Academic Motivation And Self-Regulated Learning In Predicting Academic Achievement In College

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ABSTRACT

The purpose of this study was to determine whether academic motivation and academic self-regulated learning predicted students' GPAs in the Early Childhood Education Department. The study participants consisted of 166 early childhood education majors enrolled in the 2014 spring semester at Georgia Southern University, USA. Data were gathered using the "academic motivation scale" developed by Vallerand et al. (1992), and the "academic self-regulated learning scale" developed by Mango (2010). The study's results showed that there was no correlation between GPA and academic motivation and academic self-regulation learning. In other words, the students' academic motivation and academic self-regulated learning total scores, together, did not predict their GPA.

Keywords: Early Child Education; Academic Motivation; Academic Self-Regulated Learning; Grade Point Average

INTRODUCTION

Academic achievement of university students is thought to be affected by variables including intelligence, readiness, attitude, studying habits, anxiety, health, thinking skills, self-competence, academic motivation, self-regulation learning to name but these few. In this study, academic motivation and academic self-regulated learning have been examined.

Self-Regulated Learning

According to the social cognitive theory, self-regulation is situational specific, which means that learners do not engage in self-regulation equally in all domains (Schunk & Zimmerman, 2003). Studies on self-regulated learning emerged in the mid 1980's (Zimmerman, 2001). Self-regulatory includes self-monitoring, which involves observing one's own performance and output (Zimmerman & Kitsantas, 2005). According to Zimmerman and Schunk (1989), self-regulated learning can be defined in terms of self-generated thoughts, feelings, and actions, which show a systematical tendency to attain one's goals. According to Winne (1995), self-regulated learning is a constructive and self-directed process.

Self-regulatory is the process of transforming one's intelligence into academic skills, guiding it to self. Self-regulatory takes result oriented behavior and ideas that it creates on its own as reference. Self-regulatory is significant because the purpose of education is to enhance lifelong learning skills. After graduating from high school or university, young adults can learn very important abilities through unofficial ways (Zimmerman, 2002). Self-regulatory includes strategic performance adjusting processes and self-monitoring (Zimmerman, 2010).

The structure and function of self-regulatory process consists of the performance phase, self-reflection phase and forethought phase (Zimmerman, 2002; Zimmerman & Kitsantas, 2005; Zimmerman & Schunk, 2004; DiBenedetto & Zimmerman, 2013). Performance phase consists of self-control and self-observation phases, and takes the specific method chosen at self-control precaution phase as reference. Self-observation takes self-testing as reference in order to find out the reasons for self-recording (Zimmerman, 2002). Self-observation includes self-

directed interest (Zimmerman, 1994). Self-observation is affected by behavioral effects as well as personal processes, composed of metacognition planning, purpose composing and self-competence (Zimmerman, 1989). Self-observation" corresponds to metacognitive monitoring or record keeping of one's performance, the relevant conditions related to such performance, and the effects that it results in (Zimmerman & Paulsen, 1995; cite by Zimmerman & Kitsantas, 2005). Self-observation involves recording the frequency, intensity, or quality of behavior. Self-observation is crucial in determining one's progress. In the absence of self-observation, selective memory of successes and failure become activated. Self- observation may lead to increased motivation because when people realize what they do, they may change their behavior (Pintrich & Schunk, 2002).

The self-reflection phase, which forms the structure of self-regulatory process, consists of self-judgment and self-reaction phases. Self-judgment takes the comparison of self-observation performances under certain circumstances (Zimmerman, 2002). Self-judgment affects the importance of goal achieving and its purpose features (Zimmerman, 1994). Self-judgment takes the comparison between one's purpose and present performance as reference (Schunk, 1994; Schunk, 1989). Self-judgment includes self-evaluation by attributing temporal importance to the individual's performance and results (Zimmerman, 2012). Self-judgment means comparing present performance with one's goal. If a person believes that he/she is making goal progress, self-efficacy increases and motivation sustains. Students who consider a task to be easy may think that they set their goal too low and set their subsequent goal higher. If one knows that similar others performed a task, one can reach increased levels of self-efficacy and motivation (Schunk, 1987).

