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Academic Motivation in College Students: A Comparison of Majors

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Abstract

Motivation provides a student a way to complete necessary tasks. Academic motivation is a form of motivation that applies to academic challenges that a student will face while being in school. These challenges can demand the student use extrinsic or intrinsic motivation to complete the task. In the present study, the researchers sought to discover if academic motivation was similar between students majoring in several different academic programs. For the study, samples of education, nursing, and psychology majors were obtained and each participant was given a battery of instruments that assessed their levels of academic motivation, self-efficacy, and self-esteem. Data was analyzed by the researchers using SPSS. Results demonstrated that individuals who are education and nursing majors have strong correlations between intrinsic and extrinsic motivation, while psychology majors have strong correlations between intrinsic motivation and self-efficacy. This strongly suggests that education and nursing majors can be driven by internal factors as well as external ones, especially since their degree requires them to get hands-on experience. This is in contrast to psychology majors who usually get little to no hands-on experience, but are trained primarily in the theory of psychology. It is hoped that advisors can use this information to better advise students, but also to better match students who are undecided with potential majors.

Keywords: Academic motivation, intrinsic motivation, extrinsic motivation, self-efficacy

Academic Motivation in College Students: A Comparison of Majors

Introduction

Academic Motivation has been defined by many different social scientists (Deci, 1971; Deci & Ryan, 1985; Schunk, 1991). Students become motivated in coursework or academic pursuits in multiple ways including intrinsic and extrinsic motivation. Intrinsic motivation, that which is internally derived, has become one of the most important areas of focus for educators. Students experiencing intrinsic motivation are open to learning and achievement and this state can be enhanced or undermined by parent and teacher practices (Ryan & Stiller, 1991). Extrinsic Motivation, which is related to outside rewards or contingencies, is an equally important type of motivation because most of the activities that individuals perform are not intrinsically motivated. The construct of extrinsic motivation pertains to an activity that is done in order to attain some outcome (Ryan & Deci, 2000). There is a very obvious contrast between intrinsic and extrinsic motivation, with one being that intrinsic is motivation deals with doing things for enjoyment, while extrinsic motivation is being motivated by an outside stimulus. The difference is where the thought originates from. Intrinsic motivation originates from inside the mind of the person performing the act, and extrinsic motivates originates from the outside forces that can manipulate and conform situations to fit the mind.

Academic Motivation may be discussed in terms of self-efficacy, which is described as an individual's judgements of his or her capabilities to perform given actions. Bandura (1986, p. 391) described self-efficacy as "People's judgement of their capabilities to organize and execute courses of action required to attain designation types of performances." Self-efficacy may impact a variety of factors and variables and predict diverse outcomes such as academic achievements, motivation, social skills, smoking cessation, pain tolerance, athletic performances, career choices, assertiveness coping for feared events, recovery from heart attack, and sales

performance (Bandura, 1986). Academic Motivation that is being currently studied can be broken down into 3 factors: Intrinsic Motivation, Extrinsic Motivation, and Amotivation.

Intrinsic Motivation.

Intrinsic motivation has been defined (Ryan & Deci, 2000) as engaging in an activity for the innately satisfying or stimulating aspect related to the activity or experience. Individuals who are intrinsically motivated participate in tasks or activities voluntarily, without the expectation of rewards and without feeling internal or external pressure to do so (Deci & Ryan, 1985; Deci, Vallerand, Pelletier, & Ryan, 1991; Vallerand & Bissonnette, 1992; Vallerand et al., 1992; Frederick & Ryan, 1995).

Intrinsic motivation is a cognitive and humanistic view of motivation from an understanding of people as they develop both physiologically and psychologically. It deals with the internal capacities of individuals, primarily emotional and cognitive, which give rise to feelings, aspirations, perceptions, attitudes, and thoughts, which can be motivating or demotivating. Intrinsic motivation (Ryan & Deci, 2002) consists of engaging in a task for the pleasure inherent associated with the task. Deci (1971) found that when an individual was offered an external reward such as money, their intrinsic motivation tended to decrease. However, when that individual was provided with verbal reinforcement and positive feedback, intrinsic motivation tended to increase. Intrinsic motivation is apparent when an individual is performing an activity and receives no apparent rewards except the activity itself.

