AN INVESTIGATION ON THE RELATIONSHIP BETWEEN ACHIEVEMENT GOAL ORIENTATION, APPROACHES TO LEARNING AND ACADEMIC ACHIEVEMENT OF COLLEGE STUDENTS: THE CASE OF BONGA COLLEGE OF TEACHER EDUCATION

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This is to certify that the thesis prepared by Mohammed Geta entitled: An Investigation on the Relationship between Achievement Goal Orientations, Approaches to Learning and Academic Achievement: the Case of Bonga College of Teacher Education and submitted in partial fulfillment of the requirements for the degree of Degree of Masters of Arts (Educational Research and Development) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Table of contents

List of Tables

List of figures

ACRONYMS AND ABRIVATIONS

ASI: Approaches to Studying Inventory

ASSIST: Approaches and Study Skills Inventory for Students

BCTE: Bonga College of Teacher Education

CGPA: Cumulative Grade Point Average

IER: Institute of Educational Research

MSLQ: Motivated Strategies and Learning Questionnaire

RASI: Revised Approaches to Studying Inventory

SAL: Students Approach to Learning

SNNPR: Southern Nations Nationalities and Peoples Region

SOLO: Structure of the Observed Learning Outcome

SPQ: Study Process Questionnaire

Abstract

An Investigation on the Relationship between Achievement Goal Orientation, Approaches to Learning and Academic Achievement: the Case of Bonga College of Teacher Education.

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The general objective of the current study was to assess the relationship between achievement goal orientation, approaches to learning and academic achievement of college students. For the study, 243 sample college students from Bonga College Teacher Education (BCTE) were selected through stratified random sampling method. Students' goal orientation and approaches to learning data were collected through two questionnaires. Academic achievement of the study participants was collected from BCTE registrar office. Correlation, regression and independent t-test were employed in the analysis of the data.

The result of the study revealed that i) there was a statistically significant relationship between goal orientation and academic achievement. Academic achievement was related positively with mastery and performance approach goals; and related negatively with performance avoidance goal; ii) among approaches to learning components, strategic approach positively and surface approach negatively related with academic achievement of college students, while deep approach was not; iii) there was statistically significant relationship between goal orientation and approaches to learning components. Mastery and performance approach goals related positively with both deep and strategic approaches to learning. Mastery goal negatively correlated with surface approaches to learning, whereas performance avoidance goal was positively related with surface approach and negatively related with both deep and strategic approaches to learning; v) with regard to sex differences in goal orientation and approaches to learning, the t-test revealed a significant difference between the two sex groups in goal orientation as well as approaches to learning variables except surface approach to learning; and vi) goal orientation components have statistically significant joint contribution to the prediction of college students' academic achievement. Similarly, approaches to learning have significant joint contributions to the prediction of college academic achievement. However, further analysis of each variable demonstrated that only performance approach goal, performance avoidance goal and surface approach to learning have significant contribution to the prediction of academic achievement. It is concluded that goal orientation variables are part of the non cognitive variables related with college students learning approaches and academic achievement. Therefore, college instructors and counselors need to think about conditions to avoid students' tendency to adopt performance avoidance goal as well as use surface approach in their college education.

CHAPTER ONE

1. INTRODUCTION

1.1.Background of the Study

There is a general consensus that education is regarded as an instrument of excellence for effecting national development. Today our conception of education is entirely new. According to this new conception every child grows spontaneously. Education must aim to make this spontaneous growth harmonious and progressive. Students should be given opportunities to think and learn in their preferable ways of learning, so that their talent may contribute to the advancement of social welfare. Education must aim to make them creative in thought and original in matter of thinking and acting (Schunk, 2008). In order to accomplish these aims of education, the spontaneous growth of students should not be interfered with other factors. This aspect is very important to prepare the leaders of the next generation in one country. Thus, the system to build the next generation should be focused on the development of becoming a man with qualities, who has a winning personality and productive to pursue and achieve success entirely.

The efforts to develop this generation will not be achieved without good education. The objective of education in general and at tertiary level in particular is to enable students become agents of national development**.** The National Education Policy has been adopted as the Government's way of achieving its national objectives. For example, as indicated in the Education and Training Policy of Ethiopia (1994:9), one of the specific objectives is **"**to satisfy the country's need for skilled manpower by providing training in various skills and at different levels". To achieve this and other aims and objectives of the policy, institutions of higher education are engaged in a continuous process of maximizing the quality of their graduates so as to enhance their readiness for the job market and further education. Thus, it is important for educational institutions to focus on improving the critical aspects of teaching and learning.

In the process of achieving such objectives colleges and universities entertain many difficulties which may be associated primarily with a student and those factors which may not be related to the individual but to some other conditions. The need to create an effective learning environment

has led educators to explore different dimensions of teaching learning process. There is an unending search to determine approaches that work in the school.

One focus area is the possibility of identifying factors which impact students' performance. Since every individual performance is determined as sum total of different factors it is difficult to identify between the intellect and other variables which constitute students performance. These factors affecting students' success should be researched and handled effectively. If not, it will certainly affect the core educational vision of the country which is to build the human capital. Therefore, the prediction and explanation of college students' academic success is an important area of research in education. This is because of students' poor academic achievement, failure or drop out of college often incur considerable financial costs for college providers. In addition, students who underperform, fail or drop out waste their own time, resources, and often become demoralized.

Educators, researchers and psychologists have conducted a number of studies to identify factors that contribute towards academic performance. Although academic achievement is often associated with factors such as teachers, parents and school environments, aspects of intellectual and nonintellectual conditions of the students may also affect academic achievement (Erickson, Peters, & Strommer, 2006). Among these, achievement goal orientations and approaches to learning of students' may facilitate or hinder learner's academic achievement.

In educational research, motivation theories are most often used to explain students' activity choice, engagement, persistence, help seeking, and performance in school (Roeser & Eccles 1998). Researchers agree that goal orientation shapes how students approach and react to achievement situations (Ames, 1992). As to achievement goal theory, one among social-cognitive motivation theories, students in learning environments adopt different achievement goal orientations. Goals provide a framework within which individuals interpret and react to events (Dweck & Leggett, 1988). This theory posits that students differ from each other in the purpose of their achievement behavior and that these differences are associated with distinctive emotional, motivational, cognitive, and behavioral outcomes (e.g., Covington, 2000; Elliot, 2005; Pintrich, 2000). It influences the way students approach, engage in, respond to learning activities (Ames, 1992) as well as students' motivation, emotion, strategy utilization, learning,

academic behaviors, and achievement (Ames & Archer, 1988; Grant & Dweck, 2003; Linenbrink & Pintrich, 2002). Moreover, the relationship between students' achievement goal orientation and school-related outcomes such as academic achievement has been routinely established in the literature (Ames, 1992).

Another area of higher education which requires attention is the approaches to learning of students. Researchers have long been interested in how students go about learning, what strategies they use, and why they choose particular approaches (Vermunt, 2005). Research on how people learn can be broadly fitted into streams. One of the research streams on how people learn revolves around the idea that not only the personality of the learner, but also the learning environment determines the way a student approaches learning. Thus, how a learner approaches a learning task is dependent upon both the personality and the setting in which the learning takes place (Entwistle & Ramsden, 1983). Approaches to learning refer to "the learners' different ways of relating to the learning task- how and why a learner learns". The 'how' are the strategies devised by the learner to solve the problems defined by their motives (the why of learning).

There is a general consensus in the research literature that students in higher education manifest a number of different approaches to learning that are dependent upon the context, the content, and the demands of the learning task (Richardson, Eysenck, & Warren, 1987). In particular, they adopt a deep approach in so far as they acknowledge the more abstract forms of learning that are demanded in higher education (Svensson, 1977) and are motivated by the relevance of the syllabus to their own personal needs and interests (Fransson, 1977). They adopt a surface approach in so far as they encounter an overloaded curriculum and methods of assessment which emphasize the superficial properties of the material that is to be learned (Dahlgren & Matron, 1978); and they adopt a strategic approach to the extent that they receive cues about their assessment schemes from members of teaching staff (Ramsden, 1979). Research has investigated the relationships between these three learning approaches and academic success. The SAL paradigm argues that high achievement can be predicted by a deep approach, either alone or in combination with a strategic approach. In contrast, low achievement can be predicted by a surface approach to learning (Diseth & Martinsen, 2003; Diseth, Pallesen, Hovland, & Larsen, 2006).

Hence, investigating the relationship between students' achievement goal orientation, approaches to learning and academic achievement should be the core emphasis of educational researchers to enhance learners' academic success.

Bonga College of Teacher Education, one of the higher education institutions in SNNPR, is expected to train teachers who are capable of achieving the intended educational goals of the region in particular and the country in general. To achieve this, it is necessary to investigate different variables which may affect the students' success in their college education. Thus, this study mainly focuses on investigating the relationship between students' achievement goal orientation, approaches to learning and academic achievement of Bonga College of Teacher Education students.

1.2.Statement of the Problem

The prediction of academic achievement and the examination of factors relating to the academic achievement are topics of greatest importance at different educational levels. For many years, educational researchers have maintained an interest in the effective prediction of students' academic achievement at school.

The major aim of higher education is to produce high quality learning outcomes in its graduates. Therefore, the main mission of Teacher Education Colleges is to produce primary school teachers who have good quality in their academic area. There is general acknowledgement that within college education differences exist among learners with respect to academic achievement. Similarly, in Bonga College of Teacher Education, vast variations in academic achievement among students exist. Formal discussions among the department heads and the institution's higher officials were directed toward identifying causes of variation in academic achievement of learners. Thus, better understanding of those factors that influence student success in college education is more vital.

A number of factors could be ascribed to students' academic achievement. Many previous studies conducted have focused on parenting style, inequalities and economic disadvantage as predictors of academic achievement (social determinants). A number of social as well as economic factors have been identified as predictors of students' academic achievement

(Vermunt, 2005). However, other studies have shown that students who come from disadvantaged background still manage to succeed (e.g. Taylor, 2004). This suggests that it is also necessary to look for other factors that determine academic success to find out what within the students themselves impacts on their academic achievement.

Student abilities are widely acknowledged as a key predictor of academic success (McDermott, 1984). However, other than individual ability different factors including students' goal orientation and approaches to learning are also thought to play a key role in student learning (Duff, Boyle, Dunleavy, & Ferguson, 2004; Elliot & McGregor, 2001). Evidence from previous studies indicated that academic performance is influenced by students' goal orientation and approaches to learning (Pintrich 2000; Pintrich and Schunk, 2002). But, these individual variables and their role in determining academic achievement have not been sufficiently studied (if any) in Ethiopian context, especially in BCTE.

Since, the identification of factors which may have a significant relationship with college academic achievement becomes very important; it seems worthwhile to investigate the relationship of students' achievement goals and approaches to learning with academic achievement. Consequently, this study aimed to investigate the relationship between achievement goal orientation (mastery, performance approach and performance avoidance), approaches to learning (deep, surface and strategic) and academic achievement of students enrolled in Bonga College of Teacher Education.

Therefore, the study tried to find out answers for the following basic research questions:

1. Is there any statistically significant relationship between students' goal orientations, such as mastery, performance approach and performance avoidance, with their academic achievement?
2. Is there any statistically significant relationship between students' approaches to learning, such as deep, surface and strategic, with their academic achievement?
3. Is there any statistically significant relationship between students' goal orientations and approaches to learning?
4. Is there statistically significant sex difference in goal orientations among students?

5. Is there statistically significant sex difference in approaches to learning of students?
6. Which goal orientation and approaches to learning variable(s) significantly predict academic achievement of students?

1.3. Objectives of the study

Basically the study is aimed at investigating the relationship between goal orientation, approaches to learning and academic achievement of college students at Bonga College of Teacher Education. More specifically, the study intends to:

- Investigate whether there is a significant relationship between students' goal orientation scores and academic achievement.
- Find out the relationship between students' approaches to learning scores with academic achievement.
- Identify whether there is a significant relationship between goal orientation and approaches to learning scores of students.
- Identify whether there is significant difference in goal orientation scores according to sex.
- Find out whether there is significant sex difference in the approaches to learning scores.
- Assess a significant predictor variable(s) of academic achievement among goal orientation and approaches to learning components.

1.4. Significance of the study

There are different determinant factors which can influence students' academic success in the educational arena. Assessing these factors in school should be the main targets of every educational research. Assessment of the relationship between college students' goal orientation, approaches to learning and academic achievement has an important leading point to make the teaching learning process effective and efficient; and to produce qualified primary school teachers in large.

To this effect, this study mainly emphasized on main variables which may relate with students' academic achievement so as to depict important theoretical as well as practical implications which may serve as a foundation for the effectiveness of the teaching learning process. Thus, the

findings of this study are expected to be an important input and source for different pertinent bodies. These include:

- It may provide useful information for teacher educators, curriculum designers and researchers to get insight into the impacts (if any) of achievement goals and learning approaches on college students' academic success, and hence planning learning activities so as to assist the students' learning.
- The finding of the study may help college instructors and officials in designing interventions to change the goal stresses in college classrooms.
- It provides an insight about the nature and extent of relationship among students' goal orientation, approaches to learning and academic achievement. It may also offer a better insight about the extent to which goal orientation and approaches to learning predict the academic achievement of college students.
- The findings may contribute to our understanding of key differences between male and female college students in their goal orientation and the way they approach their learning.
- It gives light for researchers to conduct further in-depth research at regional and national level.

1.5.Delimitation of the study

Taking the consideration of resources, the study is delimited to Bonga College of Teacher Education. From this college only second and third year students are part of the study sample due to unavailability of first year students' academic result. BCTE was selected as a study site primarily because BCTE is the researcher's place of work and hence access to data and communication with the college officials and students can be easily attained.

1.6.Limitations of the study

The following constraints may affect the findings of the study:

- Measuring instruments: one limitation of this study is the use of only self-report questionnaire to assess goal orientation and learning approaches. A disadvantage of using a self-report questionnaire is that the data obtained are based on self-report only and are not triangulated with other data sources.
- Study setting: the sample of this study comprised second and third -year college students enrolled in BCTE. Thus, the extent to which findings generalize to students in different colleges is uncertain.

1.7.Operational definition of terms

Achievement goal orientation: In the present study, goal orientation is defined in terms of mastery, performance approach and performance avoidance goal.

Mastery goal orientation: refers to students' motivation to increase one's knowledge, understanding, or skill level.

Performance approach goal orientation: refers to students' motivation to perform better than their peers.

Performance avoidance goal orientation: refers to students' focus on avoiding the perception of incompetence in comparison to others.

Approaches to learning: Approaches to learning is defined in terms of surface, deep and strategic learning approaches.

Surface approach to learning: learning with the intention towards memorization and reproduction.

Deep approach to learning: learning with the intention of understanding the material and the subject.

Strategic approach to learning: learning primarily concerned with achieving the highest possible grades.

Academic achievement: refers to learners' Standardized value of Cumulative Grade Point Average (ZCGPA) in college education.

1.8.Organization of the paper

The report of this study is organized in six chapters including this chapter that provided background of the study, statement of the problem, significance of the study etc. Chapter two presents the literature review and conceptual framework of the study. Chapter three presents the research design and methodology such as design of the study, sampling technique and sample size, data collection instruments and data analysis techniques used in the study. The fourth chapter describes the results of the study followed by chapter five that discusses findings of the study. Finally, in chapter six, summaries, major findings, conclusions and recommendations are included. Addenda to the report are annexes that include instruments and reliability test of instruments.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

Educational institutions have mostly focused on factors favoring a high academic performance in school. Among the important variables which can affect achievements in the academic setting are students' goal orientation and approaches to learning. This part of the paper tries to review literature and previous research works concerning goal orientation, approaches to learning and their relationship with academic achievement.

2.1. Achievement goal orientation

2.1.1. Definition and concepts of motivation and goal orientation

Different psychological perspectives (behavioral, cognitive, and social perspectives) explain motivation in different ways. The behavioral perspective emphasizes external rewards and punishments as keys in determining a student's motivation. The social perspectives to motivation mainly emphasizes on the need for affiliation, or relatedness with other people. According to the cognitive perspective on motivation, students' thoughts guide their motivation. The cognitive perspective focuses on the internal motivation to achieve; attributions; students' beliefs that they can effectively control their environment; and goal setting, planning, and monitoring progress toward a goal (Santrock, 2011).

The current interest in motivation in school has been fueled by the cognitive perspective (Anderman & Anderman, 2010). As to this perspective, motivation is described as "the internal processes that give behavior its energy and direction" (Dembo, 2004:10). These internal processes include goals, beliefs, perceptions, and expectations. This definition describes the role of motivation in sustaining, driving and initiating behavior.

Motivation has frequently been described as having three psychological functions (a) energizing or activating behavior, what gets students engaged in or turned off toward learning, (b) directing behavior, why one course of action is chosen over another, and (c) regulating persistence of behavior, why students persist toward goals (Ford, 1992) as cited in Alderman (2004). According

to Pintrich (1990), student motivation in the college classroom involves three interactive components: the personal and socio-cultural factors that include individual characteristics, such as the attitudes and values students bring to college based on prior personal, family, and cultural experiences; the classroom environment factors that pertain to instructional experiences in different courses; and internal factors or students' beliefs and perceptions. As to him, internal factors are influenced by both personal and socio-cultural factors and classroom environmental experiences.

Among motivational theories, achievement goal theory mainly emphasize on the motivational role of goals students adopt during their educational life. Goals are cognitive representations of the different purposes students may adopt in different achievement situations (Dweck & Elliott, 1983). Achievement goals refer to "the purposes or reasons an individual is pursuing an achievement task, most often operationalized in terms of academic learning tasks" (Pintrich, 2000: 93). Therefore, achievement goal orientation can be defined as a purpose of academic engagement. In achievement goal theory, these goals are assumed to guide students' behavior, cognition, and affect as they engage in an academic task. Students' goal orientation has been linked to contrasting patterns that students exhibit when they attend to, interpret, and respond to academic tasks (Dweck & Leggett, 1988).

Therefore, achievement goal orientations such as mastery and performance goals are assumed to reflect an organized system, theory, or schema for approaching, engaging, and evaluating one's performance in an achievement context. In this way, the term ''goal orientation'' is often used to represent the idea that achievement goals are not just simple target goals or more general goals, but represent a general orientation to the task that includes a number of related beliefs about purposes, competence, success, ability, effort, errors, and standards (Pintrich, 2000).

Within achievement goal theory research and literature different labels and terms have been used for similar goals. For example, the terms learning, task, task-involved, and mastery goals have all been used to refer to goals that orient the individual to focus on the task in terms of mastering or learning how to do the task. Labels like performance, relative ability, and ego-involved goals have been used to refer to goals that orient the individual to focus on the self, ability, or

performance relative to others (Ames, 1992; Dweck & Leggett, 1988). In the remaining part of this paper the label mastery and performance (approach/avoidance) orientations is used to describe these goal orientations.