Self-judgments refer to evaluating one's learning performance and attributing causal significance to the outcomes. Students who are highly regulated self-evaluate themselves in a more appropriate way and more frequently compared to those who are poorly regulated (Lan, 1998; cite by Zimmerman & Kitsantas, 2005). Getting results by self-judgment and the importance of purpose attribution depends on the specifics of purpose and following self-evaluation standards (Schunk, 2008). Self-judgment may become affected by the specifics of the purpose, the significance of failing and contributions to one's performance (Schunk, 1989).

Self-reaction involves taking one's performance into consideration and feelings of self-satisfaction (Zimmerman, 2002). Self-reaction involves attribution of learners for performance as well as evaluation of learners' performance and judgment over tasks (Pintrich, 2010). Self-reaction includes one's cognitive, emotional and self-judging behavioral reactions (Zimmerman, 1994). Self-reactions to goal progress have effects on motivation (Bandura, 1986; cite by Pintrich & Schunk, 2002). Students who judge their goal progress to be acceptable would find themselves efficacious about continuing to improve and be motivated. If students believe that they can improve their performance, negative evaluations may not decrease their motivation. Motivation does not increase when students believe they do not have the ability to improve (Schunk & Zimmerman, 2003). Self-reactions are behavioral, cognitive, and emotional responses to self-judgments. Believing that one is making good progress and the anticipation of satisfaction regarding accomplishing a goal increases the level of self-efficacy (Pintrich & Schunk, 2002).

Forethought phase is separated into two as self-motivation beliefs and task (Zimmerman, 2002). Forethought phases prepare for individuals' learning (Zimmerman & Kitsantas, 2005). Task analysis includes goal setting and strategic planning (Zimmerman, 2002; DiBenedetto, & Zimmerman, 2013). Self-motivation originates from one's beliefs about learning, such as self-efficacy beliefs about having the capability to learn and outcome expectations about consequences of learning (Bandura, 1997). Self-motivational beliefs include self-efficacy, outcome expectations, task value, and goal orientation (Zimmerman, 2002; DiBenedetto, & Zimmerman, 2013). Reflecting, control and reaction occur simultaneously in self-regulated learning (Pintrich, 2004).

Uses of self-regulated learning strategies by students render them capable of increasing personal control over their own environments. Self-regulated learning provides the gaining of self-competence senses and may explain the student's connection to motivation and achievement (Zimmerman, 1989). Self-regulated learning processes do not just enrich motivation, but also predict outstanding academic and athletic achievement (Zimmerman & Kitsantas, 2005). Self-regulated learning strategies include organization and transformation, data research, record keeping, self-observation, environmental structuring, self-effectuating, repeating, memory, surveying, and social aid (Zimmerman, 1990).

Academic Motivation

Motivation theories are founded on assumptions about the human nature (Deci & Ryan, 1985). The concept of motivation takes maintaining and guiding behaviors and innate strengths as reference (Petri, 1981; cited by Vallerand & Losier, 1994). Deci and Ryan (1985) separated motivation into three categories: amotivation, extrinsic motivation and intrinsic motivation (Deci & Ryan, 2002).

Amotivation is strongly and negatively related to educational outcomes (Vallerand & Bissonnette, 1992). Amotivation involves not having a motive to act (Williams & Deci, 1996). Amotivation takes the lack of motivation and the observation of the individual's inability to sense the conditions between his or her actions and consequences as reference (Ratelle, Guay, Vallerand, Larose, & Sene´cal, 2007). Not being able to self-determine or be competent with regard to a specific behavior results in amotivation, which is accompanied by helplessness, depression, and self-disparagement. Amotivation occurs when a person cannot get positive feedback regarding his/her performance or believes that he/she fails on a repetitive basis. According to the revised theory of helplessness, noncontingent environments lead to amotivation. On the other hand, if the person learns how to retake control or can rationalize such conditions, motivation will be intact. In sum, decreased perceived control leads to amotivation and helplessness. Amotivation results when one perceives oneself as incompetent to reach intended outcomes (Deci & Ryan, 1985).

