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ASSESSMENT ON STUDENTS' ACADEMIC SELF-EFFICACY, SELF-CONCEPT, GOAL ORIENTATION AND ACADEMIC ACHIEVEMENT: THE CASE OF DEBRE MARKOS HIGHER EDUCATION PREPARATORY SCHOOL, ETHIOPIA

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Abstract:
The purpose of this study was to investigate if there are significant relationships and gender differences among academic self-efficacy, self-concept, and goal oriented behaviors, and academic achievement of students. The target population was 1884 in Debre Markos higher education preparatory school in 2005 E.C. A sample size of 210 participants was selected using stratified and simple random sampling technique from the population based on the roster of record office. A self-report questionnaire was used to collect data on academic self-efficacy, self-concept and goal oriented behaviors while current semester examination marks were used to determine the average academic achievement scores for each participant. The instruments were administered after piloting to determine their suitability, validity and reliability. The Cronbach's alpha reliability coefficient after piloting was 0.862. The questionnaire was revised to improve the reliability coefficient. The data collected from the sample size were analyzed by Pearson product movement correlation coefficient and independent sample t-test. The hypotheses were tested at a = 0.05. The findings indicated a significant positive relationship between students' academic self-efficacy, self-concept and goal oriented behaviors, and academic achievement. The findings also indicated that there were significant gender differences in academic self-efficacy, self-concept, goal oriented behaviors and academic achievement scores of students. Thus, it was recommended

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that providing welcome orientations, counseling services, short-term training and selecting classroom models are some of the solutions need to be given a due attention from teachers and school counselors.

Keywords: academic self-efficacy, self-concept, goal orientation, Ethiopia

1. Introduction

Education is the process of developing the capacities and potentials of individuals to make their life successful in a specific society or culture. From this perspective, education is serving primarily as an individual development function. Education begins at birth and continues throughout one's life as a constant and ongoing process. Whereas formal schooling begins somewhere between the ages six and seven when children are gathered together for the purposes of specific guidance related to skills and competencies that society deems important (Sikhwari, 2004).

In other words, quality education is a process designed to inculcate the knowledge, skills and attitudes necessary that enable individuals to cope effectively with their environment. Its primary purpose is to foster and promote the fullest individual self-realization for all people. Achieving this goal requires understanding of commitment to the proposition that education is a primary instrument for social and economic advancement of human welfare (Verma, 1990).

Still academic achievement is an important factor in national education since it is an indicator of whether the education in a country is successful or not. Dambudzo (2009) stated that educators, parents and students have given more emphasis on the level of academic achievement of students as a measure of academic success in all academic institutions. Not only does academic achievement measure academic success, it is also the most important criterion to achieve quality education.

Large numbers of students start their preparatory education every year with different academic achievement scores obtained at Grade 10 national examination. However, most of students are not successful in gaining better academic achievement scores. Some students drop out their education for economic, health and psychological problems. Other students have completed the courses but obtained very low academic achievement scores. Still other students have got passing academic achievement scores yet they are not satisfied with their academic results (Sikhwari, 2004).

School academic achievement is affected by various factors like intelligence, self-efficacy, self-concept, goal orientation, study habits, attitudes of students towards

school, socio economic status and different aspects of students' personality. The desire of success develops from individual's self-perception and in terms of the meaning of various incentives as they spell success and failure in the eyes of others. Thus, a student who considers himself as top ranking, as scholars; may set as his goal the attainment of the highest grade in the class Dambudzo (2009).

While academic self-efficacy and self-concept are two important components of self-beliefs that influence academic achievements of students, their conceptual similarity and dissimilarity must be clarified. Pajares and Miller (1994) claimed that self-efficacy denotes students' perceived ability to complete a specific task. Consequently, self-efficacy is directly related to academic task, context, or situation. Academic self-concept is a more general and global assessment of self-attitudes than self-efficacy. Academic self-concept can be domain-specific but not task-specific. The determination of self-worth is typically based on social comparisons, while the assessment of academic self-efficacy is related to specific tasks. That is, self-concept is determined based on an external reference, while self-efficacy is based on an internal reference.