2.1.2. Theories of motivation

Motivation research has a long history, beginning with the philosophy of William James and extending to achievement goal theories of the 1980s (Meece, Anderman, and Anderman, 2006). Many early theories explained motivated behavior in terms of drives, instincts, motives, and other internal traits (Weiner, 1992). However, throughout most of the 20th century, behaviorist theories of motivation dominated the literature. In this perspective, motivations are seen as incentives for performing a given behavior (Spence, 1960).

Cognitive approach to motivation is an important model that provides a comprehensive approach for understanding the relationship between students' beliefs and their behavior. This model is based on the work of Pintrich and his colleagues (Pintrich, 1994; Pintrich & DeGroot, 1990; Pintrich & Schrauben, 1992) as cited in Dembo and Eaton (1997), who identified three motivational components related to self-regulated behavior: a value component, which includes students' goals and beliefs about the importance and interest of the task; an expectancy component, which includes students' beliefs about their ability to perform the task; and an affective component, which includes students' emotional reactions to the task.

More contemporary theories focus on social-cognitive processes as sources of motivation. Currently this view is represented in four major theories of motivation. One of them is the attribution theories of motivation, which link achievement striving to how individuals interpret their success and failures in achievement situations (Weiner, 1992). The second social-cognitive approach to motivation, expectancy-value theory, links achievement-related behavior to individual expectancy and value perceptions (Atkinson, 1964) as cited in Smith (2005). Individuals are more likely to engage in a particular achievement task when they expect to do well and when the task has some value to them. Self-efficacy theories of motivation emphasize the importance of individual judgments of capability (Bandura, 1986). Similarly, achievement goal theory is situated in this social-cognitive view of motivation. Goal theories of motivation

focus on the types of goals individuals pursue in achievement situations. Goal theorists view behavior as purposeful, intentional, and directed towards the attainment of certain goals (Pintrich & Schunk, 2002). According to this theory, achievement goals orient individuals toward competence and help organize behavior in order to attain competence. It is one of an active area of psychological research examining motivation and learning from a social-cognitive perspective emphasizing individual goals, or the reasons why individuals believe they are pursuing an achievement-related activity (Smith, 2005). Hence, this study is based primarily on achievement goal theory.

2.1.3. Achievement goal theory

Numerous theoretical perspectives on motivation exist; one theory that has got considerable attention in recent years is achievement goal theory (also referred to as goal orientation theory). It has emerged as the dominant framework for studying achievement motivation. Achievement goal theorists focus on students' intentions or reasons for engaging, choosing, and persisting at different learning activities (Meece, Anderman, and Anderman, 2006).

Achievement goal theory integrates cognitive beliefs and emotions that focus on the underlying purpose for achieving a goal and, as such, can be adaptive or maladaptive (Dweck, 1992) as cited in Alderman (2004). Achievement goals are defined as the goals or purposes that motivate students within the academic setting (Wolters, 2004) as cited in Duff (2004). Goals give purpose and focus to the activities one is planning or performing (Pintrich, 2000). Therefore, goals are reasons individuals have for behaving in a given manner in a given situation. They exist as part of one's goal structures, one's beliefs about what is important, and they determine whether or not one will engage in a given pursuit.

Over the past two decades, achievement goal theory has emerged as one of the predominant motivational frameworks for understanding students' achievement motivation (Brophy, 2005). The achievement goal construct was developed in independent and collaborative work by Ames, Dweck, Maehr, & Nicholls (Elliot, 2005). Different goal orientation theorists developed several models (frameworks) based on their research findings since its inception.

Initially, Dweck (1986) proposed a comparable achievement goal dichotomy i.e. mastery and performance goals. Mastery goal was characterized in terms of developing ability and seeking task mastery, and was posited to lead to a wide range of positive processes and outcomes. The other goal, performance goal was characterized in terms of demonstrating ability and seeking normative competence, and was posited to lead to a wide range of negative processes. In her later writings, Dweck explicitly construed the two goals as distinct and separate forms of regulation outcomes. In other words, performance goals focus on demonstrating one's ability relative to others, whereas mastery goals focus on developing task mastery (Shaw, 2008). Therefore, students who set performance goals are focused on demonstrating their abilities to outside observers such as teachers, whereas students who set mastery goals seek to increase their competence regardless of the presence of outside observers (Kaplan & Maehr, 1999).

Earlier research based on the dichotomous framework indicates that mastery goals are associated with a range of adaptive learning variables such as effort expenditure (Jagacinski & Nicholls, 1987), preference for challenging work (Ames & Archer, 1988), persistence in the face of setbacks (Elliott & Dweck, 1988), intrinsic motivation for learning (Meece, Blumenfeld, & Hoyle, 1988), and use of effective learning strategies (Ames & Archer, 1988). In the early to mid-1990s, several reviews of achievement goal research were documented. Nearly all of these reviews rather unequivocally stated that the extant research on mastery and performance goals provided strong support for the basic hypothesis that mastery goals lead to positive processes and outcomes, whereas performance goals lead to negative processes and outcomes (Elliot, 2005). In general, the early work on goal orientation suggested that mastery goal orientations were associated with a variety of positive developmental outcomes, and performance goal orientations, with negative outcomes. Therefore, previous studies on students' goal orientation consistently revealed that mastery orientation is adaptive and related with good achievement.

But, recent findings regarding the effects of performance goals, however, are inconsistent. Findings of the available research seemed to indicate that performance goals sometimes had negative consequences and sometimes had positive consequences. Other researchers have revealed that performance goals are positively associated with such adaptive outcomes as positive academic self-concept (Wolters & Pintrich, 1996), effort expenditure on studying

(Elliot, McGregor, & Gable, 1999), and performance attainment (Barron & Harackiewicz, 2001). This pattern of results led to explicitly question the proposal that performance goals are always maladaptive. As a result, more recent models have revised this dichotomous approach by incorporating the approach-avoidance distinction of performance goal.

To clarify these discrepant findings, Elliot (1999) posited that the dichotomous achievement goal framework be revised to form a trichotomous framework. Specifically, he divided the conventional performance goal into conceptually independent approach and avoidance goals, and posited three separate achievement goals: a) a mastery goal focused on the development of competence or the attainment of task mastery, b) a performance–approach goal focused on the attainment of normative competence, and c) a performance–avoidance goal focused on the avoidance of normative incompetence. Individuals who adopt performance-avoidance goal more likely experience threat-related affect while studying, avoid seeking help with schoolwork, attempt to avoid evaluation, become anxious before and during evaluation, and procrastinate (Elliot & Church, 1997; Elliot & Harackiewicz, 1996; Skaalvik, 1997) as cited in Shih (2005). This model has shown that performance– avoidance goal produce many of the negative outcomes including poor achievement previously tied to performance goal.

This model suggests that students with performance approach goal are positively motivated to try to do better than others, while students with performance-avoidance goal are negatively motivated to try avoiding failure or appearing incompetent (Elliot, 2005). The adoption of performance-approach goals, to a large degree, reflects an emphasis on winning a competition in an achievement context (Kaplan & Middleton, 2002) as cited in Shih (2005). Students who hold a performance-approach goal orientation want to do better than their classmates so they will be recognized as competent by their peers, teachers, and parents. Students who hold a performance-avoidance goal orientation do their academic work primarily because they fear appearing incompetent (Pajares, 2001). Therefore, performance-approach goals clearly bring about different achievement-relevant processes than do performance-avoidance goals. As a result, as to the trichotomous framework, mastery and performance–approach goals were characterized as approach goals, because they focused on potential positive outcomes (improvement and normative competence, respectively), whereas performance-avoidance goals were characterized

as avoidance goals, because they focused on a potential negative outcome (normative incompetence).

Recent research based on the trichotomous model report that having a mastery goal orientation has motivational benefits, whereas having a performance-avoidance goal orientation can be detrimental (Pajares, 2001). In addition, Elliot (2005) reported that, much empirical literature supports the view that the adoption of performance–avoidance goals has many negative consequences. By contrast, performance–approach goals seem to show fewer detrimental effects and can inspire some positive consequences.

The other achievement goal framework recently incorporated in the achievement goal theory is the 2 x 2 achievement goal framework. Following the logic of separating approach and avoidance performance goals, Pintrich (2000) has suggested that there may be both approach and avoidance versions of mastery goals as well. This achievement goal framework extended the trichotomous model by adding a fourth goal: mastery-avoidance goals which focused on avoiding task-based or intrapersonal incompetence (Shaw, 2008). Pintrich (2000: 60) described these goals as "mastery–avoidance goals entail striving to avoid losing one's skills and abilities (or having their development stagnate), forgetting what one has learned, misunderstanding material, or leaving a task incomplete". According to him, these goals were characterized as mastery goals because of their focus on development and task mastery; and they were characterized as avoidance goals because of their focus on a potential negative outcome (self or task-referential incompetence). Thus, mastery–avoidance goals were expected to produce less optimal consequences than those for mastery–approach goals, but less deleterious consequences than those for performance–avoidance goals.

In sum, as to 2x2 framework, the two approach goals (mastery and performance approach) have been shown to facilitate positive outcomes (with mastery-approach goals being especially beneficial for phenomenologically based outcomes such as intrinsic motivation, and performance-approach goals being especially beneficial for performance-based outcomes). The two avoidance goals (mastery and performance avoidance) have been shown to lead to negative

achievement outcomes, with performance avoidance goals being particularly deleterious (Shaw, 2008).

According to 2x2 achievement goal framework, mastery–avoidance goals were presumed to be less prevalent than mastery– approach, performance–approach, and performance– avoidance goals. Mastery-avoidance goals have not been widely studied and difficult to find in the achievement goal literature. Thus, this study primarily based on trichotomous framework of achievement goal theory.

2.1.4. Mastery and performance (approach/avoidance) goal orientations

There is disagreement regarding the number and nature of achievement goal orientation dimensions. Common conceptualizations include two (mastery, performance), three (mastery-approach, performance-approach, and performance-avoidance), or four (mastery-approach, performance-approach, performance-avoidance, and mastery avoidance) dimensions. But, this study is mainly based on the trichotomous model of achievement goal theory.

Students can approach their coursework with a variety of goals. Some might strive to improve their knowledge of a topic, others to outperform classmates. These different achievement goals students pursue create the framework within which they interpret and react to events (Dweck & Leggett, 1988). In discussing the mastery and performance goal orientations, Meece, Anderman, & Anderman (2006) described them as:

> *A mastery goal orientation is defined in terms of a focus on developing one's abilities, mastering a new skill, trying to accomplish something challenging, and trying to understand learning materials. Success is evaluated in terms of self improvement, and students derive satisfaction from the inherent qualities of the task, such as its interest and challenge. By contrast, a performance goal orientation represents a focus on demonstrating high ability relative to others, striving to be better than others, and using social comparison standards to make judgments of ability and performance. A sense of accomplishment is derived from*

doing better than others and surpassing normative performance standards (p. 490).

Therefore, both goals concern the pursuit of competence and the assessment of one's own skill level, but they do so in different ways. When pursuing performance goals, people try to validate their ability by outperforming peers, and so they define success versus failure with normative standards. When pursuing mastery goals, they instead try to develop their ability, and so they define success versus failure with self-referential standards. Because these two goals represent different ways of defining competence, theorists have posited that they should promote distinct thoughts, feelings, and behaviors in achievement situations (Ames, 1992; Dweck & Leggett, 1988).

Students with different goal orientation show various responses during challenging circumstances. Developmental psychologists, Henderson & Dweck (1990) have found that students often show two distinct responses to difficult or challenging circumstances. Those with a performance orientation seem trapped by the experience of difficulty and they attribute their difficulty to lack of ability. Dweck & Leggett (1988) suggested several potential cognitive and affective mechanisms of debilitation for individuals who hold performance goals in the face of difficulty. These include the loss of belief in the efficacy of effort, defensive withdrawal of effort and interference of negative affect with concentration or test performance. In contrast, during challenging circumstances children who have a mastery orientation often instruct themselves to pay attention, to think carefully, and to remember strategies that have worked for them in previous situations. They frequently report feeling challenged and excited by difficult tasks, rather than being threatened by them (Anderman & Anderman, 2010).

Students with a mastery goal pattern are seeking to understand the material they are learning, master a skill, and increase their competence through their own effort. Their judgment of ability is more likely to focus on their improvement from a previous performance or the use of a standard as a criterion for achievement (Ames, 1992; Meece, 1991). They strive to increase their competence, understand or master something new. They are concerned with improvements in their own learning and are prepared to undertake challenging tasks and make mistakes in the

service of learning. Therefore, mastery goals may facilitate different experiences for students while engaging the course material and more likely to be associated with positive educational outcomes such as task engagement and an intrinsic value for learning.

In contrary, students with a performance orientation are mainly concerned to gain high marks in tests and examinations as a demonstration of their ability. They work to maintain their position relative to others in the class and strive to gain favorable judgments of their competence and to avoid negative judgments (Dweck, 1986). In a performance approach, the student concerns about the extent to which they prove their ability, while the goal for students with a performance avoidance orientation is to protect themselves from the perception that they have low ability. In either case, their judgment of their competence is based on comparisons with the performance of others (Pintich, 2000). Research results in correlational study (e.g. Middleton & Midgley, 1997) as cited in Morrone, Harkness, Ambrosio, & Caulfield (2004) revealed that performance-avoidance goals negatively predicted academic self-efficacy and positively predicted test anxiety and the avoidance of help seeking, while performance-approach goals did not significantly predict any of these outcomes. From this one can infer that performance approach goal might be adaptive in addition to mastery goal than performance avoidance goal especially in competitive educational contexts.

The goal orientation that students adopt also influences the effort they exhibit in learning tasks and the type of learning strategies they use. When students adopt a mastery goal orientation, they are more likely to have a positive attitude toward the task, monitor their own comprehension, use more complex learning strategies, and relate newly learned material with previously learned material. In contrast, students who adopt a performance orientation tend to focus on memorization and other rote learning strategies and often do not engage in problem solving and critical thinking. They do not think about what they learn, but rather look for shortcuts and quick payoffs (Dembo, 2004). Researchers (e.g. Ames & Archer, 1988) have found that goal orientation predicts different learning strategies, mastery goals foster cognitive engagement and effort. In line with this, the qualitative and quantitative analyses of Meyer, Turner & Spencer (1997) suggested challenge seekers self-reported a mastery goal orientation. In contrast,

challenge avoiders self-reported a more performance-focused goal orientation and a greater use of surface strategies i.e. strategies requiring minimal processing of information.

In sum, when students adopt a mastery goal orientation they tend to exhibit a number of pedagogically desirable behaviors including increased time on task, persistence in the face of failure, more elaborative processing and monitoring of comprehension, selection of more difficult tasks, greater creativity and risk taking, selection of deeper and more efficient performance and learning strategies, and choice of an activity in the absence of an extrinsic reward. These desirable learning behaviors in turn led the students to academic success.

2.1.5. Factors which Influence students' adoption of different goal orientation

The attitudes, beliefs, and experiences students bring to college based on their personal and socio-cultural experiences influence their motivation and behavior, and even their persistence or departure from college (Dembo, 2004). Students' adoptions of mastery, performance-approach or performance-avoidance goal orientation is also not free from these personal as well as environmental factors. Goal orientation theorists (e.g. Dweck & Leggett, 1988) documented that the goal orientation adopted by individuals are influenced by various personal and environmental factors. Supporting this, Alderman (2004) suggested that the particular goal that a student is pursuing can be influenced by the personal theory of intelligence held by the student or by contextual influences.

Regarding to the influence of implicit theories of intelligence individuals hold on their adoption of goal orientation, Dweck & Leggett (1988) suggested that the theory of intelligence that is, implicit conception about the nature of ability (entity or incremental) held by students influences whether a performance or mastery goal is adopted. The main postulate of this model is that implicit theories of intelligence determine the way students approach learning and achievement situations, the kinds of goals they adopt, and through the mediation of effort expenditure and persistence, their achievement. An entity theory of intelligence is the belief that intelligence is a fixed trait that cannot be changed. Students who subscribe to this theory believe that although people can learn new things, their underlying intelligence remains the same. In contrast, an

incremental theory of intelligence is the belief that intelligence is a malleable quality that can increase through efforts. Children with an entity view are more likely to pursue a performance goal, protecting their ability or demonstrating that they are smart. In contrast, children who have an incremental view of ability are more likely to adopt a mastery goal focus with an emphasis on developing their ability (Dweck & Leggett, 1988).

In addition, the classroom context influences students' adoption of various goal orientations. These include types of assignments given, instructor behavior, and instructional methods. Supporting this, Dembo (2004:60) stated that "student motivation and achievement is greater when instructors communicate high expectations for success, allow students to take greater responsibility for their learning, and encourage various forms of collaborative learning". Moreover, Meece, Anderman, & Anderman (2006) found considerable evidence that students show the most positive motivation and learning patterns when their school settings emphasize mastery, understanding, and improving skills and knowledge. Whereas school environments that are focused on demonstrating high ability and competing for grades can increase the academic performance of some students.

Specifically, the structure of a classroom and messages conveyed by teachers are contextual aspects that influence whether a student might have more of mastery goal or a performance goal (Ames, 1992; Turner, Meyer, Midgley, & Patrick, 2003). Classroom dimensions or cues that convey messages about the purpose of achievement include teacher expectations for learning, what is rewarded, the type of evaluations, how students are grouped, and the extent to which students have opportunities for decisions. For example, some teachers are known to differ in their use of ability grouping or competitive grading practices, which can increase the salience of performance goals. Other teachers focus on skill development, mastery, and improvement, which can lead students to adopt a mastery orientation (Meece, Anderman, & Anderman, 2006). In line with this, recent studies (e.g. Ames & Archer, 1988; Ames & Maehr, 1989; Anderman & Young, 1993) as cited in Anderman & Maehr (1994) suggest that the psychological environment of the classroom have a strong influence on the goals that students adopt. If the activities in a particular class emphasize relative ability, grades, and performance, then students are likely to adopt performance goals. In contrast, in classrooms where task-mastery, effort, and improvement are

stressed, students are more likely to adopt mastery goals. In addition, Ames (1992) claimed that evaluation procedures that focus on competition, social comparison, and external rewards can foster a performance goal orientation where the learner focuses on besting others rather than gaining a conceptual understanding of the content.

In general, the implicit theories of intelligence individuals hold and classroom goal structures influence student behavior and learning by shaping the type of personal goals that students adopt. When students perceive their classrooms or schools as emphasizing effort and understanding, they are more likely to adopt mastery-oriented goals. Conversely, students are more likely to adopt performance-oriented goals when they perceive their school environment as focused on competition for grades and social comparisons of ability.