A person engages in intrinsically motivated behaviors in order to feel competent and self-determining. The primary effects of such behaviors involve the tissues of the central nervous system. There are two general types of intrinsically motivated behaviors. A stimulation free environment would lead one to feel incompetent and not self-determining and therefore to seek out ways for feeling competent and self-determining. The other type of intrinsically motivated behavior involves conquering challenges or reducing incongruity (Deci, 1975). Intrinsic motivation is a source that is central to the nature of the organism. Intrinsic motivation depends on the innate need for competence and self-determination. It provides the fuel for various behaviors and psychological processes. Intrinsic needs are different from primary drives because they are not based in tissue deficits and they do not function cyclically. However, both of them are innate and provide an energy source for behavior. In addition, intrinsic motivation can increase or decrease the intensity of drives and also influence the way one satisfies his/her drives (Deci & Ryan, 1985). Extrinsic motivation is separated into four categories four as external regulation, introjected regulation, identified motivation and integrated regulation (Deci & Ryan, 2002).

External regulation occurs when the behavior is formed externally (Vallerand & Bissonnette, 1992). External regulation occurs when students relate results in order to control for the function of time and rewards they attribute to learned activities (Zimmerman, 2012). The least autonomous type of extrinsic motivation is external regulation, which involves being motivated to obtain rewards or avoid punishments. External regulation has an external perceived locus of causality (Skinner, 1953; cite by Deci& Ryan, 2002).

Introjected regulation refers to an internalized external regulation but which is not truly accepted as one's own. It is some form of partially internalized extrinsic motivation. Introjection is a type of internalized regulation and is very controlling. Introjection-based behaviors are performed in order to avoid guilt or to produce ego enhancements and feelings of worthiness. This type of regulation depends on contingent self-esteem (Deci & Ryan, 1995; Cite by Deci & Ryan, 2002).

Regulation through identification is a more self-determined form of extrinsic motivation, since it includes valuing of a behavioral goal or regulation. Identification is important in transforming external regulation into true self-regulation. Identification is accompanied by high-perceived autonomy. Identifications seem to have an internal perceived locus of causality (Deci, & Ryan, 2002). Identification is the process of specification of an activity by its value and this way an acceptable regulation of one's dynamism is taken as reference (Vansteenkiste, Lens, & Deci, 2006). Identification is the self-definition of external motivation and contains the awareness value of behavioral purposes (Deci & Ryan, 2002). As behavioral regulation leads to greater autonomy, people engage in behaviors due to the importance and value that they attribute to them. This type of self-regulation has an internal perceived locus of causality and is autonomous (Niemiec, Ryan & Deci, 2010).

Integrated regulation is the basis for the most autonomous form of extrinsically motivated behavior. Integrated regulation results when identifications have been assessed and brought into congruence with the personally endorsed values, goals, and needs that are part of the self. Previous studies showed that integrated extrinsically motivated behaviors are associated with more positive experiences than the less fully internalized forms of extrinsic motivation. Integrated extrinsic motivation and intrinsic motivation have many similarities (Deci, & Ryan, 2002). Integration of external motivation is mostly internal and integration occurs when individuals relate to their own schematics and their own activities (Zimmerman, 2012). Integration takes completing internalization as its reference and is the most proper form of internalization (Williams & Deci, 1996).

Sensation of internal motivation is an important precursor of self-learning. Students who are bound for internal purposes in an experimental manner are more assertive than students who are bound for deep learning, good performance and external purposes (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004). Self-determination strengthens the feelings that enrich feelings of skill and feedback internal motivation (Deci, 1972; Deci, 1973). Intrinsic motivation takes individual's interest, pleasure and his or her satisfaction with a task or an activity as reference (Zimmerman, 2011). Internal motivation involves people participating in an activity (Gagné & Deci, 2005). Internal motivation is the energy source, which centers the organism's active nature. Internal motivation is an important motivator of abilities, which characterize human development and learning (Deci & Ryan, 1985). Internal motivation essentially affects central nervous system tissues rather than tissues outside the nervous system (Deci, 1975).