Researchers theorized that intrinsic motivation is a global construct comprised and differentiated into three distinct categories (Vallerand et al., 1992). These distinct motives are identified as the *intrinsic motivation to know*, *to accomplish*, and *to experience stimulation*. The *intrinsic motivation to know* is defined as the participation or engagement in an activity “For the

pleasure and satisfaction that one experiences while learning, exploring, or trying to understand something new” (Vallerand et al., 1992, p. 1005). This motivation is represented in education because it is related to constructs including curiosity, investigation, and the need to know and understand. The *intrinsic motivation towards accomplishment* motivation can be defined as participation in an activity or task for the enjoyment and pleasure derived when attempting to create something novel or new, when attempting to shine or excel, or to reach a new goal. Individuals who fall into the category of displaying intrinsic motivation towards accomplishment commonly seek to be original or inventive and experience feelings related to being capable and knowledgeable. These individuals do not focus on the result or finished product; instead, they seek to focus on the process of the activity. Lastly, individuals with *intrinsic motivation to experience stimulation* participate in activities for the pleasure, delight, and enjoyable feelings associated with the events (Vallerand et al., 1992).

Students who display higher levels of intrinsic motivation also report increased interest in school (Vallerand, Blais, Briere, & Pelletier, 1989). These students are at less of risk for dropping out as well (Vallerand, Fortier, & Guay, 1997). Past research has determined that from childhood through adolescence, the students who display the highest levels of intrinsic motivation are the best performers in the school setting (Gottfried, Gottfried, Cook, & Morris, 2005). These students are also notably less anxious at school and have the highest and “most positive self-perceptions” (Gottfried et al., 2005). Students who continue to be intrinsically motivated at the end of their junior high school years experienced fewer negative effects when they transitioned to high school (Otis, Grouzet, & Pelletier, 2005).

Extrinsic Motivation.

Extrinsic Motivation contrasts with intrinsic motivation. Extrinsic motivation occurs when an individual engages in a chore or duty in order to attain a compensation or to evade outside pressure (Ryan & Deci, 2002). Extrinsic motivation is recognized as the engaging in an activity or experience solely for the reason of obtaining results that are separate from the activity or experience. For example, if a person completes a task for the sole purpose of gaining payment or acknowledgment and appreciation, then that person is demonstrating extrinsic motivations (Ryan & Deci, 2000). When extrinsically motivated, behaviors are simply a “means to an end” and are not executed for their own sake (Barkoukis, Tsorbatzoudis, Grouios, & Sideridis, 2008; Deci & Ryan, 1985; Deci et al., 1991; Vallerand & Bissonnette, 1992; Vallerand et al., 1992; Frederick & Ryan, 1995). The construct of Extrinsic Motivation implies that individuals can be motivated through manipulation of positive reinforcers and negative reinforcers. This can be identified as the carrot and the stick reward system, or a metaphor for the use of a combination of reward and punishment to induce desired behavior. A number of jobs, such as “academic jobs,” where professors are given a stipulated number of years to demonstrate growing research production through publication of their works, exemplifies this system. At the end of the time period, either the professors know that they will be rewarded for their behavior (successful teaching and research) through tenure and by being promoted, or they will be punished through dismissal, if they are promoted this may reinforce them to continue doing a good job.

Deci, and Ryan (1985, 1991) have proposed four different types of extrinsic motivation that are a part of the self-determination continuum. These types include the following: External Regulation, Introjection, Identification, and Integrated regulation. External regulation is corresponding to extrinsic motivation by determining that behaviors are regulated through an

external stimulus, such as rewards. External regulation refers to the behaviors displayed by a person in order to receive an outside consequence for a task. Introjection is an internalization by an individual to determine the reasons for his or her own actions. Introjected regulation is influenced by an internal pressure that is slightly more internalized by the person, and an example could be their avoidance of shame or guilt. Identification is the choosing of an action by an individual that would be perceived as motivating. Also called identified regulation (Deci & Ryan, 1985; Leroy & Bressoux, 2016), this is a more autonomous form of extrinsic motivation.

The last, integrated regulation is considered the most autonomous type of extrinsic motivation. It occurs when the self fully assimilates guidelines or rules (Deci & Ryan, 1985). There is some debate regarding the theoretical difference between integrated and identified regulation (Leroy & Bressoux, 2016; Lonsdale, Hodge, & Rose, 2008; Mouratidis, Lens, & Vansteenkiste, 2010). One theory, posited by Vallerand (1997), stated that integrated regulation as a form of motivation is not established until reaching adulthood.