Academic self-efficacy refers to the confidence students have in their abilities that they can successfully perform a particular academic tasks (Bandura, 1997). *"…Humans, who engage in considerable self-reflective thought, boost or undermine their efforts by beliefs about their academic capabilities"* (Bandura, 1986, p. 412). Students with low self-efficacy give up more easily in their academic pursuits than students with high self-efficacy. A student's level of self-efficacy is influenced by past successes and failures, which can then subsequently influence future successes or failures, such as grades.

Several studies (DeBacker & Nelson, 1999, 2000; Miller, et al., 1996; Pintrich & DeGroot, 1990; Smist, 1997; Tippins, 1991) have documented that females have lower levels of self-efficacy in math and science courses compared to males. For example, it was found that high school girls, regardless of achievement level, scored lower than boys on perceived ability in biology, chemistry, and physics (DeBacker & Nelson, 2000). In another study, perceived ability was the greatest predictor of semester grades for females in high school biology (DeBacker & Nelson, 1999). Despite many studies at lower levels of education, almost no studies have investigated whether such gender differences exist in student self-efficacy levels in college science.

In a related research, Schunk (1996) stated that when students are engaged in activities, they are affected by personal goal orientation, information processing and situational influences. These provide students with idea of how well they have learned. Self-efficacy was enhanced when students perceived they performed well. On the other hand, Bandura, Barbaranelli, Caprara, and Pastorelli (1996) reported that parents'

academic aspirations and goal-oriented behaviors for their students influenced the student's academic achievement directly or indirectly by influencing their self-efficacy.

Most research that has been done on factors that influence academic achievement concentrate more on the cognitive factors, while the affective factors are ignored (Sikhwari 2004). The affective aspect of the students should receive as much attention as the cognitive aspect in academic investigation and endeavors. Variance in academic achievement can be related to affective variables, of which self-concept is the most important (Van der Lith 1991). Areepattamannil and Freeman (2008) concur with Van der Lith (1991) when they state that academic self-concept and have the most potential of being directly influenced by the regular classroom teacher, and should therefore be of primary concern.

Green et al. (2006) furthermore mention that less integral to research, however, has been the investigation into the relationship between both academic self-concept and academic motivation, and their combined effect on academic achievement. Although the literature suggests that motivation and self-concept are related to each other, only a small number of studies have examined the effects of both of these factors in order to assess the relative salience of each of them to academic achievement. This study, therefore, investigated the possible relationships between academic self-concept, self-efficacy goal oriented behaviors, and academic achievement of students.

The main objective of this study was to investigate if there are significant relationships among and discrepancy between female and students in their academic self-efficacy, self-concept, goal orientation and academic achievement scores.

1. It is explore if there is a significant relationship of academic self-efficacy, self-concept, goal orientation and academic achievement of students.
2. To investigate if there is a significant differences between female and male students in academic self-efficacy, self-concept, goal orientation and academic achievement of students.
3. It is to assess if there are significant differences between female and male students in their academic achievement scores.

Academic achievement has been one of the most important goals of the educational process that every individual is expected to perform in all cultures. In other words, academic achievement is a key mechanism through which adolescents express about their talents, abilities and competencies, which are an important part of developing career aspirations. Since academic achievement and career aspirations in adolescence are often correlated, the skills, knowledge and competencies are prerequisites the future life of students. Therefore, the findings of this study are

important for counselors as an input to identify students who need guidance and help in their academic performance. Not only these research findings are important for guidance and counselors it is important for NGO'S, school leaders and other concerned bodies to arrange training and orientation program to help students be confident, goal oriented and aware of their academic talents and capabilities. Finally, this research could be important for further investigation to other researchers in academic self-efficacy, self-concept, goal oriented behavior and academic achievement of students.

2. Methods and materials

2.1 Subjects of the Study

The participants in this study were 1884 grade eleven and twelve students who enrolled in Debre Markos higher education and preparatory school. Of these, 846 were female students whereas the rest 1038 were male students. These research participants were stratified into four subpopulations considering their department and sex. In department, there were 1389 natural and 495 social science students.

2.2 Sampling Procedures and Sample Size

The researcher first gained approval for the research to be conducted on the school students from the director of the school. Once the researcher granted the permission, the sampling frame of the population was prepared from the roster of record office the school. These research subjects were divided in to four subgroups (stratum) based on department and sex. Each stratum made as a sampling frame from which the sample of the study could be taken out. What percentage of research participants were determined from the source list (Sampling frame) of each stratum through stratified sampling technique in proportion to the sizes of the population in the stratum. Once the sample sizes have been determined, the other step was simple random sampling which used to draw (select) the number of subjects determined from each stratum.