According to the self- determination theory, supporting all three psychological needs helps with the internalization process. However, conflict between needs, such as letting go of autonomy in order to socialize and receive approval and acceptance, has negative effects on behavioral regulation and well being (Assor, Roth & Deci, 2004). Self-determination refers to choosing between alternatives and the experience of an international perceived locus of causality. Self-determination is an important part of intrinsically motivated behavior and also of some extrinsically motivated behaviors. Self-determination is also a need. It facilitates developing competencies and reaching a flexible accommodation with the social environment, which is central to the development of extrinsic motivation (Deci & Ryan, 1985). In order to self-determine, one should accept his or her strengths and limitations, make choices, and determine the ways of satisfying needs. Will and self-determination are associated because, in order to be self-determining, people have to decide how to act on their environment and they would not prefer a condition where all of their needs are instantly satisfied without them making choices (Pintrich & Schunk, 2002).

Self-determination theory is a concept included in intrinsic motivation. Self -determination theory takes the experience of freedom inside one's commencing behavior as reference. The pressure caused by the condition of strengthening and any other pressure is decisive on one's actions. Self-determination often includes results or one's environmental control and choices (Deci & Ryan, 1985). Self-determination theory takes personal growth, self-arrangement, global psychological needs, purpose of living, longings, energy and validity, unaware periods, cultural relations for motivation, and effects of motivation on social environments as reference (Deci & Ryan, 2008). Self-determination theory offers relatively more autonomy supplying social content or enriches internal motivation (Vansteenkiste et al., 2006). High motivation may enhance students' learning processes and results, interest, choosing of a task, efforts to learn a hard task and patience (Zimmerman, 2012).

The Relationship Between Motivation And Self-Regulation Learning

Motivational control and the process of regulation lead to positive conditioned results on academic performance (Schunk, 2005). Self-regulation learning is related to motivation (Schraw, Crippen, & Hartley, 2006; Schunk & Ertmer, 2010; Pintrich, 2010; Zimmerman, 2010; Zimmerman & Schunk, 2004). Self-regulation increases learning and maintains motivation (Schunk & Ertmer, 2010). Motivation predicts self-regulation (Schunk, 2008). School belonging, affective response, affective motivation, cognitive resources, and self-regulation are associated with academic achievement (Baumeister & Leary, 1995, cite by Anderman & Freeman, 2004). There is a significant relationship between motivation and self-regulated learning (Mahmoodi, Kalantarib & Ghaslanic, 2014).

The Relationship Of Academic Achievement To Self-Regulated Learning And Academic Motivation

Ekhlas and Shangarffam (2013) found correlations between academic self-regulated strategies and reading, writing, speaking, listening, and language experience. Heikkilä and Lonka (2006) detected a low positive relationship between academic average and self-regulated learning. Carolina, Lucia and Rossana (2014) determined that self-regulated learning and motivation had positive effects on academic achievement. Rytkonen, Parpala, Lindblom-Ylanne, Virtanen, and Postareff (2012) demonstrated that social support and self-regulation skills are important for academic achievement. Gaythwaite (2006) found a significant relationship between final scores and self-regulated learning. Amrai, Motlagh, Zalani, and Parhon (2011) detected a correlation between academic achievement and motivation. Özder and Motorcan (2013) found a significant correlation between academic motivation and academic achievement. McGhee (2010) determined a low negative correlation between motivation and academic achievement. Lavender (2005) found a significant correlation between extrinsic motivation external regulation, which is one of the sub factors of academic motivation scale, and academic achievement.

Önder, Beşoluk, İskender, Masal, and Demirhan (2014) determined that academic motivation has a significant effect on academic achievement. Cokley, Bernard, Cunningham, and Motoike (2001) found significant correlations between GPA and the amotivation, intrinsic motivation to know, intrinsic motivation to achieve, and intrinsic motivation to experience stimulation sub factors. Robinson (2003) detected a positive correlation between intrinsic motivation to achieve and achievement and a negative correlation between amotivation and achievement. Lavender (2005) found a significant relationship between academic achievement and the amotivation sub factor of the academic motivation scale. Kosnin (2007) detected a significant correlation between academic achievement and self-regulated learning. Ning and Downing (2012) determined that self-regulation and motivation have minor regulating effects on the relationship between academic performance and learning experiences.