2.1.6. The relationship between students' goal orientation and academic achievement

Academic achievement has been and remains a topic of continuing concern for societies, institutions, and the individuals. Factors that result difference in achievement are many and varied, but it is widely assumed that one of its primary elements is goals adopted by students.

Achievement goal orientations represent disparate purposes for involvement regarding academic tasks and, as such, have been linked to different achievement-related processes and outcomes. Based on literature and research findings, it is anticipated that achievement goal orientations would be prominent determinants of students' achievement behavior (Alderman, 2004). Specifically, Ames & Archer (1988) stated that students' academic goals are influential in academic performance. However, there are some disagreements and some conflicting findings on the nature of these relations.

Although some studies have experimentally done, research conducted on goal orientation mainly emphasized on correlational research design (e.g., Butler, 1992; Elliott & Dweck, 1988; Harackiewicz & Elliot, 1998; Van Yperen, 2000) as cited in Senko and Harackiewicz (2005). In both types of studies, mastery goals have been linked to educationally adaptive outcomes such as

deep learning strategies, persistence, and interest. Therefore, it is logical to anticipate mastery goal positively related with academic achievement. Supporting this, the research relying on the dichotomous conceptualization of goal orientation in relation to academic performance in college students revealed that a mastery goal orientation was positively related to successful academic performance (Eppler & Harju, 1997).

In contrast, Harackiewicz & Elliot (1998) as cited in Shih (2005) claimed that a performance goal orientation may be facilitative in settings where competitions are salient. In a competitive learning environment, college students who adopted performance goals strove to accomplish the academic work in a manner that matched the competitive nature of the learning environment. In line with this, some evidences (e.g. Elliot et al. 1999, Harackiewicz et al. 2002) as cited in Meece, Anderman, & Anderman (2006) suggest that performance-approach goals (demonstrating ability and outperforming others) are positively associated with persistence and achievement outcomes, especially for college students. In addition, based on the multiple goal perspective, Shih (2005) based on a self-report survey assessing six graders' achievement goals and their motivation, strategy use and grades on 242 sample students. The results revealed that both mastery and performance-approach goals were positively related to cognitive and metacognitive strategy used, and grades. But, there were no significant correlations between performance avoidance goals and grade. Supporting this finding, Middleton & Midgley (1997) as cited in Morrone, Harkness, Ambrosio, & Caulfield (2004) stated that performance-avoidance goals have negative effects on academic achievement.

As a result, recent achievement goal research suggests that a performance-approach may also have beneficial effects, particularly with regard to actual performance. Others stated that mastery and performance approach goals may sometimes both be beneficial in distinct ways. Classroom study has shown that mastery goals are associated with course interest, whereas performance-approach goals are associated with higher course grades (Harackiewicz, Barron, & Tauer, 2002) as cited in Senko and Harackiewicz (2005). Therefore, the research findings discussed in this paper show that there is inconsistency among studies regarding the relationship between goal orientation and academic achievement. This inconsistency may be explained due to the

difference in the goal orientation model (dichotomous, trichotomous or 2x2 goal orientation model), the data collection instrument as well as the research design used by the researchers.

But one interesting question that must be raised here is why mastery goal orientation, which is related with learning interest and deep approach to learning, not consistently related with academic achievement. Students who are mastery oriented mostly report a desire to learn and to improve their abilities, yet this personal goal is sometimes unrelated to measures of academic performance, such as grades and test scores. In part, this missing link may be due to how academic performance is measured. Most measures of achievement are not designed to assess a student's deep understanding of a concept or content area. Supporting this assumption, Grant & Dweck (2003) recently reported that mastery goals show stronger positive relations to performance measures when a high degree of challenge is present, when processing of complex or difficult material is needed, or when the learning task itself is personally valued.

2.1.7. The relationship between goal orientation and gender

Although it is not common to incorporate gender in goal orientation studies, some studies conducted on goal orientation theory also investigated the relationship between gender and the goal orientation adopted by individuals. Researchers have come up with inconsistent findings concerning the relationship between gender and goal orientation.

Some studies indicated the existence of relationship between achievement goal orientation and sex. For example, the survey study by means of a questionnaire Kwok-wai, Po-yin, Man-tak, & Phillip (2002) with 473 pre service teachers' achievement goal orientations indicated there was a significant difference in achievement goal orientations between sexes. Female students appeared to be more inclined towards performance goals than male students in the sample under study, while mastery goals remain similar between the two sex groups. In addition, in the survey study by Richardson (2007) containing a short form of the Motivated Strategies and Learning Questionnaire (MSLQ) and the Revised Approaches to Studying Inventory (RASI) using Path analysis to assess the causal relationships among 395 students' motives, attitudes and approaches to studying indicated that males tended to produce higher scores than did females on mastery

goal orientation. In Ethiopian context, Amare (2004) through correlational design found sex difference on intrinsic motivation (equivalent to mastery goal orientation) as well as extrinsic motivation (equivalent to performance goal orientation) of junior and high school students. Females scored greater mean score than males in use of intrinsic motivation to know, accomplish academic tasks and display interest in domains of learning. Again, females score higher mean than males in use of extrinsic motivation which revealed that females utilize extrinsic motivation to achieve higher than males.

In contrary, other study results confirm the idea that mastery goals are associated to a great extent with a feminine gender, while performance goals are more associated with the masculine gender (Wantzel, 2000). In connection with this, Pintrich & Schunk (2002) report more mastery goals in female students and more performance approach and avoidance goals in male students.

On the other hand, Tola (1996) in his study of sex difference in motivational orientations, he found that there was no statistically significant sex difference among high school students. This is supported by Dereje (1997) which revealed no significant sex difference in intrinsic value among students of elementary school. Likewise, in most of empirical studies on goal orientation, gender differences have not been reported as significant, so there may not be large differences in goal orientation associated with gender. The review of research findings on goal orientation and sex relationship by Hyde & Durik (2005) indicated that, many studies reveal no gender differences in self set mastery and performance achievement goals. Similarly, in educational studies there is no broadly supported theoretical model to explain gender differences in achievement goal orientation.

In sum, it is shown that students' goal orientation is not consistent or inconclusive among males and females. This inconsistency among findings might be explained due to cultural difference of the study settings. The stereotypical pattern of the home and school may affect students' adoption of various goal orientations. If the home and school culture favor one gender against the other, it may create sex difference in goal orientation. These problem, therefore, indicate the need for further investigation in the area.

2.2. Approaches to learning

2.2.1. Theoretical background of approaches to learning

One of the most important differences in the ways students learn and study involve the approaches they use. Approaches to learning are conceived as the individual differences in intentions a student has when faced with a learning task (Diseth, 2003). The term "approach" is used to signify both the learner's intention and the way in which she/he processes information.

One important starting point for consideration of individual differences in learning is an investigation of college students' approaches to reading academic articles reported by Marton & Saljo (1976). The pioneering work of Marton & Saljo (1976) established the research paradigm into Student Approaches to Learning (SAL) in educational contexts. The theoretical paradigm of SAL is based on the premise that students approach their studies for various reasons and that these reasons influence the way they go about their learning. In theoretical and practical sense, students' motives for learning affect their strategies for learning. Motive refers to "the reason why students approach learning tasks and their studies, while strategy refers to the methods and habits they engage in to accomplish the task" (Lie, Angelique, & Cheong, 2004:1).

According to Marton and Saljo (1976), when reading academic texts, students tend to adopt two qualitatively different approaches- a deep approach and a surface approach. Therefore, in 1976, Marton and Saljo's seminal work identified two approaches to learning that were adopted by students: surface and deep.

The surface approach is based on surface motives including fear of failure, or wanting just to obtain a paper qualification, and may drive students to employ such surface strategies as memorizing learning material without first comprehending it (Lie, Angelique, & Cheong, 2004). A surface approach can be thought of as a reliance on rote-learning and memorization in isolation to other ideas. Deep learning, on the other hand, is motivated by a desire for personal understanding and is demonstrated by the students' search for principles and by integration of knowledge across different learning domains (Shankar, Dubey, Binu, Subish, & Deshpande, 2006). Deep motives entail an intrinsic interest in the subject and a desire for understanding per

se, which usually drives students to deep strategies like taking the initiative to find out more about a topic and seeing interrelationships among different concepts.

Extending the work of Marton and Saljo (1976), Entwistle & Ramsden (1983) identified a third approach to learning, which is called strategic. This approach derived from an intention to obtain the highest possible grades, and relied on organized studying and awareness of assessment demands.

In sum, students approach their learning in a number of ways. The student approach to learning (SAL) tradition distinguishes between deep, surface, and strategic learning approaches (Burton & Nelson, 2005). Therefore, the current study is based on these three approaches to learning model- deep, which involves a real understanding of what is learned; surface, which involves a reproduction of what is taught to meet the minimum requirements; and strategic or achieving, which involves using such a strategy that would maximize one's grades.

2.2.2. Surface approach to learning

The surface learning approach reflects an intention to cope with the course requirements by memorizing facts and carrying out routine procedures; studying without reflecting on either purpose or strategy; treating the information as unrelated bits of knowledge; finding difficulty in making sense of new ideas, and feeling undue pressure and worry about work (Entwistle, McCune, & Walker, 2001). The surface approach to learning involves dealing with learning situations with minimum effort, responding only to compulsory demands in terms of rote memorization of details (Biggs, 1989). Similarly, Matthews (2001) described it as:

> *a learning behavior that is conceptually opposite to deep learning. It involves only as much as is needed to pass an examination or acquire a qualification. Learners using this approach do not achieve the cognitive levels of deep learning. They tend to be passive and uninvolved in the learning process itself. This is described as extrinsic learning or learning that takes place external to the individual, requiring little personal involvement (p.225).*

Therefore in the surface approach, the intention is just to cope with the task, which sees the course as unrelated bits of information which leads to much more restricted learning processes, in particular to routine memorization (Reason & Cox, 2010). This approach involved learning the minimum amount required to progress in their situation. Factors such as lack of intrinsic interest, reproductive assessment questions, formal teaching, a focus on transmitting information or excessively heavy workload have all been shown to make the adoption of a surface approach more likely (Ramsden & Entwistle, 1981) as cited in Kember, Charlesworth, Davies,McKay, & Stott (1994).

Students who utilize a Surface approach are more likely to be motivated to learn because of external rewards (Santrock, 2011). The goal of studying for a test or exam is to avoid failure, instead of grasping key concepts and understanding their relation to other information and how the information applies in other circumstances. Students using surface approach emphasize rote learning and memorization techniques (Biggs, 1989). As to Felder & Brent (2005:63) "students who adopt a surface approach to learning memorize facts but do not try to fit them into a larger context. These students commonly exhibit an extrinsic motivation to learn". They look for factual information that the instructor might consider important, which they will attempt to memorize before the exam.

2.2.3. Deep approach to learning

The concept of a deep approach to learning is associated with students' intentions to understand and to engage in meaningful learning, focusing on the main themes and principles and using strategies that are appropriate for gaining understanding (Ramsden, 2003). This approach reflects an intention to understand the material by relating ideas to previous knowledge and experience; searching for patterns and underlying principles; seeking evidence and relating it to conclusions; examining logic and argument critically; developing awareness of the learning that is occurring, and showing an active interest in the subject matter (Entwistle, McCune, & Walker, 2001). Therefore, the deep approach to learning implies dealing with academic tasks because of the intrinsic enjoyment of learning (Biggs, 1989).

When students use a deep approach, they relate concepts to each other and to their previous knowledge, and they evaluate the evidence and logic behind arguments (Prosser & Trigwell, 1999). They study to learn and are motivated to go beyond the basic requirements for passing. Their learning involves a problem-solving approach and their interest carries them beyond a superficial understanding of what they are studying. These students are actively involved in the learning process and the process involves metacognitive activities that narrow any gaps in knowledge acquisition (Biggs, 1989). Deep learners are significantly more involved with the subject matter, often performing large amounts of background reading and research to further their understanding in a genuinely enthusiastic manner (Cook & Henri, 2010). Similarly, Felder & Brent (2005) described these students as:

> *Students who take a deep approach do not simply rely on memorization of course material but focus instead on understanding it. They have an intrinsic motivation to learn, with intellectual curiosity rather than the possibility of external reward driving their efforts. They cast a critical eye on each statement or formula or analytical procedure they encounter in class or in the text and do whatever they think might help them understand it, such as restating text passages in their own words and trying to relate the new material to things they have previously learned or to everyday experience. Once the information makes sense, they try to fit it into a coherent body of knowledge (p.63).*

Therefore, a student with a deep approach is concerned with understanding and the meaning of the subject matter. Their intrinsic interest in the subject and in making progress is more important to them than marks.

In general, scholars (Biggs, 1987; Entwistle, 1993; Ramsden, 2003) generally agree that deep learning is represented by a personal commitment to understand the material which is reflected in using various strategies such as reading widely, combining a variety of resources, discussing ideas with others, reflecting on how individual pieces of information relate to larger constructs or patterns, and applying knowledge in real world situations.

2.2.4. Strategic approach to learning

The strategic approach to learning refers to the search for excellent grades through work organization (Biggs, 1989). It reflects an intention to achieve the highest possible grades by consistent effort in studying; managing time and effort; identifying good conditions and materials for studying; monitoring study effectiveness; developing alertness to assessment requirements and criteria; and working to the perceived preferences of lecturers (Entwistle, McCune, & Walker, 2001).

Students with strategic approach have two distinct focuses of concern, the academic content and the demands of the assessment system. The interest in the content is typical of a deep approach, but the alertness to assessment requirements is typically strategic (Entwistle, 1993). Similarly, Felder & Brent (2005) described these learners as:

> *Students who adopt a strategic approach do whatever it takes to get the top grade. They are well organized and efficient in their studying. They carefully assess the level of effort they need to exert to achieve their ambition, and if they can do it by staying superficial they will do so, but if the instructor's assignments and tests demand a deep approach they will respond to the demand (p. 63).*

2.2.5. The relationship between approaches to learning and academic success

Research in higher education has been repeatedly conducted on whether approaches to learning are related to students' academic outcome. The comparison of student's approaches to learning with individual performance data revealed that academic performance is related to study approach although the relationship is complex.

Logically, one might predict that deep and strategic approaches may lead to more comprehensive, higher-order learning and higher grade attainment. Fox, Stevenson, Connelly, Duff & Dunlop (2010) argue that successful students will adopt both the deep and strategic approaches to learning, thereby combining an understanding of the material with organized study and an awareness of the assessment requirements. The relationship between approaches to

learning outcomes has been substantiated in a number of research studies, both qualitative and quantitative.

The early research in this area focused primarily on differences in the quality of learning associated with the approaches to learning. In their seminal qualitative study, Marton and Saljo (1976) found that deep approaches have been associated with a higher quality of learning outcome as measured in the quality of learners' response, whilst surface approaches have been associated with unsatisfactory learning outcomes. In their study, they categorized students' written responses to questions about an article they had studied. They were interested in identifying fundamental differences in the extent to which the students had understood the meaning of the article, and students were interviewed in order to assess the approach they had used to study the article. The researchers found that the responses that demonstrated a greater understanding of the article were more likely to be produced by students who had used a deep approach than students who had used a surface approach.

In addition, the research group at the University of Gothenburg using qualitative research methods has identified these approaches are related to qualitative differences in outcomes; with the deep approach being related to high quality learning outcomes (quality of learners' response), while a surface approach is related to lower quality outcomes (Marton and Saljo 1984; Prosser and Millar 1989) as cited in Trigwell & Prosser (1991). Similarly, the finding of the study by Minbashian, Huon, & Bird (2004) on the approaches to studying and academic performance in short-essay exams found that students' overall exam grades were unrelated to the extent to which they used either the deep or the surface study approaches. Yet, the quality of exam responses was positively related to the use of the deep approach, and unrelated to the use of the surface approach. To add more, Biggs (1989) relate approaches to learning with students' learning outcomes, and found that in the essays of students ranging in level from undergraduate to postgraduate, no surface writers ever produced essays that had a more complex internal structure, while deep writers without exception produced essays with a coherent and integrated structure that was appropriate to the question. These investigations which mainly emphasized on the impact of learning approach on the quality of learning outcome revealed that students' approach

to learning has an impact on the product of learning, deep learning approach with better quality outcome.

Recent studies in the area mainly emphasized on using quantitative designs especially correlational in nature. These studies mainly assess students' approaches to learning using questionnaires such as Study Process Questionnaire (SPQ), Approaches and Study Skills Inventory for Students (ASSIST) and Revised Approaches to Studying Inventory (RASI). In their study (Shankar, Dubey, Binu, Subish, & Deshpande, 2006; Furnham, Monsen, & Ahmetoglu, 2009) found that, deep and strategic learning styles predict success while surface learning predicts failure. Academic achievement was found to be related to deep and strategic learning approaches. Burton & Nelson (2005) also studied the correlations between the different approaches to learning and academic success (GPA) of first-year psychology students learning. They found that, academic success was positively related to the strategic learning approach and negatively related to the surface learning approach.

Again, Backhaus & Liff (2007) studied on cognitive styles and approaches to studying in management education found that GPA was positively related to scores on the deep and strategic approaches. Partially supporting the above finding, Hooijer (2010) found that, strategic learning correlates positively with performance and a deep approach to learning is not significantly correlated with performance in the context of business education. It also found the negative correlation between surface learning and performance. But, Duff, Boyle, Dunleavy, & Ferguson (2004) found both deep and strategic approach positively related to academic performance, while surface approach was negatively related to academic performance, but these relationships were not significant.

In general, these previous researches employing qualitative and quantitative methods indicated that there is a relationship between approaches to learning and academic achievement, deep and strategic approach to learning more likely to predict better academic success than surface approaches to learning. In line with this, Lie, Angelique, & Cheong (2004:8) suggested that "the use of a surface approach is associated with inappropriate learning and poor grades, while

strategic approach is associated with high grades. The deep approach is deemed best, as it both stimulates optimum learning and produces good grades".

Although the findings concerning strategic approaches to learning seem consistent, studies concerning the relationship between deep approach to learning and achievement were not consistent. Studies found that deep approaches to learning are not consistently and positively related with academic achievement. For example, in their study, Burton, Taylor, Dowling, & Lawrence (n.d.) on the correlations between approaches to learning and academic success (GPA) of first year college students, found that the deep learning approach was not a significant predictor of academic success.

Therefore, it is logical to argue that the relationship between approaches to learning and academic achievement might be depending up on other situations like the assessment method used by the teachers. Deep approach to learning is predictor of academic achievement than surface approach, when assessment procedures directly reward a demonstration of conceptual understanding. In line with this, Entwistle (1998:04) noted that, "a deep approach to studying is generally related to high levels of academic achievement, but only where the assessment procedures emphasize and reward personal understanding. Otherwise, surface and strategic approaches may well prove more adaptive". Supporting this, Scouller (1998) found that the use of a deep approach was positively associated with assignment essay marks (that presumably require in depth understanding of a particular area), but not with multiple-choice exams. In the same vein, Reason & Cox (2010) argue that, because deep approaches to learning yield benefits in each specific instance, deep processing in general should be associated with improvements in generalized learning outcomes. If all other things being equal, those who have a tendency to use deep processing should achieve higher scores on measures of broad and generalized learning outcomes like critical thinking.