At the end, the name of subjects was written on a piece of paper from each stratum. Then, through the lottery system, the sample sizes were selected from each stratum. Then, 155 natural and 56 social science and116 male and 94 female students were included in this study.

2.3 Data Collection Tools

In accordance with the stated objectives and the hypotheses of the study, the following data gathering tools were used. In this research, there were primary and secondary data

organized in the form of scores. Whereas the primary data were developed from the scale questionnaire of academic self-concept, self-efficacy and goal orientation filled by students, the secondary data (the average academic achievement scores of students) were taken from the record office of the school.

While academic self-concept and academic self-efficacy scales adopted from the Self-Description Questionnaire-II (SDQ-II; Marsh, 1992) consisting of 10 statements each, in which 12 statements were positive and 8 statements were negative which had to be checked on five point Likert scale, General Achievement Goal Orientation Scale (GAGOS) with 10 items developed by McInerney (1997) was modified to measure the goal oriented behavior of students. Each statement the numerical values '5', '4', '3', '2' and '1' were given for five responses namely, strongly agree, agree, undecided, disagree and strongly disagree respectively in case of positive statements. The scoring was reversed in case of negative statements. A maximum score of '50' and minimum of '10' could be obtained on each scale.

Pilot study was conducted with 20 students selected randomly to assess the internal consistency of the questionnaire. This internal consistency was investigated for academic self-efficacy, self-concept and goal oriented behavior items adopted from the different sub-scales. The internal consistency was determined by calculating the Cronbach alpha's α-coefficients with the help of the SPSS computer software program.

After conducting the pilot study, some items improved for the data collection instrument of the main study. Cronbach alpha-coefficients for academic self-efficacy scale (0.805) seemed to be better than academic self-concept (0.627) and goal orientation (0.748) scales.

2.4 Data Collection Procedures

Once the permission from the director obtained, the average academic achievement scores of students included in the research was taken from the roster of record office. After a brief orientation, five data collectors collected the average academic achievement score of respondents from record office for two days.

In collecting the primary data, only students who volunteered to take part in the study were given questionnaires to complete during class time. The students then read the informed consent of the script describing the purpose and procedures of the research study, the fact that participation was voluntary. The questionnaire was translated into Amharic language for the ease of understanding. Students filled a questionnaire that consists of two parts. The first part asks participants to record their sex, department and current school GPA. The second part requested the respondents to

rate the degree of their academic self-efficacy, self-concept, and goal-oriented behaviors from the instrument that took approximately 15-20 minutes to complete.

The data-collecting instrument was distributed just for 210 students. Nevertheless, six students did not fill the questionnaire based on the direction given in the first page. Yet four students failed to supply any demographic information. Hence, these 18 participants were excluded from the analysis, leaving a final sample of 200 students.

2.4 Methods of Data Analysis

To analyze these data collected from the respondents and record office; both descriptive and inferential statistics are more likely applicable. While Means and standard deviation were used from descriptive statistics, t-test for independent samples was run from inferential statistics to compare female and male students mean scores of academic self-efficacy, self-concept, and goal oriented behavior and academic achievement. Pearson product moment correlation coefficient also used to measure the relationship of academic self-efficacy, self-concept, and goal-oriented behavior and academic achievement. For all statistical tests conducted in this study, the alpha level was set at .05.

3. Results

3.1 Results

The purpose of this study has been to investigate the influence of academic self-efficacy, self-concept and goal oriented behaviors on academic achievement of students. After the data were collected from the respondents, it was organized in the form of scores from 1 strongly disagree to 5 strongly agree. This Chapter, therefore, presented the results of the data analysis in descriptive statistics (mean and standard deviation), and inferential statistics (correlation and independent t-test) based on the research question given in the first chapter.

Table 1: Zero Order Correlation of Academic Self-Efficacy, Goal Orientation and Self-Concept* Achievement

No.	Academic Variables	Mean	SD	1	2	3	4
1	Academic self-efficacy	38.48	4.90	1			
2	Academic self-concept	36.16	5.16	.543*	1		
3	Academic goal orientation	43.54	3.98	.436*	.351*	1	
4	Academic achievement	74.84	8.65	.284*	.398*	.189*	1

*Correlation is significant at the 0.05 level (2-tailed).