Prediction Of Academic Achievement By Self-Regulated Learning And Academic Motivation

Ekhlas and Shangarffam (2013) found that academic self-regulated learning strategies predicted 17.5% of the variance in IELTS reading skills. Kim and Seo (2013) showed that self-regulated learning explained academic achievement. Komarraju, Karau, and Schmeck (2009) determined that the best predictors of achievement are amotivation and intrinsic motivation to accomplish. Robinson (2003) found that the intrinsic motivation, extrinsic motivation and amotivation subscales of the academic motivation scale explained 8% of the variance in academic achievement. Kosnin (2007) determined that self-regulated learning is the best predictor of academic achievement in college students. Also, student motivation was the strongest predictor of academic performance (Kosnin, 2007; cited by Ning & Downing, 2012).

Purpose

The aim of this study was to determine whether there were significant relationships between Early Childhood Education students' GPAs and their academic motivation, academic self-regulated learning and related subscales and to investigate whether academic self-regulated learning and its sub factors together significantly predict students' GPAs.

Participants

A total of 166 students (158 female and 8 male; 86 juniors and 80 seniors) who study at Georgia Southern University in the United States of America College of Education, Teaching and Learning Department, in the Early Childhood Education program participated in the study.

METHOD

Prediction studies are conducted in order to determine the prediction of instruments' validity, to help with different types of choosing, and to implement decisions regarding individuals (Gay, Mills, & Airasian, 2009). A prediction study is used as a different design in correlation research and examines the correlations between variables (Lodico, Spaulding, & Voegtle, 2010). Prediction studies show how a variable is predicted by other variable using

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correlation coefficients (McMillan, 2008). The model of this study is a prediction study since it was aimed to determine predictive relationships of academic motivation and academic self-regulated learning together for Early Childhood Education students' GPAs.

Materials

Academic Motivation Scale

The scale includes 28 items and 7 factors, each factor includes 4 items, and each item has 7 response categories. The scale consists of 3 intrinsic motivation factors, 3 extrinsic motivation factors, and one factor of amotivation. These factors are intrinsic motivation - to know, intrinsic motivation - toward accomplishment, intrinsic motivation - to experience stimulation, extrinsic motivation – identified, extrinsic motivation – introjected, extrinsic motivation - external regulation and amotivation. Scores obtained from the sub factors range between 4 and 28 and there are no reverse scored items in the scale. The reliability coefficients of the sub factors range from .71 to .83 and the Cronbach's alpha values of the sub factors change between .78 and .90 (Vallerand et al., 1992).

Academic Self-Regulated Learning Scale

The scale was developed by Magno (2010) in order to measure the self-regulation skills of university students in higher education and contains 54 items and 7 factors. Each item has 4 response categories. The sub factors of the scale are memory strategy (14 items), goal setting (5 items), self-evaluation (12 items), seeking assistance (8 items), environmental structuring (5 items), learning responsibility (5 items), and organizing (5 items). The construct validity of the scale was examined and the consistency reliability values of the sub factors were found to be between .73 and .87. It was determined that all sub factors showed significant correlations to each other and the correlation coefficients ranged between .25 and .55 (Mango, 2011).

Procedures

Data were gathered by administering the "Academic Motivation Scale", the "Academic Self-Regulated Learning Scale" and the "Personal Information Form" face-to-face to the Participants. Data were also collected from 12 fourth year students enrolled in the same semester by administering the "Academic Motivation Scale", the "Academic Self-Regulated Learning Scale" and the "Personal Information Form" via the Qualtrics (Online Research Surveys), which is utilized by Georgia Southern University in the United States of America. Multiple regression is essentially used to predict the relationship between two or more predictor variables and a criterion variable (Fraenkel & Wallen, 2006). Therefore, multiple regression analysis was used in the study. Pearson correlation analysis was used for determining the relationship of GPA to scores obtained from the "Academic Motivation Scale" and the "Academic Self-Regulated Learning Scale"; whereas multiple regression analysis was used for determining whether the "Academic Motivation Scale" and the "Academic Self-Regulated Learning Scale" together predict GPA.