Amotivation.

Amotivation was proposed by Deci and Ryan (1985) as a motivational construct. It is one of the most important behaviors that a human can exhibit. Amotivation is defined as a “state of lacking an intention to act” (Ryan & Deci, 2000, p. 61). This lacking of intention to act may occur due to a lack of planning for current behaviors and future outcomes (Guay, Vallerand, & Blanchard, 2000; Vallerand & Bissonnette, 1992). An individual can become amotivated when there is no perception of likelihood between the actions of the individual and the outcomes of the actions by the individuals (Vallerand et al, 1992). An individual who becomes amotivated may experience feelings of incompetence, and uncontrollability. This means that their behaviors are

being perceived as being controlled and caused by forces out of their control. This leads to the individual feeling less motivated to perform activities that they normally do.

According to Vallerand and Bissonnette (1992), amotivated behaviors are neither intrinsically nor extrinsically motivated; instead, these behaviors can be described as “non-motivated.” The state of amotivation occurs when a person does not intend to act or if behaviors are displayed for unknown reasons or without intention (Legault, Green-Demers, & Pelletier, 2006; Ryan & Deci, 2002). Amotivation is a lack of purpose regarding a job or activity that can cause individuals to be blind about the motives for their behaviors (Ryan & Deci, 2000). When researching amotivation with students, Cheon and Reeve (2015, p. 100) stated “with amotivation the students have no reason to act – not intrinsic motivation, identified regulation, external regulation, or introjected regulation.”

Amotivation denotes the lack of contingency between activity and results (Taylor et al., 2014). Individuals, who are more or less autonomously motivated, can perceive the reason that they act the way that they do in certain situations. However, individuals who are amotivated do not understand or find a reason to participate in certain undertakings. This lack of preparation for contingency suggests a “dereliction of intention to act” (Leroy & Bressoux, 2016; Legault et al., 2006) that occurs due to many different reasons (Cheon & Reeve, 2015; Legault et al., 2006).

Amotivated students in the classroom setting often lack the self-assurance to control their own education and learning and regularly display inappropriate conduct or actions (Yates, 2009). In students displaying amotivation, failure is identified as a sign of their lack of capabilities, which creates self-doubt regarding their capacity to overcome their problems or issues (Montagne & Van Garderen, 2003). This self-doubt about the ability to be successful in the school environment further causes amotivated students to believe that any attempt on their part to

improve or learn is in vain (Bandura, 1993; Pintrich, 2003), which coincides with self-efficacy. This can lead the student to begin to question the practicality of participating in the task (Leroy & Bressoux, 2016), which causes pessimism and negativity to grow. This cynicism and possible distrust can hinder the student's ability to learn (Cheon & Reeve, 2015) and may influence the student to abandon the task (Dweck, 1999). In one study, amotivation was identified as the form of motivation that most significantly related to grade point average or GPA (Karsenti & Thiebert, 1995). Research indicates that the role of amotivation can be a significant potential harm for younger students' educational achievement (Taylor et al., 2014). Amotivated students identified at the end of their junior high school career were reported as experiencing the most negative long-term effects when transitioning to their high school setting (Otis et al., 2005).

Self-Efficacy and Motivation

As stated earlier, academic motivation is often discussed in terms of self-efficacy (Schunk, 1991). It was Albert Bandura (1977) who hypothesized that self-efficacy impacts an individual's choice of activities, effort, and persistence. This means that two types of people can be derived from this theory: those who have a low sense of self-efficacy, and those who feel efficacious. Those who have a low sense of self-efficacy for accomplishing a task may avoid doing it. Those who are feeling efficacious about accomplishing a task work harder and persist longer when encountering difficulties than those who doubt their qualifications.