As stated in Table 1, the result of the analysis presented in form of mean scores, standard deviations and Pearson product movement correlation coefficients. Regarding the mean scores, respondents seemed to have higher mean scores (M = 43.54) in academic goal oriented behaviors than academic self-efficacy (M = 38.48) and self-concept (M = 36.55) mean scores.

As shown in Table 1, the relationship between academic self-efficacy and academic achievement scores of students is positive and significant at 0.01 (r =0.284 ,p = .001). This indicated that those students who have high academic self-efficacy scored better academic achievement in their learning. On the other hand, this relationship also indicated that students with low academic self-efficacy performed low academic achievement scores.

Similarly, Table 1 has shown that there was significant and moderate relationship between self-concept of academic ability and academic achievement scores of respondents (r =.398, p =.001).This finding revealed that respondents who scored well in self-concept scale have done better academic performance and vice versa.

At the same time, as indicated in table 1 the relationship between goal-oriented behavior of respondents and academic achievement scores. Although the relationship seemed to be very weak in its strength, these variables are positively and significantly correlated even at 0.01 level of significance (r =0.189, p = 0.009).

Aside from the above findings, academic self-efficacy, self-concept and goal oriented behavior of students are positively and significantly correlated one another. This means that respondents with high academic self-efficacy have better academic self-concept of their capabilities (r = 0.543, p =0.001). Still those students who are highly goal oriented in their academic activities have shown better academic self-efficacy (r = 0.436, p = 0.001) and self-concept (r = 0.351, p = 0.001) respectively.

Table 2: Academic Self-Efficacy, Goal Orientation and Self-Concept Analysis across gender

Academic variables	**Sex**	**N**	**Mean**	**SD**	**t-value**	**p-value**
Academic self-efficacy	Male	110	39.15	4.40	.4.67*	.000
	Female	90	36.18	4.55		
Academic goal orientation	Male	110	44.05	3.528	4.17*	.000
	Female	90	41.20	5.991		
Academic self-concept	Male	110	37.900	4.758	6.058*	0.000
	Female	90	34.011	4.201		
Academic achievement	Male	110	76.75	8.620	3.559*	0.000
	Female	90	72.50	8.161		

*Significant at p<0.05 (2 tailed)

As shown in Table 2, the independent t-test analysis revealed that there is statistically significant difference between male and female students mean scores in academic self-efficacy. In other words, male students mean score (M = 39.15) is significantly higher than female students did (M = 36.18) in their academic self-efficacy beliefs. This result implies that male students showed better self-efficacy belief for their academic achievement than female students with t-value = 4.67* and p-value = 0.001 at 0.05 level of significance.

As indicated in Table 2, the independent t-test analysis demonstrated that there is statistically significant difference between male and female students mean scores in academic goal orientation. In other words, male students mean score (M =44.05) is significantly higher than female students did (M = 41.20) in their academic self-efficacy beliefs. This result implies that male students showed better self-efficacy belief for their academic achievement than female students with t-value = 4.17* and p-value = 0.001 at 0.05 level of significance.

As shown in Table 2, the independent t-test analysis also revealed that there is statistically significant difference between male and female students mean scores in academic self-efficacy. In other words, male students mean score (M = 37.90) is significantly higher than female students did (M = 34.01) in their academic self-concept belief. This result implies that male students showed better self-concept belief for their academic achievement than female students with t-value = 6.06* and p-value = 0.001 at 0.05 level of significance.

As revealed in Table 2, there is a statistically significant difference between female and male students in the means of their academic achievement scores. This implies that the mean score of male students (M =76.75) is significantly greater than the academic achievement mean scores of female students (M =72.50) with t=3.559 and p =0.001. Although the result of data analysis demonstrated a significant difference in the mean academic achievement scores, female and male students have shown similar standard deviation (SD = 8.620) and (SD = 8.161) respectively.

