AN ANALYSIS OF THE IMPACT OF MOTIVATION AND MOTIVATION FACTORS ON STUDENT ACADEMIC ACHIEVEMENT

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Abstract

The main purpose of this study was to investigate the impact of students' motivation and motivation factors on academic achievement in a particular classroom setting. Quantitative design was used in this study. The Academic Motivation Scale, Motivation Factors Questionnaire and Academic Ability Tests were used in this study. Academic Motivation Scale consists of three subscales: intrinsic motivation, extrinsic motivation and amotivation and is composed of 27 items (α=0.838). Motivation Factors Questionnaire consists of six subscales: self-efficacy, mastery approach, mastery avoidance, performance approach, performance avoidance, and perceived instrumentality and consists of 22 items (α=0.816). To obtain the required data, a total of 1,332 students from the selected Basic Education Schools in 5 Regions and States participated in this study by using the multi-stage sampling technique. The result of t test by gender revealed that there was influence by gender for motivation and motivation factors by the whole sample. ANOVA results indicated that there were significant differences with regard to students' motivation and motivation factors by regions. The result of Tukey HSD tests were conducted and it was apparent that regions differed significantly at 0.05 level. In addition, multiple regression analysis showed that students' motivation ($F = 87.010$, $p<0.001$) and motivation factors ($F = 495.734$, $p<0.001$) were the best predictors of their academic achievement. The research on how high school students' motivation and motivation factors impact on academic achievement can give useful guidelines for the teachers to create classroom environment that can impact students' academic achievement.

Keyword: Motivation, Motivation Factors

Introduction

Everyone has the need or reason to use physical or mental effort to take work. A person who feels energized or activated to do work to an end is considered motivated, whereas someone who have no impetus or enthusiasm to involve in work may be considered unmotivated. Accordingly, everyone is

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concerned with motivation. People have not only different kinds of motivation but also different amounts of motivation. Different kinds and levels of motivation lead to different levels of achievement of the task.

Many educational researches have focused on the relations between learning environment and student motivation and cognition. Much research has shown that motivation is related with various outcomes such as curiosity, persistence, learning and performance. Many psychologists and educators have long considered students' motivation as an important factor for successful school learning (Ryan & Connell, 1989 as cited in Fadlelmula, 2010). Indeed, it is claimed that motivation is important in learning.

When the student is intrinsically motivated to learn his academic subjects, he actively participated on the teaching- learning process and well-prepared the homework. He also invested his spare time or leisure time to learn this lesson. When the student is extrinsically motivated, he study the lesson only for reward or praise. He cannot invest his leisure time more if he got the reward or praise. Most studies have shown that students' perceptions of their abilities to succeed on academic tasks and intrinsic interest in these tasks are positively associated with their academic performance (Sungur, S., & Gungoren, S., 2009). Intrinsic motivation is viewed as a more positive and stable influence on academic outcomes than extrinsic motivation, although some extrinsic motivators may be effective even over the long term (Reeve, 2006 as cited in Dalton, B. W., 2010). Thus, motivation is important for all students as it can affect learning activities.

In recent years, education professionals have been interested in one type of motivation referred to as achievement motivation, which is concerned with what, why, and how students are motivated in different learning situations. Achievement goals, also referred as "purpose goals" are related with the whys of students' learning. They are based on students' beliefs about what is important in an achievement situation (Fadlelmula, 2010).

According to Bandura, internal rewards for goal attainment can be more powerful influences on effort and achievement than external rewards such as praise or grades (Tollefson, 2000). However, for an activity a person is often not only motivated by the possible immediate intrinsic and extrinsic reasons (or goals), but also by future consequences. Perceiving the

instrumentality or utility of a present task for a future task or goal enhances motivation in comparison with a task without implications for the future (Simons, Dewittee & Lens, 2000).

Bandura (2006) also proposed that the challenges and goals people set for them are influenced by efficacy beliefs. Self-efficacy is concerned with capability. Self-efficacy plays a key role in human functioning because it not only directly affects behavior but also impacts on other determinants such as goals, expectation, and aspirations.

Literature Review

Motivation

Motivation is a term that refers to a process that elicits, controls, and sustains certain behaviors (Rani & Lenka, 2012). The term 'motivation' means to move or to energise or to activate. In psychology, the term motivation refers to those behaviours that are activated through internal mechanism of an individual (Mishra, 2014). According to Mishra, a motive may be thought as some activator that impels an individual to engage in action. Maslow (1943) said that the psychological needs or drives are usually taken as the starting point of the motivation theory.

