic if I get behind with my work. | 35. I often seem to panic if I am late to submit my work. |
| 37. I put a lot of effort into studying because I'm determined to do well. | 37. I learn hard in order to pass my exams. |
| 38. I gear my studying closely to just what seems to be required for assignments and exams. | 38. I plan my learning closely to just what seems to be required for assignments and exams. |
| 39. Some of the ideas I come across on the course I find really gripping. | 39. Some of the ideas I come across on the course are really interesting. |
| 41. I keep an eye open for what lecturers seem to think is important and concentrate on that. | 41. I pay attention to what lecturers seem to think is important and concentrate on that. |
| 42. I'm not really interested in this course, but I have to take it for other reasons. | 42. I'm not really interested in some courses, but I have to take them for other reasons. |
| 43. Before tackling a problem or assignment, I first try to work out what lies behind it. | 43. Before working on an assignment, I first try to know why that assignment was given. |
| 46. I like to play around with ideas of my own even if they don't get me very far. | 46. I like to play around with pieces of idea of my own even if they don't get me very far. |
| 48 Often I lie awake worrying about work I think I won't be able to do. | 48. Often I awake up from sleep thinking about work I won't be able to do. |
| 50. I don't find it at all difficult to motivate myself. | 50. I don't have any difficulty in motivating myself to learn. |
| 52. I sometimes get <u>hooked</u> on | 52. I sometimes get attached on academic |

academic topics and feel I would like to keep on studying them. topics and feel I would like to keep on studying them.

Source: Author's Computations from field Data, March 2015