Thus, although the use of the deep approach has been shown to be related to the quality of learning achieved, the evidence for an association between the use of the deep approach and academic grades is unclear. Little progress has been made in explaining why a study approach that results in a better understanding of the study material, and hence learning of a higher quality,

does not also lead to higher grades. In explaining this, Busato, Prins, Elshout, & Hamaker (1998) suggested that assessment tasks generally place more emphasis on the reproduction of material than on the understanding of it, and that students are more likely to obtain good grades for the quantity of information they are able to reproduce rather than the quality of learning achieved. Assessment that mainly require factual information favor surface learners but evaluations which emphasize on quality of learning favor deep learners. In line with this, Minbashian, Huon, & Bird (2004) in their study on 49 third-year psychology students concerning approaches to studying and academic performance in short-essay exams found that students' overall exam grades were unrelated to the extent to which they used either the deep or the surface study approaches. Yet, the quality of exam responses was positively related to the use of the deep approach, and unrelated to the use of the surface approach. Similarly, Van Rossum & Schenk (1984) in their study used the Structure of the Observed Learning Outcome (SOLO) taxonomy to describe the quality of the learning outcomes of 69 first-year psychology students. Their results revealed a clear positive relationship between the observation of a deep study approach and high quality learning outcomes. The difference in quantitative learning outcomes (using average exam scores) between students using the surface or the deep approach was only significant for questions measuring insight, not for questions measuring the reproduction of knowledge.

2.2.6. Approaches to learning and gender

Studies have documented a mixed finding on the relationship between approaches to learning and gender.

Early researchers (Duff, 1999; Sadler-Smith, 1996) as cited in Hooijer (2010) found proof for gender differences in their studies among business students. Females show more of a surface approach to learning on a self-report inventory. Some recent studies (e.g. Duff, 2004; Lie, Angelique, & Cheong, 2004; Backhaus & Liff, 2007) also support the notion that female students use a more surface oriented approach to learning. Similarly, in their study of gender, approaches to learning and academic performance Paver & Gammie (2005) found that, females scored higher on the surface dimension irrespective of course. In Ethiopian context, Tola (1996) found significant sex difference in cognitive strategy use and self-regulation. Males had higher

cognitive strategy use scores than females. It seems that male students are better than female students in setting goals, comprehension monitoring, having attention in classroom, persisting at difficult academic tasks and reviewing their notes at high school level. Again, Dereje (1997) found similar result among primary school students.

However, other studies did not reveal gender differences in approaches to learning. For example, Richardson (2007), who considered the evidence for gender differences in a variety of learning approaches within higher education, concluded that there was no empirical support for gender differences in scores or ratings using quantitative instruments. In addition, Wilson et al., (1996) & Byrne et al. (1999) as cited in Hooijer (2010) found no significant differences in the approaches to learning of male and female students. Similarly, as cited in Backhaus & Liff (2007), Richardson (1993) by using the Approaches to studying inventory, and Byrne, Flood, & Willis (1997) by using Approaches and Study Skills Inventory for Students found no effect for gender on approaches to studying.

Therefore, there would appear to be no conclusive evidence to associate gender with particular approaches to learning. This view is supported by another meta-analytical study conducted by Severiens & Dam (1994) who conducted a quantitative meta-analysis of 19 studies involving the test of gender differences in learning approaches as measured by the Approaches to Studying Inventory. Although gender differences in approaches to learning are small across studies, between-studies gender differences vary dramatically and are sometimes even contradictory. They attributed these mixed and even contradictory findings of the relationships between approaches and gender to the various contexts (e.g., different countries and different subject matters) in which the empirical studies were conducted. Moreover, in educational studies there is no broadly supported theoretical model to explain gender differences in approaches to learning.

2.2.7. The relationship between approaches to learning and goal orientation

Different characteristics of students are associated with the tendency to adopt deep, surface or strategic approach. Students attempt to understand a topic (deep learning) if it is of real interest to them. On the other hand a surface approach is associated with limited interest in a task or an extrinsic motivation (Kember, Charlesworth, Davies, McKay, & Stott, 1994). Similarly, achievement goals are thought to vary across individuals, and positive and negative patterns of cognition, affect, and behavior may be evoked by the adoption of a particular achievement goal (Ames, 1992).

Numerous studies have found that students who adopt mastery goals are more likely to engage in deep cognitive processing, such as thinking about how newly learned material relates to previous knowledge and attempting to understand complex relationships. In contrast, students who adopt performance goals tend to use surface-level strategies, such as the rote memorization of facts and immediately asking the teacher for assistance when confronted with difficult academic tasks (Pintrich & Garcia, 1991). It appears that a focus on mastery goals can result in deeper cognitive processing of academic tasks than a focus on performance goals (grades, besting others), which seems to result in more surface processing and less overall cognitive engagement (Pintrich, Marx, & Boyle, 1993). In line with this, in their study Grant & Dweck (2003) found that performance goals predicted surface processing of course and mastery goals predicted deeper processing of course material. Similarly, Entwistle & Ramsden (1983) found that a deep approach was associated with intrinsic motivation, whereas a surface approach was associated with extrinsic motivation.

Biggs (1987) also identified associations among students' beliefs that education is a means of self-development, their interest in learning for its own sake (mastery goal) and learning strategies that were associated with a search for personal meaning. On the other hand, a surface approach was associated with performance goals, where courses are regarded as means of obtaining qualifications, and also with students' fear of failure. Greene & Miller (1996) as cited in Kwok-wai, Po-yin, Man-tak and Phillip (2002) through correlational design found that mastery goal score was positively correlated with meaningful cognitive engagement like deep strategy use.

But, performance goals were correlated with shallow cognitive engagement. It shows that, mastery goals of students' can influence meaningful cognitive engagement, while performance goals contribute for shallow processing. In supporting this, Dembo & Eaton (1997) suggested that if students develop a performance rather than a mastery goal orientation, the likelihood of them developing self-regulatory behavior will be greatly reduced.

However, recent researchers based on the trichotomous model have further clarified the outcomes associated with performance goals. Performance- approach and performance-avoidance goals predict different patterns of behavioral, cognitive, and affective results. It appears that both mastery and performance-approach goals support learning behaviors conducive to high achievement (compared with performance-avoidance goals). In supporting this, the results of the study conducted by Delavar, Ahadi, and Barzegar (2001) as cited in Smith (2005) on the relationship between implicit theory of intelligence, 2x2 achievement goals framework, self-regulating learning with academic achievement revealed that, mastery goals were negatively correlated with shallow strategies and positively with deep strategies. Performance-approach goals were negatively correlated with shallow strategies and positively with deep strategies and academic achievement, while performance-avoidance goals were positively correlated with shallow strategies and negatively with deep strategies. Moreover, Shih (2005) studied the role of achievement goals in children's learning based on the trichotomous framework of achievement goals. The finding indicated that mastery goals and performance-approach goals were related positively to children's cognitive strategy use and intrinsic value. Conversely, performance-avoidance goals were related negatively to students' strategy use. It appears that this inconsistency may be related to the failure, until recently, to distinguish between the approach and avoidance components of achievement goals.

Therefore, based on these research findings one can deduce that, mastery goal orientation is strongly related with deep approach to learning; performance-approach goal orientation is mainly related with strategic approach to learning and sometimes with deep approach if it is required to achieve better than others; and performance-avoidance goal is associated with surface learning approach.

2.2.8. The importance of deep approach to learning

The main objective of educational institutions is to create students who can think and solve problems based on their accumulated knowledge and experiences. Supporting this, Haskell (n.d.) said that the aim of all education, from elementary, secondary, vocational, to higher education, is to apply what students learn in different contexts, and to recognize and extend that learning to completely new situations. Based on this assumption, it is generally held that the development of a deep approach is consistent with the declared aims of higher education (Hayes et al., 1997) as cited in Duff (2004). It is because, as the quality of education increases, the productivity of the people increases and more material wealth is produced which in turn enhances the other sphere of development. As it is stated in the Education and Training Policy of Ethiopia (1994:6), the education policy of the country emphasized on "…bringing-up citizens endowed with humane outlook, countrywide responsibility and democratic values having developed the necessary productive, creative and appreciative capacity in order to participate fruitfully in development and the utilization of resources and the environment at large".

To this effect, educational institutions should emphasize to develop deep learning of students so as to promote the quality of education. Otherwise, producing productive citizens who can change their knowledge in to practice of solving problems of the country is unthinkable. To emphasize the contribution of deep approach to learning for quality of education, Ireson (2008) stated that

> *Students' learning approach is significant factor of the quality of their learning products. Meaningful learning requires more active strategies that involve deeper Processing, such as elaboration and organization. These strategies involve selecting and organizing the ideas in a text or other sources of information, rather than remembering them in the same form, and require a deeper level of processing, which leads to a deeper understanding of the material (p. 53).*

Therefore, there must be active involvement on the student's part for learning to occur. Learner involvement necessitates a deep approach to learning rather than a surface approach to maximize optimal engagement by learners in order to ensure appropriate learning activities and positive

outcomes (Biggs, 2001) as cited in Matthews (2001). When students are actively involved in deep processing of new material, they integrate, elaborate, and extend new ideas by connecting them to what they already know, considering them in other contexts, thinking of new examples and applications, noting similarities and differences (Otten, Henson, & Rugg, 2001) as cited in Santrock (2011). Along the way, students reconsider previous experience and prior learning, see new meaning in those events and ideas, and revise how they have interpreted or connected them. Thus, students who engage in these activities are more likely to remember information across a variety of contexts and problems (Entwistle & McCun, 2009).

The current world of work urges to focus on productive thinking instead of reproducing learned knowledge. To this effect, facilitating students' deep learning approach is recommended by scholars. The capacity to use deep approach to learning is influenced by different factors of the student's characteristics as well as the school environment. Several bodies of literature provide insights into the ways in which deep learning may develop over time and how such development might be supported.

Firstly, the cultures of academic institutions have an impact on students' usage of deep learning approach (Entwistle & McCun, 2009). If students could have repeated experiences of teaching learning environments that supported a deep approach, this might encourage a more lasting disposition to understand. In supporting this, the study conducted by Wierstra, Kanselaar, Linden, Lodewijks, & Vermunt (2003) on the impact of the university context on students' learning found that a learning environment characterized as student-oriented discourages reproductive learning and promotes constructive learning. From local studies, Matheas (2011) found significant relationship between students' perception of their learning environment and approaches to learning. It shows that, an environment which has good teaching and appropriate workload encourage students to adopt a desirable learning approach.

The other important factor is student characteristics such as, self confidence and conception of learning. Research evidence (e.g. Zhang & Sternberg, 2006) has indicated that the deep approach to learning as well as the meaning and application directed learning approaches are correlated with higher levels of self-confidence. In addition, students' conception of learning is another

significant individual characteristic. Students who see learning as a process of accumulating information tend to take a surface approach to learning. On the other hand, students who see learning as a process of understanding tend to look for the deeper meaning of texts and other materials they encounter (Rossum & Schenk, 1984) as cited in Ireson (2008).

In sum, to develop competence in an area of inquiry, students must have opportunities to learn with understanding. It is because, deep understanding of subject matter transforms factual information into usable knowledge so as to solve problems of the society and the country in large.

2.3. Theoretical/conceptual framework of the study

Achievement goal theory is used as one of the theoretical basis for the current study. According to achievement goal theory, goal orientations provide a framework for interpreting and reacting to events (Dweck & Leggett, 1988). In other words, goals are conceptualized as underlying purposes that a learner may adapt in guiding his or her learning behavior (Urdan, 1997). There are thought to be two primary goals that provide the reasons why students engage in achievement behavior: a mastery goal orientation, where the focus is developing one's competence, and a performance goal orientation, where the focus is demonstrating one's competence. Mastery goal orients students towards a learning approach characterizes by satisfaction upon mastery or completion of a task, with greater level of efficacy, task value, interest, positive emotion, positive effort, greater persistence, greater use of cognitive and metacognitive strategies, and good conduct (Pintrich, 2000). In contrast, performance goals orient students to ward a greater concern with their ability, and to noticing others' performance, seeming to focus them on goals of doing tasks better than others (Ames, 1992).

Traditionally, mastery goals have been associated with adaptive patterns of behavior such as adaptive motivation, emotional well-being, cognitive engagement, and achievement, whereas performance goals have been associated with less adaptive patterns (Ames, 1992). Recently, however, with the differentiation between performance-approach and performance-avoidance goals, achievement goal theorists have begun to reconsider the detrimental effects of

performance- approach goals (Pintrich, 2000). Some evidence suggests that the trichotomous framework can better explain students' motivation and learning outcome (Elliot, 1999).

Students Approaches to Learning paradigm (SAL) is also used as the second theoretical basis for this study. Approaches to learning reflect the individual differences in approaches used to achieve a particular learning task (Diseth, 2003). The student approach to learning (SAL) tradition distinguishes between deep, surface, and strategic learning approaches (Entwistle, 1993). A deep approach involves finding meaning in what is being studied to maximize understanding. A surface approach involves investing little time in the academic task and memorizing information with rote-learning. A strategic approach involves being guided by the assessment criteria and enhancing self-esteem through competition.

It is agreed that (a) goal orientation of learners are the initiating factors that shape students' individual perceptions which, in turn, form up adoption of different approaches to learning and (b) goal orientations and approaches to learning finally lead into variance in students' academic achievement. Therefore, the trichotomous model of achievement goal theory and approaches to learning (SAL paradigm) are used as the theoretical basis for the current study.

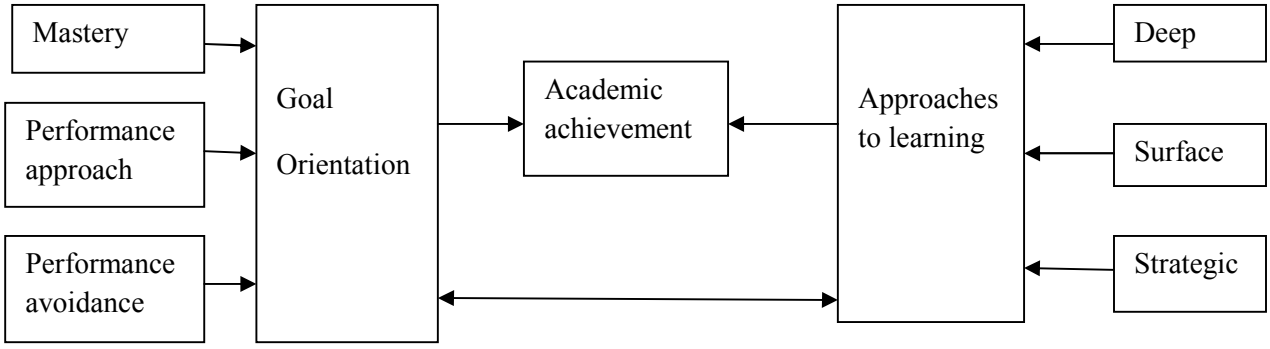

Figure1. Conceptual framework on the relationship between goal orientation, approaches to learning and academic achievement.

CHAPTER THREE

3. RESEARCH DESIGN AND METHODOLOGY

This chapter presents the description of the study design; population of the study; sampling technique, the procedure of selecting sample and sample size of the study; the data collection instrument and procedure; and data analysis techniques of the study.

3.1. Design of the study

The main purpose of the study was to investigate the relationship between achievement goal orientations (mastery, performance approach and performance avoidance) and approaches to learning (surface, deep and strategic) with the criterion variable, academic achievement of college students. Quantitative research approach was used in the study because the nature of the research questions and objectives demand numerical data and statistical data analysis techniques. To this end, the study was mainly correlational in nature.

3.2. Population, sample and sampling technique

The population of the study was second and third year students of Bonga College of Teacher Education. The sample was taken from second and third year students who joined the college during 2002 and 2003 E.C for the reason that first year students have no one semester results.

The population was found to have strata such as year and sex. Thus, before selecting samples to be included in the study, the population was stratified in to year and sex. After such stratification, proportional number of representatives was selected by using random selection techniques. Generally, the researcher used stratified random sampling technique in order to select appropriate representatives from the population of the study.

Table 1. Distribution of sample students by year of study and sex

Year	Target population			Sample		
	M	F	T	M	F	T
Second	352	128	480	102	37	139
Third	316	136	452	91	39	130
Total	668	264	932	193	76	269

Concerning the sample size, as it is shown in Table 1 above initially a total of 269 subjects were included in the study. Those subjects who had a missing data on one or more variables were deliberately omitted from the analysis. As a result, 26 respondents were rejected from the study due to missing data. However, it appeared reasonable to accept that the loss of subjects do not largely reduce the size of the sample and its representativeness. Hence, the remaining 243 subjects were included in the present analysis of the study.

3.3. Data collection instruments

The researcher used two questionnaires in order to obtain information from the sample of the study concerning students' achievement goal orientations namely mastery, performance approach and performance avoidance; and approaches to learning types namely deep, surface and strategic. These questionnaires were adapted from previous research works. These two questionnaires were translated to Amharic. These translated questionnaires were checked their language equivalency with the original scale through forward and backward translation. First the instruments were translated to Amharic and then back to English.

3.3.1. Achievement goal orientation questionnaire

Achievement goals were measured using achievement goal questionnaire that assesses a 3-dimensional conceptualization of achievement goals, which includes mastery, performance-approach, and performance-avoidance. Achievement goal orientation questionnaires were adapted from previously used scales. These scales were developed over a period of eight years by a group of researchers at the University of Michigan (Midgley et al., 1998). It has three sub-scales: mastery, performance approach and performance avoidance with six items each. Totally,

it has 18 items with five scale points that ranges from 5 (agree) to 1 (disagree). The original instrument has good reliability and the developer reported the reliability statistics α= .83 for mastery scale, α= .86 for performance approach scale and α= .74 for performance avoidance scale. Considering the cultural differences, the researcher prefers to pilot test the instrument before use for the main study. As a result, the instrument was piloted on thirty students of the same college in which the main study was conducted. The pilot study indicated that the instruments have good reliability and can be used for the main study. The reliability of each sub-scale was found as follows: mastery (α =.716); performance approach (α = .746); and performance avoidance (α =.715). The reliability statistics of instruments found in the pilot study were less than the reported reliability statistics of the original instruments. This difference may be due to the existence of contextual differences between the place it was developed and this study was conducted. But, still the instruments have acceptable reliability.