Method

Participants

Participants were recruited from undergraduate education and psychology classes and asked to answer a self-report survey that involved various types of academic motivation, self-efficacy, and scores on scales that predict levels of self-esteem. The participants in this study were 310 undergraduate students enrolled in a 2000-level education or psychology course. In terms of university classification of the participants, 29% were freshmen, 31.9% were sophomores, 20.0% were juniors, and 18.7% were seniors, and 0.3% were listed as other. Of the participants, 79% were female, and 21% were male. Approximately, 68.1% of the participants identified themselves as Caucasian, 24.5% African American, 0.6% Asian, 3.2% Hispanic, 1.0% Native American, and 2.6% responded with "Other race or origin". Ages of the participants ranged from 17 to 49 with a mean of 20.40 and a standard deviation of 3.86.

Instruments

Consent form.

The consent form provided to the participants prior to beginning study procedures contained all contact information that is required to reach the principal investigator or the experimenter. Participants were informed that participation was voluntary and optional, that all answers would be confidential and would not be separately reported in any identifying manner. Participants were asked to sign this document and return it to the researcher. This document was kept in the experimenter's records for the duration of time indicated by APA.

Demographics questionnaire.

The demographics questionnaire utilized in this study consists of a series of items that are designed by the researcher to gather general participant's information which includes school classification, sex, ethnicity, age, ACT or SAT score, and self-reported scores of religiosity and spirituality.

Academic Motivation Scale.

The Academic Motivation Scale (AMS) (Vallerand et al., 1992) is a twenty-eight-item scale, used to examine why students go to college. The seven subscales consist of three intrinsic-motivation subscales, and three extrinsic subscales, along with one amotivation subscale. According to Fairchild, Horst, Finney, & Barron (2005) evaluation of the AMS met validity criteria for measuring intrinsic motivation, extrinsic motivation, and amotivation. Each subscale has four survey items of a 7-point Likert scale with the higher score representing a stronger endorsement of that particular motivation (Fairchild et al., 2005). A composite motivation score was calculated for each category (intrinsic, extrinsic, and amotivation) by averaging the score of all items in the subscales within the categories.

General Self-Efficacy Scale.

The General Self-Efficacy (Sherer et al., 1982) was originally created in Germany and has since been adapted over numerous languages (Luszczynska, Scholz, & Schwarzer, 2005). By 1995, the scale had been adapted to 28 different languages (Schwarzer & Jerusalem, 1995). The GSE scale includes 10 items that has potential responses that range from not at all true (1), hardly true (2), moderately true (3), and exactly true (4). Examples of the items on the survey include the following: "Thanks to my resourcefulness, I can handle unforeseen situations." Another questionnaire item is "I can always manage to solve difficult problems if I try hard

enough.” (Sherer et al., 1982). The total score can range between 10 and 40 (Sherer et al., 1982). The GSE scale has been adapted for foreign languages using German and English versions (Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002).

Rosenberg Self-Esteem Scale.

The Rosenberg Self-Esteem Scale is a 10-item scale that measures global self-worth by measuring both positive and negative feelings about the self. The scale is believed to be uni-dimensional. All items are answered using a 4-point Likert scale form at ranging from strongly agree to strongly disagree. Scores are kept on a continuous scale with higher scores indicating higher levels of self-esteem.

Procedure

Prior to the beginning of this study, approval was obtained from the Institutional Review Board (IRB) of the University. All relevant ethical guidelines set by the American Psychological Association (APA) were followed throughout the duration of the experiment, as well as after the experiment (regarding confidentiality and anonymity). No personal information regarding participants (i.e. name, campus identification number) was included in the permanent data record. Individuals who participated in the study were provided with extra course credit in return for participation; individuals who chose not to participate in the study were provided an equivalent opportunity to earn equivalent credit by the course instructor. The study was approved by the University’s Institutional Review Board.

Administering of the survey occurred in a classroom environment that was reasonably distraction free. On arrival, the participants were handed a survey packet that included the consent form and were reminded that they could leave the experiment at any time and still receive bonus credit. The participants were also reminded that they were free to discontinue

participation at any time and were reminded that they were free to skip any item on the demographic questionnaire or any other questionnaire to which they were not comfortable responding (without the loss of any due extra course credit for participation or any other repercussion). The purpose of the study was also very briefly discussed to participants, and the participants were thanked for their consideration of participating in this study. Participants were then urged to read the consent form thoroughly and complete the information at the bottom (e.g. signature, date, course professors name, section number, or regular class meeting time); follow this information regarding the consent form, the participants were asked to proceed to the demographics page and complete the remaining parts of the survey (unless, of course, one felt uncomfortable completing any of the items).