Grade Point Average

The GPA corresponds to the general average of all course grades in 4th and 5th semester among junior students and 6th and 7th semester among senior students studying at Georgia Southern University, College of Education, in the Early Childhood Education program.

Personal Information Form

Data on GPA was collected according to the students' self-report. The form consists of questions about GPA, gender, and year of study.

RESULTS

In this section, the results of the Pearson Product-Moment Correlation, which was carried out in order to determine whether there are significant correlations between early child education students' academic motivation and academic self regulation learning and GPSs, are provided. In addition, results of the multiple regression analysis, which was conducted for determining whether early child education students' academic motivation and academic self -regulation learning together predict GPAs, are given.

Table 1. Means And Standard Deviations Of Academic Motivation And GPA

	N	Mean	Standard deviations
GPA	166	3.3300	.41
Intrinsic motivation to know	166	3.6205	.94417
Intrinsic motivation accomplishment	166	3.4036	.97221
Intrinsic motivation to experience stimulation	166	2.5964	1.08421
Extrinsic motivation identified	166	4.4639	.58921
Extrinsic motivation introjected	166	4.0181	.88402
Extrinsic motivation external regulation	166	4.1446	.77276
Amotivation	166	1.2169	.58358
Academic motivation total score	166	3.3253	.58483

Table 2. Means and standard deviations of academic self-regulated learning, and GPA

	N	Mean	Standard deviations
Memory strategy	166	3.7831	.61394
Goal setting	166	4.5120	.61039
Self-evaluation	166	3.9940	.62762
Seeking assistance	166	3.8494	.72712
Environmental structuring	166	3.7831	.73934
Learning responsibility	166	3.8976	.75180
Organizing	166	4.0783	.64188
Academic self regulated learning total score	166	3.9157	.53268

The relationship of GPA to academic motivation and academic self-regulated learning

Table 3. Correlation of GPA to academic motivation and academic self-regulated learning

	GPA	Intrinsic motivation to know	Intrinsic motivation accomplishment	Intrinsic motivation to experience stimulation	Extrinsic motivation identified	Extrinsic motivation interjected	Extrinsic motivation external regulation	Amotivation	Academic motivation total score
GPA	1	.017	.028	-.045	.053	.046	.019	-.169	-.017
Memory strategy	-.031	.213**	.340**	.195*	.129	.197*	.118	-.003**	.299**
Goal setting	.250**	.097	.109	.094	.212**	.162*	.099**	-.092	.176
Evaluation	-.052	.139	.292**	.192*	.057	.262**	.052	-.013	.286**
Seeking assistance	-.122	.119	.207**	.084	.122	.202**	.071	.149	.216**
Environmental structuring	.005	.064	.106	.064	.177*	.071	-.072	.025	.136
Learning responsibility	-.008	.167*	.214**	.224**	.039	.121	-.035	.051**	.319**
Organizing	-.020	.229**	.299**	.290**	.176*	.179*	.653	.510	.000
ASRL total score	-.058	.213**	.312**	.245**	.125	.235**	.045	.059**	.264**

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

Table 3 showed that "goal setting", which is one of the academic self- regulation learning sub factors, was correlated to GPA (P<0.01) whereas GPA was not correlated to academic motivation and academic self-regulation learning. Academic motivation was also correlated to academic self regulation learning (p< 0.01).