3.3.2. Approaches to learning questionnaire

The approaches to learning inventory were adapted from Entwistle, Tait, & McCune (2000). The Approaches and Study Skills Inventory for Students was developed at the Center for Research on Learning and Instruction, University of Edinburgh, Scotland. The ASSIST is based on Marton and Saljo's (1976) contrast of deep and surface learning, combined with the strategic approach to learning identified by Entwistle & Ramsden (1983).

According to Entwistle et al. (2000), surface scale items include feeling students are drowning in material and are having trouble making sense of it, not seeing relationships among ideas, and wondering if their being in the college is really worthwhile. Strategic scale items include organizing their time carefully, keeping themselves motivated, not getting distracted, putting a lot of effort into their work, and being determined to do well. Deep scale items include looking for relationships among ideas, thinking about ideas from lectures while doing other things, questioning what they read, examining the details to make sure they support the argument being made.

This instrument has 52-items which are intended to measure the three approaches to learning: deep, strategic, and surface learning approaches. It has a 5-point Likert-type scale, ranging from 1 (disagree) to 5 (agree). As Entwistle et al. (2000) reported the original instrument acceptable reliabilities for the deep (α = .84), strategic (α = .80), and surface (α = .87) learning approaches.

Initially all of the 52 items were taken and translated in to Amharic. Since some word modification was made and the instrument was developed for other countries which may have different context, it was preferred to pilot study. The translated instruments were piloted on students of the same college. The purpose of piloting was to examine the reliability and the appropriateness of the instruments. Therefore, the clarity of the items to the respondents, the adequacy of time to respond the items, and the reliability of the instrument were evaluated.

Based on the pilot study 45 items, fifteen for each sub scale were selected. The reliability of the instrument using Crombach alpha were calculated. The reliability of each sub scales was found as follows: Deep (α = .715), strategic (α =.728) and surface (α =.720).

3.4. Academic achievement

The current study used cumulative grade point average (CGPA) as the measure of academic achievement. As Zeegers (2001), GPA is a standardized measure of overall academic performance across all courses completed by the student. Aggregating marks over several courses leads to a more reliable criterion of academic success.

3.5. Data gathering procedure

The data were collected with the cooperation of two colleague instructors. The procedures of data collection were made clear for colleague instructors.

At the beginning of administering the questionnaire, administrators were briefing the respondents about the purpose and how they can fill the questionnaire. In addition, during the administration of the questionnaire, it was oriented to the respondents about the crucial importance of their frankness and objectivity in their response to the questionnaire for the effectiveness of the study. To that effect, the instruments were coded so that respondents did not required to write their identification number on the questionnaire and it was made clear that individual responses will

be kept confidential. Moreover, it was stated that in their response to the items, there is nothing to be said right or wrong; thus, they did not need to be reserved.

Two Amharic version questionnaires were distributed to sample students together other colleague instructors of the college. It was administered during the regular classes. Concerning the selected sample students' achievement, Cumulative Grade Point Average was collected from the registrar office of the college.

3.6. Variables of the study

This study deals with four major variables. These are:

- Achievement goal orientations: mastery, performance approach and performance avoidance goals.
- Approaches to learning: surface, deep and strategic approaches to learning.
- Sex: male and female as a dummy variable.
- CGPA: Cumulative Grade Point Average is used as a dependant (criterion) variable.

3.7. Scoring procedure and method of data analysis

After administering the two questionnaires, the responses were scored based on the respective nature of the questionnaires. The responses of goal orientation and approaches to learning items were scored using a 5 scale likert- type (disagree to agree) with the least score being assigned one, and the large score being assigned five (i.e. 1=disagree; 2= disagree somewhat; 3= unsure; 4 = agree somewhat; and 5= agree). The total score of each goal orientation sub scales ranges from 6 to 30. On the other hand, the total score of each approaches to learning sub scales (deep, surface and strategic) ranges from lower total score 15 to the highest total score 75.

For the analysis, the respondents' total score in each sub scale of achievement goal orientation and approaches to learning were used. Concerning students' academic achievement, the Standardized Value of Cumulative Grade Point Average (ZCGPA) was used in the analysis.

In general, the obtained data through questionnaires were entered, coded and analyzed using a Statistical Package for Social Science (version 15.0). Mean and standard deviation to describe

the data; the Pearson product moment correlation to identify the relationship among study variables; t-test to assess the significant mean score difference in goal orientations and approaches to learning components according to sex; and regression analysis to identify the significant predictor variables of academic achievement, were used in the analysis of the study.

CHAPTER FOUR

4. RESULTS OF THE STUDY

The main objective of this study was to investigate the relationship between achievement goal orientations, approaches to learning and academic achievement of college students. This chapter presents the results of the main study with respect to research questions raised.

4.1. Descriptive data on the variables of the study

The minimum score, maximum score, means and standard deviation of each variable treated in the study are presented in Table 2.

Table 2. Descriptive statistics for all subjects (N= 243)

Variables	Minimum	Maximum	Mean	SD
Mastery goal (x_1)	9	30	21.08	5.206
Performance approach goal (x_2)	9	30	19.36	4.612
Performance avoidance goal (x_3)	6	30	17.41	4.549
Deep approach to learning (x_4)	30	75	51.14	11.803
Strategic approach to learning (x_5)	29	75	50.38	11.827
Surface approach to learning (x_6)	23	66	44.69	8.501
ZCGPA *(y)	-1.55	3.01	.0000	1.000

*ZCGPA: Standardized value of Cumulative Grade Point Average

Note: SD = Standard Deviation

Table 3. Summary of descriptive statistics for males (n= 174) and females (n=69)

Variables	Minimum		Maximum		Mean		SD	
	M	F	M	F	M	F	M	F
Mastery goal (x_1)	12	9	30	29	22.46	17.59	4.895	4.278
Performance approach goal (x_2)	9	10	30	29	20.29	17.01	4.540	3.935
Performance avoidance goal (x_3)	6	10	25	30	16.61	19.42	4.344	4.464
Deep approach to learning (x_4)	30	32	75	73	52.30	48.19	12.147	10.397
Strategic approach to learning (x_5)	32	29	75	71	52.20	45.78	11.712	10.904
Surface approach to learning (x_6)	23	29	66	66	44.11	46.14	8.865	7.367
ZCGPA* (y)	-1.46	-1.55	3.01	2.33	.2087	-.5262	1.01657	.73300

*ZCGPA: Standardized value of Cumulative Grade Point Average

Note: M= male, F=female, SD= Standard Deviation

As we can see from Table 3, from goal orientation components, the mean score for male students in mastery and performance approach goal orientation is higher than female students, while the mean score for female students in performance avoidance goal orientation scale is greater than male students.

Regarding approaches to learning, the mean score for male students is higher than female students in deep and strategic approaches, whereas females scored higher in the surface approach to learning scale.

To check whether these differences in mean scores of male and female students in goal orientation and approaches to learning components are statistically significant, independent t-test was computed. The result of the independent t-test is presented in table 4 and 5.

4.2. Independent t-test result of students' goal orientation and approaches to learning scores as a function of sex

Table 4. Sex difference in goal orientation

Variables		Male (n= 174)		Female (n= 69)		t
		Mean	SD	Mean	SD	
Goal orientation	Mastery (x_1)	22.46	4.895	17.59	4.278	7.665*
	Performance approach (x_2)	20.29	4.540	17.01	3.935	5.255*
	Performance avoidance (x_3)	16.61	4.344	19.42	4.464	-4.504*

*p < .001.

Note: SD= Standard Deviation

As Table 4 shows, the mean score of male students in mastery and performance approach goals were significantly higher than the mean scores of female students (t=7.665, p< 0.001, and t= 5.255, p<0.001 respectively). Conversely, female students' mean score in performance avoidance goal orientation was significantly higher than male students (t=-4.504, p<0.001).

Table 5. Sex difference in approaches to learning

Variables		Male (n= 174)		Female (n= 69)		t
		Mean	SD	Mean	SD	
Approaches to learning	Deep (x_4)	52.30	12.147	48.19	10.397	2.649*
	Strategic (x_5)	52.20	11.712	45.78	10.904	3.927**
	Surface (x_6)	44.11	8.865	46.14	7.367	-1.690

**p< .001 *p<.01.

Note: SD= Standard Deviation

As shown in Table 5, the t-test revealed a significant gender difference in college students' deep and strategic approaches to learning. Male students had a significant higher mean score than female students in deep and strategic learning approaches (t=2.649, p< 0.01, and t=3.927, p < 0.001 respectively). But, there was no statistically significant difference between male and female students in surface approach to learning (t=-1.690, p=.092).

4.3. Analysis of the relationships between the study variables

As presented in the statement of the problem, one of the objectives of this study was determining which goal orientation and approaches to learning component is (are) related with academic achievement of college students; and the relationship among goal orientation and approaches to learning components. Accordingly, an attempt was made to determine the relationship among each of the study variables. The result of the correlation analysis is presented in table 7.

Table 6. Correlation matrix: goal orientation, approaches to learning and academic achievement.

Variables	x_1	x_2	x_3	x_4	x_5	x_6	Y
Mastery (x_1)	1						
Performance approach (x_2)	.397**	1					
Performance avoidance (x_3)	-.351**	-.242**	1				
Deep (x_4)	.539**	.411**	-.225**	1			
Strategic (x_5)	.590**	.447**	-.209**	.812**	1		
Surface (x_6)	-.144*	-.080	.325**	-.254**	-.231**	1	
Academic achievement (Y)	.241**	.252**	-.408**	.103	.147*	-.236**	1

**p< 0.01 *p< 0.05 N= 243

As depicted in Table 6, the relationship of the entire predictor variables with college students' CGPA found to be statistically significant except deep approach to learning. Mastery (r_{x1y}=0.241, p< 0.01) and performance approach (r_{x2y}= 0.252, p< 0.01) goals have small but positive relationship with college students' academic achievement, while performance avoidance goal has medium but negative relationship with academic achievement ($r_{x3y=}$-.408, p<0.01). This

analysis also revealed that there is an overlap between mastery and performance approach goal orientation scales. That is, a significant positive relationship ($r_{x1x2=}$ .397) is observed between mastery and performance approach goal orientation scores.

The relationship of students' academic achievement to strategic approach (r_{x5y}= 0.147, p< 0.05) was positive and its relation to surface approach (r_{x6y}= -0.236, p<0.01) was negative, while the results denote nonsignificant positive correlation between deep approach to learning score and academic achievement ($r_{x4y=}$ .103, p = 0.111). The result of this analysis also suggests that there is an overlap between deep and strategic approaches to learning scales of ASSIST. That is, a strong significant and positive relationship ($r_{x4x5=}$ .812) is observed between deep and strategic approaches to learning scores.

Concerning the relationship between goal orientation and approaches to learning components, a statistically significant relationship between students' goal orientations and approaches to learning was found. Mastery goal orientation has a significant positive correlation with deep and strategic approaches to learning (r_{x1x4}= 0.539, p<0.01 and r_{x1x5}=0.590, p<0.01 respectively) but it has a significant negative relationship to surface approach (r_{x1x6}=-.144, p<0.05). The positive relationship of performance-approach goal orientation to deep approach to learning (r_{x2x4}= 0.411, p<0.01) and strategic approach to learning (r_{x2x5}=.447, p<0.01) were significant, while its relation with surface approach to learning was not significant. In addition, a significant positive correlation of performance avoidance goal with surface approach to learning (r_{x3x6}=0.325, p<0.01) was found. However, performance avoidance goal orientation has a significant negative relationship with both deep (r_{x3x4}= -0.209, p<0.01) and strategic (r_{x3x5}=-0.225, p<0.01) approaches to learning.

4.4. The strength of overall relationship between goal orientation and academic achievement

The proportion of variance in academic achievement that can be explained by the combined effect of the goal orientation subscales (mastery, performance-approach, and performance-avoidance) was explored using multiple regressions. Table 7 shows the results of the multiple regressions.

Table 7. Results of regression of goal orientation onto academic achievement

Variable	B	SEB	β	t
Mastery goal (x_1)	.012	.013	.062	.933
Performance approach goal (x_2)	.031	.014	.142	2.232*
Performance avoidance goal (x_3)	-.077	.014	-.352	-5.629**

**p<.001 *p<.05

Multiple correlation coefficient was R= .440 and the coefficient of determination was R^2=.194.

The multiple correlation ($R_{y.123}$) shows a significant relationship between students' academic achievement (y) and a combination of the goal orientation components ($F_{(3,239)}$ =19.176, p<0.001). The coefficient of determination ($R^2_{y.123}$= .194) shows 19.4% of the variance in academic achievement was accounted for by the linear combination of the goal orientation components.

When the independent contributions of the correlates were scrutinized, performance approach in a positive direction (β= .142, p<.05) and performance avoidance goal in a negative direction (β= -.352, p <.001) were found significant predictors of CGPA. But, mastery goal was not significant predictor of CGPA (β=.062, p = .352).

The stepwise regression analysis was made in order to identify the relative contribution of each significant independent variable to the dependent variable. Table 8 shows the results of the stepwise multiple regression analysis on the basis of the order of importance of the goal orientation components in explaining variance in academic achievement of students.

Table 8. Summary of stepwise multiple regression of the goal orientation as predictors of academic achievement

Step	Variable entered	R	R^2	F	ΔR^2	$F(\Delta R^2)$
1	Performance avoidance goal (X_3)	.408	.166	48.027*	_	_
2	Performance approach goal (X_2)	.437	.191	28.344*	.025	7.388*

*p<.001

As shown in Table 8, when all the variables were entered into the regression equation, performance avoidance goal orientation alone could explain 16.6 % of the variance in academic achievement which was statistically significant [$F_{(1, 241)}$ =48.027, p<.001]. Performance approach goal orientation was the next best predictor. Its inclusion raised the coefficient of determination by 2.5 %. This increase in R^2 was statistically significant [$F_{(2, 240)}$ = 7.388, p<.001].

As compared to performance approach goal, performance avoidance goal accounted more for the variation in academic achievement of college students. The contribution of mastery goal orientation was very little. The increase in the coefficient of determination when mastery goal entered was 0.3 %. This indicates that there was little relationship between academic achievement and mastery goal. Table 9 shows the ANOVA summary table for the stepwise multiple regressions of performance avoidance and performance approach goals.

Table 9. ANOVA summary of stepwise multiple regression of performance approach and performance avoidance goals as predictors of academic achievement

Source	SS	df	MS	F
Regression	46.239	2	23.119	28.344*
Residual	195.761	240	.816	
Total	242.000	242		

*p<0.001

Predictors = Performance avoidance goal (x_3) and Performance approach goal (x_2)

Generally, the above results indicate that 19.1 % of the variance in academic achievement was accounted for by the combined effect of performance approach and performance avoidance goals. The remaining 80.9% was accounted for by other factors.

4.5. The strength of overall relationship between approaches to learning and academic achievement

To test whether approaches to learning are important predictors of academic achievement (CGPA), a regression analysis including the three approaches to learning was examined. Table 10 shows the results of the multiple regressions.

Table 10. Results of regression of approaches to learning onto academic achievement

Variable	B	SEB	β	t
Deep approach to learning (x_4)	-.008	.009	-.091	-.844
Strategic approach to learning (x_5)	.014	.009	.170	1.585
Surface approach to learning (x_6)	-.026	.008	-.220	-3.397*

*p<.01

Multiple correlation coefficient was R= .259 and the coefficient of determination was R^2=.067.

The multiple correlation ($R_{y.456}$) shows a significant relationship between students' academic achievement (y) and approaches to learning [$F_{(3,239)}$ =5.752, p<.001]. The coefficient of determination ($R^2_{y.456}$= .067) shows 6.7 % of the variance in academic achievement was accounted for by the linear combination of approaches to learning.

In terms of the unique contribution of the predictor within the model, surface approach to learning was a significant predictor of CGPA (β= -.220, p<.01) in the negative direction. However, the independent contribution of the other correlates (deep and strategic approaches to learning) seem statistically not significant in predicting college students' CGPA (β=-.091, p = .399; and β= .170, p = .114 respectively).

The model shows the majority of the variance in academic achievement is due to surface approach to learning. Table 11 shows the results of the stepwise multiple regression analysis on the basis of the order of importance of the approaches to learning in explaining variance in academic achievement of students.

Table 11. Summary of stepwise multiple regression of approaches to learning as predictors of academic achievement

Step	Variable entered	R	R^2	F
1	Surface approach to learning (X_6)	.236	.056	14.181*

*p<.001

As shown in Table 11, when approaches to learning were entered into the regression equation, surface approach to learning alone could explain 5.6 % of the variance in academic achievement which was statistically significant [$F_{(1, 241)}$ =14.181, p<.001]. The remaining variables of approaches to learning failed to enter in the regression model. This does not mean that the remaining variables did not contribute to the prediction of academic achievement rather statistically such contribution adds virtually no relevant and unique information to the prediction.

The increase in the coefficient of determination when deep and strategic approaches to learning entered was 1.1 %. This indicates that there was little or no relationship between academic achievement and deep approach as well as academic achievement and strategic approaches to learning. Generally, the result indicates that 5.6 % of the variance in academic achievement was accounted for by surface approaches to learning. Table 12 shows the ANOVA summary table for the stepwise multiple regressions of surface approach to learning.

Table 12. ANOVA summary of stepwise multiple regression of surface approach as predictor of academic achievement

Source	SS	df	MS	F
Regression	13.449	1	13.449	14.181*
Residual	228.551	241	.948	
Total	242.000	242		

*p<.001

Predictor= Surface approach to learning (x_6)

CHAPTER FIVE

5. DISCUSSION OF THE RESULTS

The purpose of this study was to examine the nature of relationship between goal orientation, approaches to learning, and academic achievement of college students. This part of the paper presents the discussion of the research findings based on the basic research questions raised at the beginning of the paper and in comparison with previous research findings.

5.1. Sex difference in goal orientation

The analysis of independent t-test revealed that there was a statistically significant gender difference in goal orientation scores. Male students score in mastery and performance approach goal orientations was significantly higher than female college students. This is inconsistent with Amare's (2004) finding that females scored significantly greater mean score than males in the use of intrinsic motivation to know, accomplish academic tasks and display interest in domains of learning. Again, in his study, significant sex difference was observed on the use of extrinsic motivation. Females scored higher than males which revealed that females utilize extrinsic motivation to achieve higher than males. Similarly, Pintrich & Schunk (2002) revealed that females were more intrinsically motivated, integrated and identified toward academic activities than males. Moreover, Dereje (1997) reported no significant sex difference in intrinsic motivation among students.

On the other hand, female students' mean score in performance avoidance goal orientation was significantly greater than male college students. In supporting this, Dweck (1986) found that female students exhibited higher level of performance avoidance goal orientation than male students in educational setting.