Motivation is often used to refer to an individuals goals, needs, wants, intentions and purpose. Two terms frequently used by psychologists are drive and motive. Drive refers to motivation that is assumed to be primarily biological such as hunger. Needs can be psychological or social and are assumed to be learned through personal experience. Motives can be conscious or unconscious. Motivation is a force which results in persistent behavior directed towards a particular goal (Mishra, 2014). According to various theories, motivation may be rooted in a basic need to minimize physical pain and maximize pleasure, or it may include specific needs such as eating and resting, or a desired object, goal, state of being ideal, or it may be attributed to less-apparent reasons such as altruism, selfishness, morality, or avoiding mortality (Rani & Lenka, 2012). There are many approaches to motivation: physiological, behavioral, cognitive and social.

Anderman and Dawson (2011) posited that there are important trends in the study of motivation that have occurred, particularly during the last

century, that have shaped current theory and research in the field. These trends include the shift from behavioral to cognitive conceptions of motivation, as well as subtle and major developments within specific theories. Probably the most obvious and often discussed shift in motivational theorizing over time is the general movement from behavioral views of motivation to more cognitive and particularly social-cognitive views of academic motivation (Anderman & Dawson, 2011).

Self-determination theory (SDT) is an approach to human motivation, personality, social development, and overall psychological functioning (Ryan & Deci, 2000). The basic tenets of SDT are intrinsic and extrinsic motivation. Although controversial among some scholars, these two constructs represent parts of a continuum that consists of (a) amotivation (i.e., a complete lack of motivation), (b) four levels of extrinsic motivation (external, introjected, identified, and integrated), and (c) intrinsic motivation (Ryan & Deci, 2000). Intrinsic motivation is defined as engagement with a task fully and freely, without the necessity of material rewards or constraints (Deci & Ryan, 1985 as cited in Anderman & Dawson, 2011). In general, intrinsic motivation (IM) refers to the fact of doing an activity for itself, and the pleasure and satisfaction derived from participation (Deci, 1975; Deci and Ryan, 1985 as cited in Vellerand, Pelletire, Blais, Briere, Senecal, & Vallieres, 1992). Extrinsic motivation refers to varying degrees of engagement with a task in order to receive an external reward. The four types of extrinsic motivation describe the extent to which an individual internalizes motivation for the task; through this process, learners begin to transform internalizes motivation for the task; through this process, learners begin to transform their reasons for engaging with tasks from extrinsic to intrinsic (Deci & Ryan, 1991 as cited in Anderman & Dawson, 2011).

Motivation Factors

Within a broad framework, intrinsic/extrinsic theories, expectancy-value theory, and achievement goal theory focus on particular aspects of achievement motivation and connect motivation to certain other attitudes and perceptions (Dalton, B. W., 2010). Across these theoretical traditions, researchers describe motivation as deriving from two basic sources: interest in or enjoyment of a task or goal itself, and the value of external rewards

attached to the task or goal. The first theoretical tradition focuses on these two elemental factors themselves, identifying them as intrinsic and extrinsic motivation, and serves as a foundation for subsequent theories. The second tradition, expectancy-value theory, describes both intrinsic and extrinsic motivation as task values and incorporates them into a model that includes self-efficacy. The third tradition, achievement goal theory, parallels the intrinsic/extrinsic distinction by investigating mastery and performance goals—more specifically, academic and cognitive conceptions of motivation (Dalton, B. W., 2010).

The four of the most prominent current theoretical perspectives on achievement motivation are goal orientation theory, social cognitive theory, self-determination theory, and expectancy-value theory (Anderman & Dawson, 2011). One of the critical influences on students' choice of cognitive strategies is their motivation to learn. Three motivational factors that have been consistently related to cognitive strategy use in learning situations are self-efficacy, achievement goals, and perceived instrumentality (Greene, Miller, Crowson, Duke, & Akey, 2004).