Results

Descriptive

Data from 310 participants was analyzed to assess the validity of several hypotheses. For a better comparison of majors, the data was split into the three dominant majors, education ($n = 118$), nursing ($n = 52$), and psychology ($n = 51$), for a total 221 participants. As shown in Table 1, descriptives between the subscales of the AMS show that Psychology Majors ($M = 18.36$, $SD = 4.67$) have the highest intrinsic motivation followed by Education Majors ($M = 18.15$, $SD = 5.33$) and Nursing Majors ($M = 16.92$, $SD = 4.58$). The next subscale is Extrinsic Motivation which shows that Nursing Majors ($M = 24.39$, $SD = 5.02$) have the highest mean score on followed by Psychology Majors ($M = 23.46$, $SD = 2.64$), then Education Majors ($M = 23.03$, $SD = 3.74$). The final subscale of the AMS is amotivation, in which Psychology Majors ($M = 6.88$, $SD = 5.09$) scored the highest, followed by Education Majors ($M = 6.02$, $SD = 3.90$), then Nursing Majors ($M = 5.50$, $SD = 3.07$). The next scale is the General Self-Efficacy Scale (GSE)

in which Nursing Majors ($M = 32.66$, $SD = 3.80$) had the highest mean scores followed by Psychology Majors ($M = 32.49$, $SD = 3.81$) then Education Majors ($M = 21.24$, $SD = 3.97$). The final scale measure was the Rosenberg Self-Esteem scale (RSE), in which Education Majors ($M = 19.52$, $SD = 4.79$) had the highest mean scores followed by Psychology Majors ($M = 19.45$, $SD = 5.11$), then Nursing Majors ($M = 19.44$, $SD = 3.83$).

Table 1

Descriptive for Academic Motivation, and General Self-Efficacy in Education, Nursing, and Psychology majors

Variables	Education Majors		Nursing Majors		Psychology Majors	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
N = 221						
Intrinsic Motivation	18.15	5.33	16.92	4.58	18.36	4.67
Extrinsic Motivation	23.03	3.74	24.39	5.02	23.46	2.64
Amotivation	6.02	3.90	5.50	3.07	6.88	5.09
General Self-Efficacy	31.24	3.97	32.66	3.80	32.49	3.81
Self-Esteem	19.52	4.79	19.44	3.83	19.45	5.11

Correlations

As shown in Table 2, significant positive correlations were found between IM and EM ($r = .495$, $p < 0.01$), IM and General Self-Efficacy ($r = .188$, $r < 0.05$), EM and General Self-Efficacy ($r = .351$, $r < .01$), and Amotivation and Self-Esteem ($r = .253$, $p < 0.01$). Significant negative correlations were found between IM and Amotivation ($r = -.201$, $p < 0.05$), IM and Self-Esteem ($r = -.203$, $p < 0.05$), EM and Self-Esteem ($r = -.237$, $p < 0.05$), and General Self-Efficacy and Self-Esteem ($r = -.590$, $p < 0.01$).

Table 2

Correlations between Intrinsic Motivation, Extrinsic Motivation, Amotivation, GSE, and RSE in Education Majors

Correlations					
Variables	Intrinsic Motivation	Extrinsic Motivation	Amotivation	General Self-Efficacy	Self-Esteem
Intrinsic Motivation	1				
Extrinsic Motivation	.495**	1			
Amotivation	-.201*	-.155	1		
General Self-Efficacy	.188*	.351**	-.074	1	
Self-Esteem	-.203*	-.237*	.253**	-.590**	1
**. Correlation is significant at the 0.01 level.					
*. Correlation is significant at the 0.05 level.					

As shown in Table 3, significant positive correlations were found between IM and EM ($r = .415, p < 0.01$). Significant negative correlations were found between General Self-Efficacy and Self-Esteem ($r = -.441, p < 0.01$).

Table 3

Correlations between Intrinsic Motivation, Extrinsic Motivation, Amotivation, GSE, and RSE in Nursing Majors

Correlations					
Variables	Intrinsic Motivation	Extrinsic Motivation	Amotivation	General Self-Efficacy	Self-Esteem
Intrinsic Motivation	1				
Extrinsic Motivation	.415**	1			
Amotivation	-.151	-.089	1		
General Self-Efficacy	.014	.189	.266	1	
Self-Esteem	-.210	-.204	.092	-.441**	1
**. Correlation is significant at the 0.01 level.					
*. Correlation is significant at the 0.05 level.					