In general, the current finding shows that, male college students favor mastery and performance approach goals than performance avoidance goal, while female college students favor performance avoidance goal. This difference in goal orientation scores between college male and female students may be explained due to the cultural influence upon females. Such findings are expected to be reflections of the socio-cultural influences of parenting and upbringing on females rather than built-in differences. In supporting this view, Heilbrum, Picola, & kleemeier (1975)

suggested that, in a society which maintains sex-role distinction between masculine mastery and competitiveness versus feminine defense and non-competitiveness, the problem of achievement striving in females have been discussed thoroughly.

The different roles assigned to men and women by the culture are among the factors that influence the achievement motivation and achievement behavior among women. Frequent observation in different cultures indicated that boys have higher level of achievement motivation than girls. Such observations are indicators of the influences of the social environment. The family, being the smallest social institution, reflects cultural norms and is believed to influence achievement motivation and resulting behavior of the children (Ollendick, 1977). This is because; in many cultures ability and achievement are considered as appropriate for the masculine gender only. Females were being labeled as having low scores in achievement motivation, for they have been showing less interest on tasks that are designed by the culture as masculine trait (Meahr & Nicholls, 1980). In connection with this, Emebet (2003) notes that Ethiopian culture puts pressure on the movement and activities of female students. Tamire (2001) also contends that the Ethiopian socio-economic condition seems to be in favor of male students. In their upbringing students discover the socio-cultural rule which dictates that to achieve in a competitive environment is masculine but not feminine, and to be feminine is not to achieve. This obviously, affects directly or indirectly female students' achievement goal orientation. Females' mastery and performance approach goal orientation score, therefore, appears to be low or absent if studied in situations that are stereotyped as masculine. Thus, if the stereotypical pattern of males being more competitive than females is assumed, males might be more likely to adopt goals of besting others and trying to achieve the highest grades (performance approach goal). Therefore, there is a need for more research on gender differences in goal orientation before any strong conclusion can be drawn about the role of gender in students' goal orientation.

5.2. Sex difference in approaches to learning

Regarding the difference between male and female college students in approaches to learning scores, the current study found that there was a statistically significant difference in deep and strategic approaches to learning scores. Male college students' score was significantly higher in deep and strategic approaches to learning than female college students. But, there was no significant sex difference in scores of surface approach to learning. This shows that males are better able to relate ideas and use evidence, are more meaning-oriented in their studies, and are more interested in understanding the subject matter than are females.

This finding is supported by Richardson (2007) which revealed that male students scored higher on the deep approach to learning scale. Similarly, Tola (1996) through correlational analysis revealed that males tend to use deep approach than females. On the other hand, this finding is not in line with prior research findings (e.g. Richardson, 1993; Byrne, Flood, & Willis, 2002) which showed no significant differences between males' and females' approaches to learning. But, the finding of this study revealed that male college students scored significantly higher than college female students in deep and strategic approaches to learning, while no significant difference was found among male and female college students with regard to surface approach to learning. It is also inconsistent with the finding by Jones and Hassall (1997) who examined the difference between gender groups using independent sample t-tests and found significant difference between the scores of the male and female students in surface scale, with the female students scoring significantly higher. The current finding also contrasts with the results of Gijbels, Watering, Dochy, & Bossche (2005) in which no gender differences in the learning approaches of Irish university students.

The fact that a gender difference in respect of these subscales has been highlighted in several studies including this study may indicate that female students tend to adopt techniques that result in a surface level of understanding. In addition, this finding was also evident for females were more reliant on memorizing than was the case with their male peers. It seems that male college students are better than female students in the intention to extract meaning through relating ideas, looking for patterns and principles, using evidence, and examining the logic of the argument as well as in organization and efficiency during their study at college level.

5.3. Relationship between students' goal orientation and academic achievement

The relationship between goal orientation scores (mastery, performance approach and performance avoidance) based on self report questionnaire and college academic achievement as measured in CGPA was found statistically significant.

The study discovered a significant positive relationship between mastery goal orientation and college students' academic achievement. It is consistent with both Dweck's (1986) and Elliot's (1999) model which states, a mastery goal orientation is related to successful academic achievement. Similarly, various studies (e.g. Tola, 1996; Dereje, 1997; Meece, Anderman, & Anderman, 2006; Eppler & Harju, 1997; Howell & Watson, 2007) revealed that mastery goal orientation is positively related with academic achievement. Moreover, this study agrees with the early experimental study of Linnenbrink (2005) which found that on the average students who strongly endorse mastery goal tend to get higher scores examinations. But, the current finding is not supported by Amare (2004) which revealed negative relationship between total intrinsic score with academic achievement.

Similarly, this study found a significant positive correlation between performance approach goal score and college students' academic achievement. Regarding the relationship between performance approach goal orientation and students' academic achievement researchers have also reported different findings which are both consistent and different from the findings of the current study. This finding agrees with the ''trichotomous achievement goal framework'' (Elliot, 1999). Similarly, across 90 peer-reviewed journal articles, Linnenbrink (2005) found positive relationships between performance-approach goals and achievement in 40% of the studies, and negative relations in approximately 5% of studies. Harackiewicz and her colleagues have provided evidence that performance approach goals are linked positively to achievement in college classrooms (Harackiewicz, Barron, & Elliot, 1998; Harackiewicz et al., 2000) as cited in Pintrich (2000). Further evidence suggests that performance-approach goals (demonstrating ability and outperforming others) are positively associated with achievement outcomes, especially for college students (Howell & Watson, 2007). On the other hand, inconsistent with the current finding performance approach goal has been found to correlate negatively with academic achievement (Linnenbrink, 2005; Alderman, 2004).

The findings indicated that performance-approach goal was not maladaptive. Seeking to outperform others and maintain high social status was adaptive to both motivation and achievement and unrelated to negative affect, contrary to Dykman's (1998) as cited in Sideridis (2005) earlier propositions. The prediction that performance-approach students would be highly anxious to protect their self-worth, competence, and likability (and avoid negative evaluations) was not supported.

However, a negative significant relationship between performance avoidance goal orientation and academic achievement was found, which is consistent with Elliot's (1999) model. There is also almost unequivocal evidence to suggest that the endorsement of performance avoidance goals is detrimental to learning. It is found, as have others, that students who report a focus on not looking incompetent relative to others have lower levels of achievement (Howell & Watson, 2007; Elliot & Church, 1997; Elliot & McGregor, 2001).

In sum, the current finding revealed college students who adopted the goal of learning everything to learn as well as to score better than other students tended to score good achievement, whereas those who adopted the goal of avoiding failing to learn what there is to learn tended to score poor achievement in college education. Therefore, the results of this study support the idea of the revised goal theory (trichotomous achievement goal framework). On the basis of revised goal theory it was predicted that performance-approach and mastery goals would relate positively to achievement-related processes and achievement. The strongest support for the revised goal theory (trichotomous achievement goal framework) was that the better academic achievements of college students, in terms of CGPA, were those who scored mastery and performance approach goals highest, while those college students who scored high in performance avoidance goal tend to have lowest academic achievement. In other words, students who approached their academic work with an intrinsic value of mastering, who believed that what they learn was interesting and important by itself, and who had performance approach goal in their learning were more likely to do well in terms of academic achievement. These findings speak to the importance of separately assessing the approach and avoidance forms of performance goal orientation when determining their relationship to academic achievement. Although performance goals have been conceptualized in terms of both approach and avoidance components, much of

the research using a goal orientation framework has focused on the approach component. Therefore, it is believed that this inconsistency may be related to the failure, until recently, to distinguish between the approach and avoidance components of performance goal.

5.4. Relationship between students' approaches to learning scores and academic achievement

The relationship between approaches to learning components (deep, strategic and surface) based on ASSIST questionnaire and college academic achievement as measured in CGPA was examined.

The study found a significant positive correlation between strategic approach to learning score and college students' academic achievement, whereas a significant negative relationship was found between surface approach to learning score and academic achievement.

Unexpectedly, no significant relationship was found between deep approach to learning score and college students' academic achievement. This finding is inconsistent with earlier study of Marton & Saljo (1997) as cited in Crozier (1997) in which deep learning has positive relationship with academic achievement. It is also not supported by findings (e.g. Shankar, Dubey, Binu, Subish, & Deshpande, 2006; Furnham, Monsen, & Ahmetoglu, 2009; Backhaus & Liff, 2007; Duff, Boyle, Dunleavy, & Ferguson, 2004) which have shown a significant positive correlation of deep approach to learning with academic achievement. But, the current finding is supported by Hooijer (2010) and Howell & Watson (2007) findings which revealed that deep approach to learning is not significantly correlated with performance. The failure to find a significant positive relationship between deep approach and academic achievement is somewhat surprising. The explanation could be in the types of assessment nature used by instructors. Perhaps this finding can be attributed, in part, to the assessment techniques employed by college instructors not favor deep understanding of learners. It instead mainly emphasize on reproduction of facts, procedures etc. rather than understanding of the subject. This insignificant relationship between deep approach and academic achievement may be also attributed to teachers' emphasis on quantity of students' response instead of the quality of learners' response during scoring of

exams as well as assignments. Moreover, this finding may be attributed to the nature of data used (CGPA) to measure students academic achievement.

Regarding students' academic achievement relationship with strategic and surface approaches to learning, this study's findings are consistent with previous research findings (e.g. Duff, Boyle, Dunleavy, & Ferguson, 2004; Entwistle, 1998; Ryan, Irwin, Bannon, Mulholland, & Baird, 2004; Chamorro-Premuzic & Furnham, 2008; Paver & Gammie, 2005; Furnham, Monsen, & Ahmetoglu, 2009; Backhaus & Liff , 2007; Byrne, Flood, & Willis, 2002) in which strategic approach were positively correlated with academic performance, while surface approach was negatively correlated with academic performance. In addition, researchers (Shankar, Dubey, Binu, Subish, & Deshpande, 2006; Burton & Nelson, 2005; Furnham, Monsen, & Ahmetoglu, 2009; Backhaus & Liff, 2007; Hooijer, 2010) studied the correlation between the different approaches to learning and academic success and found that academic success was positively related to the strategic learning approach and negatively related to the surface learning approach. On the other hand, the finding of other researcher is not consistent with the current finding. For instance, Minbashian, Huon, & Bird (2004) in their study concerning approaches to learning and academic performance found that students' overall exam grades were unrelated to the extent to which they used either the deep or the surface study approaches.

Therefore, based on the findings of this study one can infer that the approaches to learning adopted by learners can determine the academic achievement of students. Students who adopt the strategic approach tend to succeed to obtain the best possible mark by effectively organizing their study time and learning environments. Thus, college students who intended to achieve high grades were successful, but those who tended to reproduce the learning material were not successful. Although deep approach to learning is more desired than the rest approaches in higher institutions, in this study a significant positive relationship was found between strategic approach and academic achievement, while the correlation between deep approach and academic achievement was not significant. This significant correlation between strategic approach score and CGPA is not surprising because these students are examination oriented and monitor their study in the context of being prepared for the examination. It is possible that students who adopt strategic approach consider the assessment scheme of the teacher, gear their effort to score good

grades, practice exam questions to maximize scores, and mainly emphasize on the basic information given by the teacher.

In general, the premise that deep learning is the most effective approach towards success appears not true for the second and third year students in Bonga College of Teacher Education of this study. However, scholars in the area advocate students' adoption of deep approach to learning in order to understand the subject matter in detail; achieve good academic achievement; transform knowledge in to new situations and attain quality of education in general. The reason deep learning is important is because students who use such an approach tend to earn higher grades, and retain, integrate and transfer information at higher rates (Biggs, 1989).

The current finding shown that a study approach that results in a better understanding of the study material, and hence learning of a higher quality, does not necessarily lead to higher grades. There are a variety of potential reasons for the failure to identify a significant positive relationship between deep approach score and CGPA. Perhaps the assessment techniques preferred by college instructors' favored those students who adopt strategic approach to learning rather than deep approach. In the literature, assessment is generally blamed for such disappointing results. Although a deep approach to learning is expected to lead to higher achievement (both in terms of higher quality outcomes and grades), the assessment system does not always reward the deep approach (Scouller, 1998; Scouller & Prosser, 1994). Entwistle, McCune, & Hounsell (2003:90) suggest that research findings vary "due to differences in the extent to which understanding is explicitly rewarded in the assessment procedure". Supporting this, scholars (e.g. Bruinsma, 2004; Provost & Bond, 1997) suggest that the assessment procedures in higher education do not reward a deep approach to learning. In addition, a recent study by Minbashian, Huon, & Bird (2004) tried to investigate this moderating effect of the type of exam questions in a study involving 49 third year psychology students using Entwistle & Tait's (1994) Revised Approaches to Studying Inventory and short essay questions. They concluded that lack of correlation between deep approach to learning and grades was not explained by a lack of understanding but because of a deficiency in the quantity of the response on the exam questions. It is believed that a deep approach may be more likely to predict academic success, when assessment procedures directly reward a demonstration of conceptual

understanding. Further research is necessary to investigate the extent to which deep approaches are beneficial to college students.

5.5. Relationship between students' goal orientation and approaches to learning scores

Understanding why students approach learning in different ways continues to be an interesting topic for educational researchers. Researchers often seek the relationship of student approaches to learning with academic achievement. The present study examined approaches to learning relationship with achievement goals of college students.

The finding revealed that, mastery goal orientation correlated positively with deep approach to learning. Consistent evidence has been found for a positive relationship between mastery goals and deep processing (e.g., Tola, 1996; Ames & Archer, 1988; Linnenbrink, 2005; Somuncuoglu & Yildirim, 1999). The present study shows that valuing learning as an end in itself and perceiving achievement as the development of skills or acquisition of new knowledge lead to increased preference for meaningful and autonomous learning processes, but decreased superficial processing. Students with a mastery goal orientation are concerned with increasing their competence and believe that effort is a key mechanism in achieving mastery. Working hard is valued in successful performance, learning situations are seen as opportunities to develop one's skills, and learning is perceived as rewarding in itself. Success is not determined through normative comparison but is self-referenced. These students are more likely to adopt deep learning approach (Elliot, McGregor, & Gable, 1999).

Moreover, it is found that mastery goal was positively related with strategic learning approach. However, mastery goal was correlated negatively with surface approach to learning. It is consistent with Somuncuoglu & Yildirim (1999) study which found a significant negative correlation between mastery orientation and surface learning.

Similarly, performance approach goal orientation was correlated positively with the scores of deep and strategic approaches to learning, yet not correlated with surface approach to learning. This is not consistent with Somuncuoglu & Yildirim (1999) findings that, performance approach goal orientation was correlated positively with the use of surface learning, yet not correlated with

deep approach. On the other hand, Meece, Blumenfeld, & Hoyle (1988) found performance approach orientation positively correlated with both deep and surface approaches to learning. One then could infer that perceiving achievement as getting high grades to outperform others, which in return is expected to enhance ego, and considering learning as a tool in that respect, brings about increased preference for deep and strategic approaches during learning. Several studies, including the present one, imply that college students who have mastery and performance approach goal orientations are better in their adoption of deep and strategic learning approach. Mastery and performance approach goals are identified as a determinant factor for the adoption of desirable approaches to learning.

On the other hand, there was a significant positive relationship between performance avoidance goal orientation and surface approach to learning, whereas performance avoidance goal orientation negatively correlated with deep and strategic approaches to learning. The finding supports findings of Meece, Blumenfeld, & Hoyle (1988). They found significant positive correlations between performance avoidance and surface approach. It also agrees with Pintrich (2000) and Somuncuoglu & Yildirim (1999) that found, performance avoidance goal was positively correlated with surface approach. However, performance avoidance was negatively correlated with deep approach. This indicates that if students adopt performance avoidance goal, less involvement is expected in meaningful and autonomous learning. This finding is logical in considering that the salient goal in performance avoidance is getting work done with the least amount of effort.

In general, consistent with original theoretical predictions of the trichotomous model (Elliot, 1999), it is found that mastery and performance approach goal orientations related positively to deep (meaningful) learning approach; and performance avoidance goal related positively to the use of surface or superficial learning approach. It implies that, a tendency to engage in deep processing was related to the mastery and performance approach goals, whereas surface processing correlated with the performance avoidance goal. In line with this finding, other researchers have demonstrated that approaches to learning adopted by students are influenced by achievement goals (e.g., Ames & Archer, 1988; Pintrich & Garcia, 1991). Therefore, the theoretical predictions of dichotomous framework which states a negative consequence of

performance goals have not always been supported by empirical evidence. Thus, one reason for the inconsistency of previous works is that researchers often combine performance-approach and performance avoidance goals even though they are opposite in terms of their effect (i.e., or the focus of the learner's concern). Learners with performance-approach goals are motivated toward displaying their competence and competing well with others, so those goals have a positive effect in competitive learning environment. In contrast, learners with performance-avoidance goals are motivated to avoid appearing incompetent, so those goals have a negative impact.

One could infer from this finding that mastery and performance approach goal orientations lead to a preference for using deeper, more meaningful and more self-regulatory behaviors and processing compared with the performance avoidance orientation; that replicates the findings of previous studies in literature which were based on the trichotomous goal orientation model. In addition, it could be interpreted that the higher the performance avoidance goal orientation score, the more surface learning approach and processing of information are used. The only noteworthy positive correlation for performance avoidance orientation was found with surface approach, which indicates that the more such an orientation is preferred, the higher the preference for short-term and rote-learning behaviors.

5.6. The strength of overall relationship between goal orientation and academic achievement

The proportion of variance in academic achievement that could be explained by the effect of goal orientation variables taken together was investigated by using multiple regression. The multiple correlation showed a significant relationship between students' academic achievement and a linear combination of goal orientation variables. The coefficient of determination shows that 19.4 % of the variance in academic achievement can be predicted from the linear combination of goal orientation variables. But, the remaining 80.6 % was explained by other factors.

5.7. Goal orientation variables accounting significantly for variation in academic achievement

A worth mentioning finding of this study with regard to the prediction of academic achievement is that, performance avoidance goal orientation has negatively contributed for the prediction of college students' academic achievement. Moreover, performance approach goal orientation contributed significantly to the prediction of college students' achievement in a positive direction. However, in contrast to expectations, mastery goal orientation did not significantly predict achievement.

In general, the result of stepwise regression analysis revealed that among goal orientation components performance approach goal orientation was a positive significant predictor and performance avoidance goal orientation was a negative significant predictor of college students' CGPA, while mastery goal orientation was not significant predictor. This insignificant contribution of mastery goal for predicting academic achievement may be due to the fact that, the study has been conducted in classrooms emphasizing normative grading standards.