Self-efficacy is a concept drawn from Bandura's (1977) broad theory of the person, which posits that human achievements depend on the reciprocal interactions of the person's behavior, personal factors (or self), and environmental conditions. Self-efficacy is defined as a person's beliefs about his or her ability to complete a task. Self-efficacy is one of the personal factors and is defined as "the conviction that one can successfully execute the behavior required to produce the outcomes" (Lennon, J. M., 2010). One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges. Self-efficacy represents the personal perception of external social factors. According to Bandura's theory, people with high self-efficacy—that is, those who believe they can perform well—are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

A person's achievement goal was said to represent his or her purpose for engaging in behavior in an achievement situation (Dweck & Leggett, 1998 as cited in Elliot, 2005). For Dweck, "Achievement goals must lie at the heart of any analysis of achievement motivation" (Dweck & Elliott, 1983 as cited in Elliot, 2005). Achievement Goal Theory (also known as Goal Orientation

Theory) focuses on the reasons that students choose to engage in some tasks, and not others (Anderman & Dawson, 2011). Two types of goals were identified: performance goals, in which the purpose of behavior is to demonstrate one's competence (or avoid demonstrating one's incompetence), and learning goal, in which the purpose of behavior is to develop one's competence and task mastery (Elliot, 2005). Mastery goals have also been associated with a preference for challenging work and risk taking, an intrinsic interest in learning activities, and positive attitudes toward learning. A performance goal orientation has been associated with a pattern of motivation that includes an avoidance of challenging tasks; negative affect following failure, accompanied by a judgement that one lacks ability; positive affect following with little effort; and use of superficial or short-term learning strategies, such as memorizing or rehearsing (Ames, 1992).

Expectancy-value theory originally was described mathematically as the product of one's expectancy of attaining a given outcome and the value one placed on that outcome (Anderman & Dawson, 2011). In goal theory revision, Elliott (1999) refers to fundamental needs and perception of competence as major reasons for the goals adopted by students. Therefore, future goals, or perceived instrumentality may be considered as major concerns of students. Perceived instrumentality implies tasks as means to achieve personal goals that are considered valuable in the future (Husman & Lens, 1999; Miller & Brickman, 2004 as cited in Sedaghat, Abedin, Hejazi, & Hassanabadi, 2011). Perceived instrumentality is a goal-related variable that represents the extent to which individuals perceive task performance as instrumental to the attainment of a valued future goal (Miller, R. B., 1999). Therefore, not only motivation but also motivation factors have a great impact on students' learning and academic achievement.

Methodology

Research Design

Quantitative perspective was used in this study. Questionnaire survey method was used to measure motivation and motivation factors of Grade 8 students. Cluster sampling technique was used in this study. Individuals were selected through multistage sampling. The multistage sampling is a complex

form of cluster sampling. The multistage sampling is the probability sampling technique where in the sampling is carried out in several stages such that the sample size gets reduced at each stage (Business Jargons, 2016). In this method regions and states were firstly selected using simple random sampling and then townships were chosen randomly. Afterward, schools were chosen randomly regarding the sample size. Next, students were assigned randomly to participate in the study. The population of the present study is about 1332 grade- 8 students of Basic Education High Schools and Basic Education High Schools (Branch) from Yangon Region, Mandalay Region, Bago Region, Shan State and Mon State.

Instruments

1. Instrumentation of Motivation

Motivation is mostly measured by self-reported questionnaire (Vallerand, Pelletier, Blais, Briere, Senecal, & Vallieres, 1992). The Academic Motivation Scale (AMS), the English version of EME, assesses several types of motivation in a multidimensional fashion. These types of motivation go beyond the usual intrinsic/ extrinsic distinction and allow a finer analysis of the motivational forces in education, thereby opening the door to innovative research (Vallerand et al., 1992). There are three subscales in AMS; intrinsic motivation, extrinsic motivation, and amotivation. The Academic Motivation Scale (AMS) consists of 28 items with a four point Likert scale ranging from strongly disagree to strongly agree. The AMS instrument has been used reliably to study and measure motivation levels in elementary, high school, and undergraduate university students (Hegarty, 2010).

After that, expert review was conducted for face validity and content validity by ten experts in the field of education and educational psychology from Yangon University of Education and Department of Education Research, Planning and Training. Pilot testing was done to test the wording of items, statements and instructions had their clarity in Myanmar language and were appropriate and relevant to grade 8 students. After that, Cronbach's Alpha was run on the overall scale of AMS. The Alpha reliability for overall scale of AMS was 0.847 with 28 items. After the pilot study, the researcher removes the item number 5.

2. Instrumentation of Motivation Factors

According to Greene, B. A. (2004), self-efficacy, achievement goals, and perceived instrumentality are three motivation factors that are related to cognitive strategies use in learning. There are three subscales in Motivation Factors Questionnaire (MFQ); self-efficacy (Schwarzer & Jerusalem (1993), rev. 2000), achievement goals (Elliot and Murayama, 2008), and perceived instrumentality (Miller, DeBacker and Greene, 1999). Motivation Factors Questionnaire (MFQ) consists of 22 items with a four point Likert scale ranging from strongly disagree to strongly agree.