As shown in Table 4, significant positive correlation was found between (r = .378, $p < 0.01$), while a significant negative correlation was found between EM and Amotivation (r = -.312, $p < 0.01$).

Table 4

Correlations between Intrinsic Motivation, Extrinsic Motivation, Amotivation, GSE, and RSE in Psychology Majors

Correlations					
Variables	Intrinsic Motivation	Extrinsic Motivation	Amotivation	General Self-Efficacy	Self-Esteem
Intrinsic Motivation	1				
Extrinsic Motivation	.156	1			
Amotivation	-.184	-.312*	1		
General Self-Efficacy	.378**	.387	.241	1	
Self-Esteem	-.047	-.137	.224	-.229	1
** . Correlation is significant at the 0.01 level.					
* . Correlation is significant at the 0.05 level.					

Discussion

The key findings of this study concern both the descriptive and correlational data. When it concerns the descriptive data, psychology majors had the highest intrinsic and amotivation, while nursing majors had the highest extrinsic motivation and general self-efficacy, and education majors had the highest self-esteem. When it concerns the correlational data, psychology majors had positive interaction with intrinsic motivation and general self-efficacy, and negative interaction with amotivation and extrinsic motivation, while nursing majors had positive interaction between extrinsic motivation and intrinsic motivation and negative interaction between general self-efficacy and self-esteem. Education majors had many negative correlations between self-esteem and intrinsic motivation, extrinsic motivation, and general self-efficacy, while having positive interactions between self-esteem and amotivation.

Student success may be correlated with several different factors, which include their choice of major. If a student is satisfied with their choice of major, the student may be more inclined to perform better in classes that are related to that major or if it is not their major, the student may be inclined to perform better to “prove their self” (Elliott, 1984). Students enroll in majors that the student may have no intention of succeeding in, but have chosen because of the influence of gender (Allen, 1992) or other factors such as SAT/ACT scores, high school rank, and high school math and science background (Campbell & McCabe, 1984).

However, when it concerns certain majors such as psychology, it should be noted that if in this study psychology is linked to intrinsic and amotivation it could be related to the theoretical aspect of the psychology field. Psychology is the scientific study of the mind and behavior, but can also be described as a multifaceted field that includes sub-fields such as human development, sports, social behavior, and cognitive processes. Psychology is full of many

different theories that relate to the mind and behavior. Students that are majoring in psychology may benefit from having a high intrinsic motivation due to psychology being theory-heavy. However, as with most motivation, it is up to the individual to stay motivated about their major to finish it out, however, lack of motivation may lead to amotivation, which may also be a result of the psychology field being theory-heavy.

Nursing and Education majors can be grouped in to application or job-based fields. These fields have hands-on experience that will usually begin in the junior or senior year of college. This may lead to a higher extrinsic motivation in these majors than the other majors. The chance for a student to be able to perform what will one day become their future job may lead to that student having a higher external or extrinsic motivation due to the reward of being able to perform their job. In nursing majors, this would be being able to perform clinicals, and in education majors, this would be being able to student teach. According to Deci & Ryan (1985) extrinsic motivation offers external rewards such as money or even a job. The external rewards of majoring in nursing or education is that these students will be able to practice their future job, while being in their major. This would allow for an increase in self-efficacy because the student would be able to practice their job and gain efficacy in their field before actually being in a job field.

Future Implications

Future implications for this study include the improved choice of major by students. If the students know that there is a possibility of working in their future field through participation in a major then the student may see this as an extrinsic motivation and start to succeed in their major. This would lead to less of a chance of the student changing majors and more of a chance of success in the future for the student. In the case of students who are more intrinsically

motivated, it may be beneficial for those students to be steered toward a career that is more theoretical in nature, which would allow for those students to self-motivate, but one should also be careful because that student could be more prone to amotivation or lack of motivation.

Motivation may be able to be improved through a redesign of curricular activities. Changing a traditional based learning into a problem based, critical thinking, curriculum centered learning may influence students to gain enough motivation to be able to succeed in the classroom.

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