5.8. The strength of overall relationship between approaches to learning and academic achievement

The proportion of variance in academic achievement that could be explained by the effect of approaches to learning taken together was investigated by using multiple regression. The multiple correlation showed a significant relationship between students' academic achievement and a linear combination of approaches to learning. The coefficient of determination shows that 6.7 % of the variance in academic achievement can be predicted from the linear combination of approaches to learning. It is supported by Burton & Nelson (2005) finding, to test the hypothesis that approaches to learning are important predictors of academic success (GPA), a regression analysis including the three approaches to learning was conducted. The result indicated that GPA was significantly predicted by approaches to learning.

5.9. Approaches to learning variables accounting significantly for variation in academic achievement

An interesting finding of this study is that, surface approach to learning negatively contributed for the prediction of college students' academic achievement. However, unexpectedly, deep and strategic approaches to learning did not significantly predict achievement. In other words, deep and strategic approaches to learning were not significantly contributing for the prediction of college students' academic achievement.

In general, the result of stepwise regression analysis revealed that among approaches to learning, surface approach to learning was a negative significant predictor of college students' CGPA, while deep and strategic approaches to learning were not significant predictor of college academic achievement. Similarly, Burton & Nelson (2005) reported that only the surface learning approach was a significant predictor of GPA of first-year psychology students, in the negative direction.

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This insignificant contribution of deep and strategic approaches to learning for predicting academic achievement may be due to the fact that, the complex nature of relationship between approaches to learning and academic achievement. Moreover, this finding might be attributed to the research design employed in the current study.

CHAPTER SIX

6. SUMMARY, CONCLUSION AND RECOMMENDATIONS

This part of the paper deals with the summary, conclusions, and recommendations made depending on the findings of the study.

6.1. Summary

The central purpose of the study was to assess the variables which can help to predict college students' academic achievement. Prominently, it was done through assessing the relationship between students' goal orientation, approaches to learning and academic achievement. In addition, differences in goal orientation and approaches to learning score as a function of gender were the objectives of this study based on the data gathered via questionnaires.

In order to achieve these objectives, the following specific research questions were formulated.

- Is there any statistically significant relationship between students' goal orientation, such as mastery, performance approach and performance avoidance, with their academic achievement?
- Is there any statistically significant relationship between students' approaches to learning, such as surface, deep and strategic approaches to learning, with their academic achievement?
- Is there any statistically significant relationship between students' goal orientations and approaches to learning?
- Is there statistically significant sex difference in goal orientation of students?
- Is there statistically significant sex difference in approaches to learning of students?
- Which goal orientation and approaches to learning variable (s) significantly predict academic achievement of students?

To this end, Bonga College of Teacher Education was the setting of the study. Samples were selected based on stratified random sampling. 269 students were involved as a sample of the study and 26 of them were not involved in the analysis due to missing data. Thus, BCTE regular students' particularly second and third year students were the main sources of data concerning goal orientation and approaches to learning; and students' academic achievement was collected from the registrar office of BCTE. A thorough review of literature was made based on the research questions raised at the beginning of the study. Data gathering instruments used to gather data were adapted and developed from previous research works. To assess students' achievement goal orientations, items assessing different achievement goals were used in the scale. These scales were developed over a period of eight years by a group of researchers at the University of Michigan (Midgley, et al., 1998) and the ASSIST which is used to gather data about students' approaches to learning was adapted from Entwistle, Tait, & McCune (2000). Before collecting actual data, pilot study was conducted by the researcher so that the instruments were tested and refined for their reliability. After refining and amending the instrument based on the pilot study the main data collection were performed in line with the pre scheduled program.

To analyze the data, descriptive statistics to present the mean, standard deviation, minimum and maximum scores of study variables; correlation to assess the relationship among variables; regression analysis to select significant predictor variables of academic achievement; and independent t-test to assess the difference in achievement goal orientations and approaches to learning scores of males and females were employed.

Based on the analysis of the data the major findings are summarized as follows.

The Pearson correlation analysis have demonstrated that the relationship of goal orientation variables with academic achievement were statistically significant. A significant positive relationship of academic achievement with mastery and performance approach goal orientation; and a significant negative relationship between performance avoidance goal orientation and academic achievement were found.

As the relations of approaches to learning variables to college academic achievement are concerned, significant positive relationship between strategic approach and academic achievement; and significant negative relationship between surface approach and academic

achievement were found. The relationship of deep approach and academic achievement was found to be not significant.

In an investigation of the relationship between students' achievement goal orientation components and approaches to learning types, a significant relationship was found. Mastery goal positively correlated with both deep and strategic approaches to learning, while negatively correlated with surface approach to learning. Performance approach goal positively correlated with both deep and strategic approaches to learning. On the other hand, performance avoidance goal related positively to surface approach to learning, and negatively related to deep and strategic approaches to learning.

With regards to sex difference in goal orientation variables, the t-test depicted significant differences between male and female college students. The mean score of male college students' in mastery and performance approach goal orientation were significantly higher than females. On the other hand, the mean score of female college students' in performance avoidance goal orientation was found significantly higher than male students. Similarly, concerning the difference in approaches to learning, a significant difference found between male and female students in deep and strategic approaches to learning. Male college students scored significantly higher than females. But, the difference in surface approach to learning was not significant.

The regression analysis demonstrated that goal orientation components have significant joint contribution to the prediction of college academic achievement. Further stepwise regression analysis showed that performance approach and performance avoidance goals are significant predictors of college academic achievement. Moreover, in the assessment of combined contribution of approaches to learning variables to the prediction of academic achievement, approaches to learning variables have significant joint contribution to the prediction of academic achievement. But, only the contribution of surface approach to learning is statistically significant.

6.2. Conclusion

Based on the major findings of the present study, the following conclusions are made:

- Goal orientation variables are found to be one of the non cognitive variables related with academic achievement of college students. It appears that students' high score in mastery and performance approach goal orientation scales were related with better academic achievement; and students' high score in performance avoidance goal orientation was related with low academic achievement. This suggests that students who score high in mastery and performance approach goal orientations had better academic achievement than students who score high in performance avoidance goal orientation. Generally, it can be concluded that students' goal orientation has its own contribution in students learning and determines college students' academic success.
- The variables strategic and surface approaches to learning were significantly related to the academic achievement of college students indicating the existence of academic achievement difference among students due to their approaches to learning. Those who are using strategic approach in college learning tend to achieve higher in their academic performance than those who are using deep and surface learning approaches.
- It appears that learning approach adopted by college students are related with achievement goal orientation. Students who have mastery and performance approach goal tend to adopt deep and strategic approaches to learning, but students with performance avoidance goal tend to adopt surface approach to learning.
- There is gender difference in achievement goal orientation among college students. The presence of significant differences between male and female in terms of total mean score of goal orientation variables reflects that, male college students tend to adopt mastery and performance approach goals, whereas females tend to adopt a performance avoidance goal.
- Gender difference exists in learning approaches among college students. Male students are more likely to use deep and strategic learning approaches than female students in the existing situation.

- Goal orientation variables taken together, do significantly predict academic achievement of college students. That is, they are jointly responsible for the variation among college students in terms of academic achievement. Regarding the relative contribution of these variables to the prediction of academic achievement, performance avoidance goal is the strongest significant predictor of college academic achievement, while performance approach goal is the next strong significant predictor of the dependent variable.
- Approaches to learning together significantly predict the academic achievement of college students. Concerning their individual contribution, of the approaches to learning, surface approach to learning is the only significant negative predictor of college academic achievement.

6.3. Recommendations

On the bases of the major findings and conclusions drawn, the following recommendations are made.

- As long as goal orientation is found to be related with academic success, early identification of students' goal orientation type is important so that students with performance avoidance goal will be helped to develop the desired goal. There may be students having above average intelligence but adopt performance avoidance goal due to some reasons. Therefore, early identification enables instructors, guidance and counseling personnel and/or concerned bodies to take appropriate measures which stimulate the desired goal and willingness of students to exert effort necessary to achieve success.
- Based on the result of this study it seems dangerous to assume wide generality regarding the relationship between deep learning approach and academic achievement. It appears that the relationship between deep learning approach and academic achievement is much more complex than found in this study. Ability, assessment methods and so on may interact with students' performance data in such a way that generalization can be difficult. Thus, it requires further research in this area using complex model so that these and other variables will be considered.
- The fact that female college students' tendency towards performance avoidance goal as well as lower mean score in deep learning approach than males implies the importance of intervention for female college students in their college education. Instructors need to ensure females are equipped with study skills to help them organize their study more effectively and to understand their learning materials at a deeper level.
- As long as performance avoidance goal and surface learning approach are significant negative predictors of college academic success, one practical implication of this finding in general is that college instructors and counselors need to think about conditions to avoid students' tendency to adopt performance avoidance goal as well as use surface approach in their education. To this effect, instructors' emphasis on improvement of students learning by employing active learning methods, using assessment techniques that place more emphasis on understanding of the subject and avoiding inappropriate workload on learners might be beneficial.

- The non-significant contribution of mastery goal among goal orientation variables; and deep learning approach to the prediction of college academic achievement may be attributed to the possible confounding effects of other extraneous factors such as prior academic achievement, self-confidence and the nature of assessment methods used. So, it would hasty to arrive at generalization that these variables do not significantly predict college academic achievement. Hence, it is believed that the consideration of these factors in the future researches would significantly improve this result.
- Finally, this research is not without its limitations, a brief consideration of which leads to possible directions for future research. For instance, this study was done at only one institution of higher education, which limits the generalizebility of the findings. Thus, further study with more institutions and large sample will help in better understanding of the case. Another characteristic of this research is that only self-reported data about study variables were collected. As a result, future research in this area could be fruitfully expanded and potentially strengthened by combining other data gathering instruments such as observation and interview; and using mixed research approach.

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Appendix - A

አዲስ አበባ ዩኒቨርሲቲ

ድህረ ምረቃ ኘሮግራም

የትምህርት ጥናትና ምርምር ተቋም

በተማሪዎች የሚሞላ መጠይቅ

<u>የተማሪዎችን የመማሪያ ዘዴ ለማወቅ የተዘጋጀ መጠይቅ</u>

የተወደዳችሁ ተማሪዎች፤ ይህ መጠይቅ የተማሪዎችን የመማሪያ ዘዴ ለማወቅ የተዘጋጀ ነው፡፡ ከዚህ በታች የቀረቡትን ጥያቄዎች በጥሞና ካነበባችሁ በኃላ ከፊት ለፊት ከተቀመጡት አማራጮች ውስጥ እናንተን ይወክላሉ የምትሉትን ቁጥር በመምረጥ የ‘X’ ምልክት በማድረግ መልስ ስጡ፡፡ ጥያቄዎች የተዘጋጁት የተማሪዎችን የመማሪያ ዘዴ ለማወቅ ሲሆን ትክክለኛም ሆነ የተሳሳተ የሚባል መልስ የላቸውም፡፡ስለዚህ የአንተ/የአንቺ ሁሉንም ጥያቄዎች በሚገባና በታማኝነት መመለስ ለጥናቱ ወሳኝ (አስፈላጊ) ስለሆነ ትክክለኛውን ምላሽ እንድትሰጥ/ጭ በአክብሮት እጠይቃለሁ፡፡ የምትሰጡት መረጃ በሚስጥር የሚጠበቅና ለምርምር ተግባር ብቻ የሚውል ነው፡፡

ስለትብብራችሁ በቅድሚያ አመሰግናለሁ!

ክፍል አንድ፤ ከዚህ በታች የሚያስፈልጉ ግለሰባዊ መረጃዎችን ሙሉ፡፡

1. የትምህርት መስክ (Department) _____
2. የትምህርት ዓመት (years of study) _____
3. ጾታ □ወንድ □ሴ

ክፍል ሁለት፤ ከዚህ በታች የተቀመጡትን አማራጮች በመጠቀም አንተን/ አንቺን ይወክላል የምትለውን/ይውን በመምረጥ ከጥያቄዎቹ ፊት ለፊት የ‘‘x’’ ምልክት አስቀምጥ/ጭ፡፡ ሁሉንም ጥያቄዎች መመለሰዎት ለጥናቱ አስፈላጊ ስለሆነ ሁሉንም ጥያቄዎች መመለሰዎትን ያረጋግጡ፡፡

1 = (አልስማማም)

2 = (በተወሰነ መልኩ አልስማማም)

3 = (እርግጠኛ አይደለሁም)

4 = (በተወሰነ መልኩ እስማማለሁ)

5 = (እስማማለሁ)

ተ.ቁ	ጥያቄ	አማራጮች				
		1	2	3	4	5
1	በጥናት ሰዓት ጥናትን ሊያቀሉልኝ የሚችሉ ሁኔታዎችን (ዘዴዎችን) አመቻቻለሁ፡፡					
2	አሳይመንቶችን በምሰራበት ወቅት የሚያርመውን መምህር እንዴት ማሳመን /ማስደሰት/ እምደምችል በማሰብ ነው፡፡					
3	አብዛኛውን ጊዜ የምማረው ትምህርት ጥቅም ስለመኖሩ እጠራጠራለሁ፡፡					
4	ዘወትር ስለምማረው ነገር ትርጉም ለመረዳት እጥራለሁ፡፡					
5	የጥናት ሰዓቴን በሚገባ ለመጠቀም ይረዳኝ ዘንድ በጥንቃቄ አቅዳለሁ፡፡					
6	ስለምማረው ነገር ጭብጡን ለመረዳት ከመሞከር ይልቅ በሸምደዳ ላይ (memorization) ትኩረት አደርጋለሁ፡፡					
7	አብዛኛውን ጊዜ እንድሰራ የተሰጠኝን ትምህርታዊ ስራ መስራት ያስቸግረኛል በማለት እጨነቃለሁ፡፡					
8	ስለማነበው ነገር መደምደሚያ ላይ ለመድረስ መረጃዎችን መሰረት አደርጋልሁ፡፡					
9	የምማረውን ትምህርት መወጣትና መስራት እንደምችል ማሰቡ ለኔ ጠቃሚ ነው፡፡					
10	የምማረውን ትምህርት ከሌሎች አርዕሰቶችና የትምህርት አይነቶች ጋር ለማገናኘት እጥራለሁ፡፡					
11	ለማለፍ ከሚጠበቅብኝ በላይ ብዙም አላነብም፡፡					
12	ሌሎች ትምህርታዊ ተግባራትን ሳከናውን የተማርኩትን ትምህርት በማሰብና በማዛመድ ነዉ፡፡					
13	ለፈተና ክለሳ በማደርግበት ወቅት በስልታዊና በተቀናጀ ሁኔታ ነው፡፡					
14	ለሚቀጥለው ትምህርት ከፍተኛ ውጤት ለማግኘት መምህራን የሚስጡኝን አስተያየት በጥንቃቄ እመለከታለሁ፡፡					
15	በጣም ጠቃሚና አስደሳች የሆነ ትምህርት እዚህ አላገኘሁም፡፡					
16	የተለያዮ ፅሁፎችንና መፅሃፎችን በማነብበት ወቅት ፀሃፊው ምን ለማስተላለፍ እንደፈለገ ለማወቅ እጥራለሁ፡፡					
17	ባብዛኛው የማነባቸው ነገሮች ትርጉም የሌላቸውና የማይገናኙ ይሆኑብኛል፡፡					
18	አዲስ ርዕስ በማነብበት ወቅት በፊት ከማውቃቸው ጋር ሃሳቦች እንዴት እንደሚዛመዱ አያለሁ፡፡					
19	አብዛኛውን ጊዜ የምሰራውን ትምህረታዊ ስራ ላልወጣው እችላለሁ በማለት እጨነቃለሁ፡፡					
20	አብዛኛውን ጊዜ ስለምማረውና ከመፅሃፍ ስለአነበብኳቸው ነገሮች እራሴን እጠይቃለሁ፡፡					

21	በምማርበት ወቅት ለማለፍ በሚረዱኝ ነጥቦች ላይ ብቻ ትኩረት አደረጋለሁ፡፡					
22	ትምህርታዊ ርዕሶችን ማንበብ (መማር) የሚያስደስት ሆኖ ነው ያገኘሁት፡፡					
23	መምህሬ እንዳነብ የሚጠቁሙኝን መፅሃፎቶች በመከታተል (በማንበብ) ረገድ ጥሩ ነኝ፡፡					
24	አሳይመንቶችን ስሰራ ማን እንደሚያርምና ምን ላይ ሊያተኩር እደሚችል ግንዛቤ ውስጥ አስገባለሁ፡፡					
25	ወደኃላ ተመልሸ ሳስብ ለምን እዚህ ለመምጣት እንደወሰንኩ ይገርመኛል፡፡					
26	በማነብበት ሰዓት ካነበብኩት ነገር ምን እንደተማርኩ ለማረጋገጥ በየመሃሉ ቆም ብዬ አስባለሁ፡፡					
27	ማንበብ ያለብኝን ነገር ፈተና ሲደርስ ከማንበብ ይልቅ መንፈቅ አመቱን (ሴሚስተሩን) ሙሉ ትኩረት በመስጠት አነባለሁ፡፡					
28	በምማርበት ወቅት የትምህርቱን ጭብጥ (ዋና ዋና ነጥቦች) ለማወቅ ስለሚያስቸግረኝ ሁሉንም ለመያዝ እሞክራለሁ፡፡					
29	ከመፅሃፍት የማገኛቸው ሃሳቦች ብዙውን ጊዜ የተለያዩ ሃሳቦችን እንድመለከት ያደርጉኛል፡፡					
30	አሳይመንት ወይም የፈተና ጥያቄዎችን ከመስራቴ በፊት እንዴት ብሰራዉ የተሻለ ውጤት ማግኘት እንደሚቻል አስባለሁ፡፡					
31	አብዛኛውን ጊዜ መስራት ያለብኝን ትምህርታዊ ተግባር ካላጠናቀቅሁ ከፍተኛ የሆነ ጭንቀት ይሰማኛል፡፡					
32	በማነብበት ሰዓት የማነበው ነገር ከነባራዊ ሁኔታ ጋር እንዴት ሊገናኝ(ሊጣጣም) እንደሚችል በጥልቀትና በጥንቃቄ እመዘነዋለሁ፡፡					
33	ጥሩ ውጤት ማምጣት አለብኝ ብዬ ስለወሰንኩ ሙሉ ሃይሌን በጥናት ላይ አሳልፋለሁ፡፡					
34	በምማራቸዉ የትምህርት አይነቶች ውስጥ ያገኘኋቸውን የተወሰኑ ሃሳቦች አትኩሮት የሚስቡ ሆነው አግኝቻቸዋለሁ፡፡					
35	በሳምንቱ ውስጥ የማከናውናቸውን ስራዎች ቀደም ብዬ በወረቀት ላይ ወይም በአእምሮየ አቅዳለሁ፡፡					
36	በማጠናበት ወቅት መምህሩ ጠቃሚ ነው በሚልበትና በሚያተኩርበት ላይ ትኩረት አደርጋለሁ፡፡					
37	በምማራቸው የትምህርት አይነቶች ደስተኛ አይደለሁም ነገር ግን መማር ስላለብኝ ብቻ ነው የምማረው፡፡					
38	አንድን አሳይመንት ወይም ጥያቄ ከመስራቴ በፊት ጥያቄውን በጥልቀት ለመረዳት እሞክራለሁ፡፡					
39	በአጠቃላይ በቀን ውስጥ ያለኝን ሰዓት በትክክል እጠቀማለሁ፡፡					

40	አብዛኛውን ጊዜ ማስታወስ ያለብኝ ነገሮች የተቆራረጡና ትርጉም አልባ ይሆኑብኛል፡፡					
41	የሰራሁትን ስራ በማገባድድበት ጊዜ የሚያስፈልጉ ነገሮች መሟላታቸዉን (መካተታቸዉን) አረጋግጣለሁ፡፡					
42	አብዛኛውን ጊዜ መስራት እንደማልችል በሚሰማኝ ነገሮች ላይ እጨነቃለሁ፡፡					
43	ከምማረው ነገር ጀርባ ያለውን ምክንያት ማወቅ ለኔ ጠቃሚ ነው፡፡					
44	አሳይመንቶች ወይም ሌሎች ትምህረታዊ ተግባራት ላይ ምን መስራት እንዳለብኝ በግልጽ እንዲነገረኝ እፈልጋለሁ፡፡					
45	አንዳንድ ጊዜ በትምህርታዊ ርዕሶች (ሃሳቦች) ላይ እመሰጥና ለብዙ ጊዜ ማንበብ እወዳለሁ ፡፡					

ADDIS ABABA UNIVERSITY

INSTITUTE OF EDUCATIONAL RESEARCH

Questionnaire to be filled by Students

Questionnaire designed to know students' approaches to learning

The main objective of this questionnaire is to know students' approaches to learning. It has been designed to allow you to describe how you go about learning and studying. Please read this questionnaire thoroughly and answer the questions carefully. Tick (X) one of the scale phrases mentioned below for expressing to what extent you agree with each one of the statements describing how approach your learning and studying. The questions have no right or wrong answers rather they are prepared to know your approaches to learning. So your genuine response is highly required for the effectiveness of the study. The information you will provide is confidential and will be used for scientific research only.