4. Discussions

Self-beliefs of students' academic ability and self-confidence are key constructs in achieving the goal of quality education. Hence, in this research findings indicated that academic self-efficacy and academic achievement scores of students were positively and significantly correlated each other. In other words, students with high-level academic self-efficacy performed better academic achievement scores than students with low

level of academic self-efficacy. In supporting this finding, Bong (2001) found significant and positive relationship between academic self-efficacy and academic achievement scores of students. Still other research findings (Bndura, 1993) explained that, the judgments a student may make about his or her abilities could lead a person to decide which activities to try or not to try, how much effort to give, or how persistent he or she will be when challenged. Highly efficacious students set higher goals, try harder to reach their goals, improve upon existing efficacy as they make progress, use critical thinking skills and strategies, and do not give up as easily. Thus, the highly efficacious student is more likely to succeed. The above finding is also consistent with Bandura's (1997) self-efficacy beliefs that are the major determinant of goal setting, activity choice, willingness to expend effort, and persistence (or educational attainment level).

Similarly, this research indicated that academic self-concept was related significantly and positively with academic achievement scores of students. Zimmerman (2000) studies supported this result. Those students with better awareness, perception and feeling about their academic ability have a due attention for academic tasks; thereby they scored better academic achievement scores in different subjects. Yet again as the research finding revealed, goal-oriented behaviors of students was very helpful to increase the academic achievement scores. This implies that when students did academic tasks to achieve the goals providing a due attention, they can improve their academic achievement scores with better understanding, knowledge and skills that the grade level required.

At the same time, the result of this research demonstrated that there were significant difference between female and male students in academic self-efficacy, self-concept and goal oriented behavior, and academic achievement scores. In other words, male students significantly showed better academic self-efficacy, self-concept, and goal-oriented behavior; thereby contribute for the variation of the academic achievement scores of students.

Similar to this finding, Pintrich and DeGroot (1990) showed that female students have low self-efficacy in natural science subjects. This research result revealed that the belief of "I can do it "and "I can't do it" has significant negative implication on female students academic achievement scores. Still findings of academic self-concept and goal-oriented behavior of students also influenced the academic achievement scores of female students more than male students.

5. Conclusions

1. There was positive and significant relationship between academic self-efficacy, self-concept, and goal oriented behaviors, and academic achievement of students in preparatory school. In other words, students with high level of academic self-efficacy, self-concept, and goal-oriented behaviors did well in their academic achievement scores.
2. There were significant gender differences in academic self-efficacy, self-concept, and goal oriented behaviors of students. In other words, male students have shown significantly higher mean scores than female students in academic self-efficacy, self-concept, and goal-oriented behaviors.
3. Academic self-efficacy beliefs, self-concept and goal oriented behaviors are related significantly and positively among each other. This showed that the higher the level one of these variables, the level of the other variables is also higher in the learning situations.
4. There were significant gender differences in the average academic achievement scores of students. This meant that male students outperformed female students in the average school academic achievement scores.

6. Recommendations

Based on these findings, this study concluded that significant positive relationship and gender differences in academic self-efficacy, self-concept, goal oriented behaviors and academic achievement scores were found among preparatory school students in Debre Markos. Consequently, the following recommendations are given:

1. Teachers, counselors and educational supervisors are expected to assess the existing levels of academic self-efficacy, self-concept, goal-oriented behaviors and academic achievement of students. If students with lower levels of academic self-efficacy, self-concept, goal-oriented behaviors and academic achievement are identified, individual and group counseling, orientation and short term training should be given to help raise students' levels academic self-efficacy, self-concept, goal-oriented behaviors and academic achievement.
2. Teachers should provide students with challenging tasks and meaningful activities to increase motivation and their efforts that could support and encourage to help ensure self-confidence and develop goal-oriented behaviors in their daily life.

3. Academic self-efficacy, self-concept and goal oriented behaviors are self-regulatory processes, which should be utilized in making decisions automatic and be exercised unconsciously. Teachers should endeavor to instill in the students these self-regulatory processes so that it will become habits. Once it becomes habits of thinking, these beliefs in personal competence will serve them throughout their lives.
4. Students learn from peers by observing them. Teachers should take this as a platform to select peers for classroom models. Students can actively engage themselves by observing their peers making errors, coping behavior and verbalize emotive statements reflecting low confidence and achievement. In this way, low achieving students can view themselves as comparable in learning ability as their models and hence achieve high level of academic self-efficacy, self-concept, goal oriented behaviors and greater academic achievement scores.
5. Guidance and counselors should pay attention not only on the actual academic competency of female students but also on their perceptions of academic competency, capabilities and potentials that influence the subsequent achievement scores.

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