Prediction of GPA by academic motivation and academic self-regulated learning

Table 4. Results Of The Multiple Regression Analysis Regarding
The Prediction Of Gpas By Academic Motivation And Academic Self-Regulated Learning Levels

Variable	B	Standard Error B	B	t	p
(Constant)	3.063	.381		8.050	.000
Intrinsic motivation to know	-.008	.057	-.017	-.134	.894
Intrinsic motivation accompishment	.066	.057	.156	1.164	.246
Intrinsic motivation to experience stimulation	-.042	.043	-.110	-.987	.325
Extrinsic motivation identified	-.030	.069	-.043	-.436	.663
Extrinsic motivation introjected	.042	.049	.091	.856	.393
Extrinsic motivation external regulation	.021	.051	.039	.416	.678
Amotivation	-.085	.060	-.120	-1.419	.158
Academic motivation total score	-.061	.113	-.087	-.542	.589
Memory strategy	-.012	.066	-.018	-.186	.852
Goal setting	.225	.058	.333	3.898	.000
Self-Evaluation	-.076	.074	-.115	-1.027	.306
Seeking assistance	-.078	.055	-.137	-1.428	.155
Environmental structuring	.013	.054	.024	.246	.806
Learning responsibility	.035	.058	.064	.606	.545
Organizing	.029	.064	.045	.455	.650
Academic self regulated learning total score	-.079	.111	-.102	-.712	.478

R= .380, R ^{2}=. 145, *F (16-149), p >.082*

Table 3 showed that academic motivation and academic self-regulated learning total scores together did not predict students' GPAs at a significant level (R= .380, R ^{2}=. 145, p>.082). Total scores obtained from the academic motivation and academic self-regulated learning scales together explain 15% of the variance in GPAs. When we examined the t-test results regarding the significance of regression coefficients, we observed that only the goal setting sub factor had significant predictive power on students' GPAs and that the remaining variables did not have any significant effects.

DISCUSSION

Students' academic self-regulation total scores and academic motivation are not correlated sufficiently to GPA. The study result that supports this finding is as follows; Motivation was not correlated with academic achievement (Schmidt, Sczinski & Ballard, 2006). There was only a correlation between "goal setting", which is one of the sub factors of academic self-regulation learning and GPA. It was found that "goal setting", which is a sub factor of the academic self- regulation scale, was positively correlated to the students' academic achievement. It is thought that goal setting is an important determinant of the students' academic performance. The reason of the lack of a significant correlation between academic self-regulated learning, academic motivation and GPA is thought to be the students GPAs being too close to each other. Another reason for the insignificant correlation between GPA and academic self-regulated learning is the variety and multitude of the possible factors affecting GPA. A correlation between self-regulation and motivation has been reported in the literature, this study determined such findings. In the literature, a relationship between motivation and self- regulated learning was reported (Schraw et al., 2006; Schunk & Ertmer, 2010; Pintrich, 2010; Zimmerman, 2010; Zimmerman & Schunk, 2004). The results of the present study are in parallel with the literature.

Students' academic motivation and academic self-regulation total scores and sub factors do not predict their GPAs at a significant level. Solely, the "goal setting" sub factor is a significant predictor of GPA. While academic motivation and academic self-regulation significantly predicted GPA in the literature, this study determined opposite results. Many factors have been thought to affect the prediction of GPAs. In this study, factors such as intelligence, reasoning skills, attitude, voluntarily choosing of the department being studied at, and studying habits have been

thought to have an effect on GPA. In addition, students GPAs being too close to each other has been evaluated as the reason for the lack of significant prediction of GPAs by academic motivation and academic self-regulated learning. The education program provided for the students increased their levels of academic motivation and academic self-regulation learning, which caused their scores to be similar. Therefore, it is assumed that the effects of academic motivation and academic self regulation learning on academic achievement have decreased.

The results obtained through this research aimed to provide a resource for researchers of the teaching education field. The administrators, college of education scholars, and the authorities at a department of education as references to improve the quality of teacher education can use these results.

- It can be investigated whether Georgia Southern University in the United States of America College of Education, College of Education, Early Childhood Education Department's junior and senior students' academic motivation and academic self-regulation learning predict academic achievement at course level.
- It can be investigated whether academic motivation and academic self-regulation learning predict GPAs in junior and senior students who study at other Early Childhood Education programs throughout the United States.

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