Thank you in advance for your cooperation!

Part one - Background information

Department _____

Year of study _____

Sex _____

Part two - Based on the given alternatives make 'X' sign after each item depending upon the degree to which each item says about you. It is also very important that you answer all the questions.

5 **=** *Agree*

4 *= agree somewhat*

3 = *unsure*

2 = *disagree somewhat*

1 = *disagree*

No.	Items	Options				
		1	2	3	4	5
1.	I manage to find conditions for studying which allow me to get on with my work easily.					
2	When working on an assignment, I'm keeping in mind how best to impress the marker.					
3.	Often I find myself wondering whether the work I am doing here is really worthwhile.					
4.	I usually set out to understand for myself the meaning of what we have to learn.					
5	I organize my study time carefully to make the best use of it.					
6.	I find I have to concentrate on just memorizing a good deal of what I have to learn.					
7.	Often I feel I'm drowning in the sheer amount of material I have to cope with.					
8.	I look at the evidence carefully and try to reach my own conclusion about what I'm studying.					
9.	It's important for me to feel that I'm doing as well as I really can what I learn here.					
10.	I try to relate ideas.					
11.	I tend to read very little beyond what is actually required to pass.					
12.	Regularly I find myself thinking about ideas from lectures when I'm doing other things.					
13.	I think I'm quite systematic and organized when it comes to revising for exams.					
14.	I look carefully at teachers' comments on course work to see how to get higher marks next time.					
15.	There's not much of the work here that I find interesting or relevant.					

16.	When I read an article or book, I try to find out for myself exactly what the author means.					
17.	Much of what I'm studying makes little sense: it's like unrelated bits and pieces.					
18.	When I'm working on a new topic, I try to see in my own mind how all the ideas fit together.					
19.	I often worry about whether I'll ever be able to cope with the work properly.					
20.	Often I find myself questioning things I hear in lectures or read in books.					
21.	I concentrate on learning just those bits of information I have to know to pass.					
22.	I find that studying academic topics can be quite exciting at times.					
23.	I'm good at following up some of the reading suggested by lecturers.					
24.	I keep in mind who is going to mark an assignment and what they're likely to be looking for.					
25.	When I look back, I sometimes wonder why I ever decided to come here.					
26.	When I am reading, I stop from time to time to reflect on what I am trying to learn from it.					
27.	I work steadily through the term or semester, rather than leave it all until the last minute.					
28.	I'm not really sure what's important in lectures so I try to get down all I can.					
29.	Ideas in course books or articles often set me off on long chains of thought of my own.					
30.	Before starting work on an assignment or exam question, I think first how best to tackle it.					
31.	I often seem to panic if I get behind with my work.					
32.	When I read, I examine the details carefully to see how they fit in with what's being said.					
33.	I put a lot of effort into studying because I'm determined to do well.					
34.	Some of the ideas I come across on the course I find really gripping.					
35.	I usually plan out my week's work in advance, either on paper or in my					

	head.					
36. 336	I keep an eye open for what lecturers seem to think is important and concentrate on that.					
37.	I'm not really interested in learning here, but I have to take it for other reasons.					
38.	Before tackling a problem or assignment, I first try to work out what lies behind it.					
39.	I generally make good use of my time during the day.					
40.	I often have trouble in making sense of the things I have to remember.					
41.	When I finish a piece of work, I check it through to see if it really meets the requirements.					
42.	Often I lie awake worrying about work I think I won't be able to do.					
43.	It's important for me to be able to follow the argument, or to see the reason behind things.					
44.	I like to be told precisely what to do in essays or other assignments.					
45.	I sometimes get 'hooked' on academic topics and feel I would like to keep on studying them.					

Approaches to learning (deep, strategic and surface) Subscales

- Deep Approaches to Learning
  4, 8, 10, 12, 16, 18, 20, 22, 26, 29, 32, 34, 38, 43, & 45
- Strategic Approaches to Learning
  1, 2, 5, 9, 13, 14, 23, 24,27,30,33,35,36,39, & 41
- Surface Approaches to Learning
  3,6,7,11,15,17,19,21,25,28,31, 37, 40, 42, & 44

Appendix -B

አዲስ አበባ ዩኒቨርሲቲ

ድህረ ምረቃ ፕሮግራም

የትምህርት ጥናትና ምርምር ተቋም

በተማሪዎች የሚሞላ መጠይቅ

የተማሪዎችን ግብ ተኮር የትምህርት ተነሳሽነት ሁኔታ ለማወቅ የተዘጋጀ መጠይቅ

የተወደዳችሁ ተማሪዎች፤ ይህ መጠይቅ የተማሪዎችን ግብ ተኮር የትምህርት ተነሳሽነት ሁኔታ ለማወቅ የተዘጋጀ ነው፡፡ ከዚህ በታች የቀረቡትን ጥያቄዎች በጥሞና ካነበባችሁ በኃላ ከፊት ለፊት ከተቀመጡት አማራጮች ውስጥ እናንተን ይወክላሉ የምትሉትን ቁጥር በመምረጥ የ‘X’ ምልክት በማድረግ መልስ ስጡ፡፡ ጥያቄዎች የተዘጋጁት የተማሪዎችን ግብ ተኮር የትምህርት ተነሳሽነት ሁኔታ ለማወቅ ሲሆን ትክክለኛም ሆነ የተሳሳተ የሚባል መልስ የላቸውም፡፡ስለዚህ የአንተ/የአንቺ ሁሉንም ጥያቄዎች በሚገባና በታማኝነት መመለስ ለጥናቱ ወሳኝ (አስፈላጊ) ስለሆነ ትክክለኛውን ምላሽ እንድትሰጥ/ጭ በአክብሮት እጠይቃለሁ፡፡ የምትሰጡት መረጃ በሚስጥር የሚጠበቅና ለምርምር ተግባር ብቻ የሚውል ነው፡፡

ስለትብብራችሁ በቅድሚያ አመሰግናለሁ!

ክፍል አንድ፤ ከዚህ በታች የሚያስፈልጉ ግለሰባዊ መረጃዎችን ሙሉ፡፡

1. የትምህርት መስክ (Department) _____
2. የትምህርት ዓመት (years of study) _____
3. ጾታ ☐ወንድ ☐ሴ

ክፍል ሁለት፤ ከዚህ በታች የተቀመጡትን አማራጮች በመጠቀም አንተን/ አንቺን ይወክላል የምትለውን/ይውን በመምረጥ ከጥያቄዎቹ ፊት ለፊት የ“x” ምልክት አስቀምጥ/ጭ፡፡ሁሉንም ጥያቄዎች መመለሰዎት ለጥናቱ አስፈላጊ ስለሆነ ሁሉንም ጥያቄዎች መመለሰዎትን ያረጋግጡ፡፡

1 = (አልስማማም)

2 = (በተወሰነ መልኩ አልስማማም)

3 = (እርግጠኛ አይደለሁም)

4 = (በተወሰነ መልኩ እስማማለሁ)

5 = (እስማማለሁ)

ተ.ቁ	ጥያቄ	አማራጮች				
		1	2	3	4	5
1	ምንም እንኳ ብዙ ስህተቶችን ብሰራ ትምህርት የምቀስምባቸውን (የምማርባቸውን)የትምህርት ቤት ተግባራትን አወዳለሁ፡፡					
2	ትምህርታዊ ተግባራትን የማከናውንበት ዋነኛ ምክንያት አዳዲስ ነገሮችን መማር ስለምወድ ነው፡፡					
3	እንዳስብና እንድመራመር የሚያደርጉኝን የትምህርት ተግባራት በጣም እወዳለሁ፡፡					
4	ትምህርታዊ ተግባራትን የማከናውንበት ዋነኛ ምክንያት ከትምህርቱ የተሻለ እውቀት ለማግኘት ነው፡፡					
5	ትምህርታዊ ተግባራትን የማከናውነው ፍላጐቱ ስላለኝ ነው፡፡					
6	ትምህርታዊ ተግባራትን የማከናውንበት ዋነኛ ምክንያት መማር ስለሚ ያስደስተኝ ነው፡፡					
7	በክፍል ውስጥ የመምህሩን ጥያቄ መመለስ የምችል ብቸኛው ተማሪ እኔ ብሆን ደስ ይለኛል፡፡					
8	የክፍል ጓደኞቼ በትምህርት ከሌሎች የተሻልኩ እንደሆንኩ ማሰባቸው ለኔ ጠቃሚ ነው፡፡፡					
9	በትምህርቴ ከክፍል ጓደኞቼ የተሻለ መስራት እፈልጋለሁ፡፡					
10	ከብዙዎቹ የክፍል ጓደኞቼ የተሻለ ከሰራሁ በትምህርቴ ስኬታማ እንደሆንኩ ይሰማኛል፡፡					
11	ለመምህራን ከሌሎች የክፍል ጓደኞቸ በትምህርት የተሻልኩ መሆኔን ማሳየት አፈልጋለሁ፡፡					
12	ከሌሎች የክፍል ተማሪዎች የተሻለ መስራት ለኔ ጠቃሚ ነው፡፡					
13	በትምህርት ሰነፍ መስሎ አለመታየቴ ለኔ በጣም ጠቃሚ ነው፡፡					
14	ትምህርታዊ ተግባራትን የማከናውንበት ዋንኛ ምክንያት ላለመሸማቀቅ ነው፡፡					
15	ትምህርታዊ ተግባራትን የማከናውንበት ምክንያት መምህራን በትምህርት ከሌሎች ተማሪዎች በታች እንደሆንኩ እንዳያውቁብኝ (አንዳይገምቱ) ነው፡፡					

16	የትምህርት ተግባራትን የማከናውነው ሌሎች ተማሪዎች ምንም የማላውቅ መሆኔን እንዳያውቁ (እንዳይገምቱ) ነው፡፡					
17	በክፍል ትምህርት ላይ የማልሳተፈው ድክመቴን ላለማሳወቅ ነው፡፡					
18	ለእኔ አንደኛውና ዋንኛው አላማዬ ትምህርታዊ ተግባራትን መስራት አለመቻሌን መሸፈን (አለማሳወቅ) ነው፡፡					

ADDIS ABABA UNIVERSITY

INSTITUTE OF EDUCATIONAL RESEARCH

Questionnaire to be filled by Students

Questionnaire designed to know Students' goal orientation

The main objective of this questionnaire is to know students' goal orientation in their learning context. It has been designed to allow you to describe your goal orientation in the educational context. Please read this questionnaire thoroughly and answer the questions carefully. Tick (X) one of the scale phrases mentioned below for expressing to what extent you agree with each one of the statements describing your goal orientation. The questions have no right or wrong answers rather they are prepared to know your goal orientation. So your genuine response is highly required for the effectiveness of the study. The information you will provide is confidential and will be used for scientific research only.

Thank you in advance for your cooperation!

Part one - Background information

Department _____

Year of study _____

Sex _____

Part two - Based on the given alternatives make 'X' sign after each item depending upon the degree to which each item says about you. It is also very important that you answer all the questions.

5 = *Agree*

4 = *agree somewhat*

3 = *unsure*

2 = *disagree somewhat*

1 = *disagree*

No	Items	1	2	3	4	5
1	I like school work that I'll learn from, even if I make a lot of mistakes.					
2	An important reason why I do my school work is because I like to learn new things.					
3	I like school work best when it really makes me think.					
4	An important reason why I do my work in school is because I want to get better at it.					
5	I do my school work because I'm interested in it.					
6	An important reason I do my school work is because I enjoy it.					
7	I would feel really good if I were the only one who could answer the teachers' questions in class.					
8	It's important to me that the other students in my classes think that I am good at my work.					
9	I want to do better than other students in my classes.					
10	I would feel successful in school if I did better than most of the other students.					
11	I'd like to show my teachers that I'm smarter than the other students in my classes.					
12	Doing better than other students in school is important to me.					
13	It's very important to me that I don't look stupid in my classes.					
14	An important reason I do my school work is so that I don't embarrass myself.					
15	The reason I do my school work is so my teachers don't think I know less than others.					
16	The reason I do my work is so others won't think I'm dumb.					
17	One reason I would not participate in class is to avoid looking stupid.					
18	One of my main goals is to avoid looking like I can't do my work.					

Achievement goal orientation (mastery, performance approach and performance avoidance) Subscales

- Mastery goal orientation
  1, 2, 3, 4, 5, & 6
- Performance approach goal orientation
  7, 8, 9, 10, 11, & 12
- Performance avoidance goal orientation
  13, 14,15,16,17, & 18

Appendix - C

Reliability results from goal orientation sub scales pilot test

i) Mastery goal orientation questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 6

Reliability Statistics: Alpha= .716

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
M1	21.00	12.276	.312	.243	.714
M2	21.37	9.620	.507	.345	.658
M3	20.97	11.275	.316	.178	.713
M4	20.97	9.482	.569	.373	.639
M5	21.37	8.516	.577	.413	.632
M6	21.50	9.776	.429	.271	.685

ii) Performance approach goal orientation questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 6

Reliability Statistics: Alpha= .746

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PA1	18.77	16.668	.467	.414	.714
PA2	19.37	16.102	.449	.341	.719
PA3	19.03	15.206	.619	.668	.673
PA4	18.70	16.079	.606	.645	.683
PA5	18.57	15.909	.662	.565	.672
PA6	19.90	15.679	.281	.218	.797

iii) Performance avoidance goal orientation questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 6

Reliability Statistics: Alpha= .715

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PAV1	20.07	13.582	.427	.367	.682
PAV2	20.17	13.454	.341	.378	.712
PAV3	20.20	12.028	.586	.690	.630
PAV4	20.30	13.252	.357	.302	.708
PAV5	20.03	13.068	.518	.676	.656
PAV6	19.90	13.817	.503	.685	.665

Appendix - D

Reliability results from approaches to learning sub scales pilot tests

i) Deep approach to learning questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 15

Reliability Statistics: Alpha= .715

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
D1	59.83	38.213	.354	.838	.697
D2	59.33	42.023	.229	.512	.710
D3	59.83	37.454	.421	.719	.688
D4	59.27	41.582	.341	.758	.701
D5	59.63	43.551	.105	.667	.721
D6	59.30	40.148	.501	.818	.687
D7	59.83	33.799	.720	.861	.643
D8	59.37	42.171	.380	.460	.701
D9	59.37	39.620	.388	.592	.693
D10	59.50	42.603	.155	.624	.718
D11	59.83	38.902	.357	.644	.696
D12	59.90	40.024	.253	.445	.711
D13	59.57	42.806	.121	.626	.722
D14	59.57	38.323	.373	.829	.694
D15	59.53	42.947	.139	.701	.719

ii) Strategic approach to learning questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 15

Reliability Statistics: Alpha= .728

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
ST1	52.90	59.610	.478	.671	.702
ST2	54.23	56.323	.358	.429	.712
ST3	52.97	62.240	.337	.750	.715
ST4	53.87	54.326	.489	.588	.693
ST5	52.87	63.499	.232	.692	.723
ST6	53.23	64.530	.135	.713	.731
ST7	53.97	56.516	.355	.703	.712
ST8	53.57	63.013	.182	.577	.728
ST9	53.33	61.609	.260	.644	.721
ST10	53.63	59.482	.238	.776	.728
ST11	53.03	58.723	.498	.755	.699
ST12	53.03	58.930	.374	.796	.709
ST13	53.57	56.254	.422	.677	.702
ST14	53.50	61.500	.407	.648	.710
ST15	53.10	63.197	.313	.652	.717

iii) Surface approach to learning questionnaires

Reliability analysis—Scale (alpha)

Number of cases= 30

Number of items= 15

Reliability Statistics: Alpha= .720

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
S1	60.67	20.782	.156	.422	.720
S2	60.80	18.510	.416	.680	.695
S3	60.43	20.599	.126	.392	.725
S4	60.77	20.668	.239	.385	.714
S5	60.60	19.903	.281	.765	.710
S6	60.43	18.323	.503	.540	.686
S7	60.43	18.875	.402	.613	.697
S8	60.37	19.206	.433	.617	.696
S9	60.50	19.914	.299	.693	.709
S10	60.37	20.033	.198	.724	.719
S11	61.43	15.840	.386	.540	.713
S12	60.53	17.706	.537	.402	.679
S13	60.20	18.303	.585	.688	.680
S14	60.37	20.861	.099	.603	.726
S15	60.23	19.771	.285	.404	.710

DECLARATION

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of materials used for the thesis have been duly acknowledged.

Name: _____

Signature: _____

Date of submission:_____

This thesis has been submitted for examination with my approval as university advisor.

Name: _____

Signature: _____

Date:_____