The expert review was also conducted for face validity and content validity. Then, pilot testing was done during 2015-2016 AY to test whether the wording of items, statements and instructions had their clarity in Myanmar language and was appropriate and relevant to grade 8 students. After that, Cronbach's Alpha was run on the overall scale of MFQ. The Alpha reliability for overall scale of MFQ was 0.846 with 22 items. In addition, revision of item length and the wording of items were also made. After the pilot study, the researcher revises the item number 1, 15, and 18.

Data Analysis and Results

1. Motivation of Students

The Academic Motivation Scale was composed of three subscales. Therefore, the researcher conducted a comparative study for three subscales of motivation. Descriptive analysis for AMS are shown in the following table 1 to figure out obviously the strength of the subscales of motivation.

Table 1: Means and Standard Deviations of the Subscales of Motivation

Subscale	Mean	Mean Percent	SD
Intrinsic motivation	37.63	47.55%	5.467
Extrinsic motivation	35.95	45.42%	4.969
Amotivation	5.56	7.03%	2.198
Motivation (The Whole Test)	78.94	100%	9.692

Based on the descriptive statistics shown in table 4.1 and figure 4.1, the mean percent score for intrinsic motivation is the highest among grade 8 students. It can be said that students had more intrinsic motivation than

extrinsic motivation. Moreover, students had little amount of amotivation in learning academic subjects. So it is apparent that students have intrinsic or extrinsic motivation to learn in school. They are motivated to learn something new in school as they are interested in the academic subjects or are forced by praise or reward by their parents or teachers. It can be seen that most of Myanmar children have high motivation to attend schools by different reasons or goals.

1.1 Motivation of Students by Gender

Since it is assumed that there might be differences in motivation with regard to gender, analyses were again conducted to confirm this assumption. Descriptive analysis revealed the differences in means and standard deviations of motivation between gender with respect to each motivation area respectively (see table 2).

Table 2: The Result of the Subscales of Motivation by Gender

	Gender	**N**	**Mean**	**SD**	***t***	***df***	***p***	**MD**
Intrinsic Motivation	Male	578	36.75	5.667	-5.246***	1330	0.000	-1.570
	Female	754	38.32	5.211				
Extrinsic Motivation	Male	578	35.24	5.113	-4.620***	1330	0.000	-1.259
	Female	754	36.49	4.787				
Amotivation	Male	578	6.02	2.479	6.842***	1330	0.000	0.817
	Female	754	5.20	1.882				
Total	Male	578	78.00	9.915	-3.798***	1330	0.000	-2.012
	Female	754	80.01	9.358				

***. $p<0.001$

The results of t-test confirmed that there was statistically significant difference between genders on the subscales of Intrinsic Motivation, Extrinsic Motivation and Amotivation. The female students had more intrinsic motivation (t = 5.246, p = .000) and extrinsic motivation (t = 4.620, p = 0.000) to learn the academic subjects than male students. Nolen (1988) examined eighth-grade students' reasons for studying science and reported that girls were slightly more interested than boys in studying science because they wanted to learn something new and to master something difficult. Also, Mubeen, Saeed, and Arif (2013) stated that female science students were somewhat better in their intrinsic motivation towards science than male.

Therefore, the results of the study are congruent with the research of Nolen (1988) and Mubeen, et al., (2013).

It was seen that students' amotivation level was quite low and also found that amotivation level of female and male students differed significantly ($t = 6.842$, $p = 0.000$), and this difference in favour of female students. So, it can be concluded that Myanmar female students have higher level of motivation than male students. The results concerning gender differences were also consistent with Vallerand, Pelletier, Blais, Briere, Senecal, and Vallieres (1992) found that females reported higher levels of intrinsic and extrinsic motivation, but lower levels of amotivation than male.

1.2 Motivation of Students by Regions

In the present research, the samples were selected from different Basic Education Schools in 5 Regions and States, but also a variety of demographic factors and socioeconomic status. Therefore, the researcher conducted a comparative study of motivation among 5 regions. Descriptive analysis revealed the differences in means and standard deviations of students' motivation among regions respectively.

According to discriptive analysis, the mean score of the motivation of the students in Yangon Region was the highest and those of the students in Shan State was the lowest among the regions and states. However, it can be seen that the mean values of each region and state had a slight difference in comparison with other regions and states (see table 3).

Table 3: Means and Standard Deviations of Motivation by Regions

	Regions	**No. of Students**	**Mean**	**SD**
Motivation	Yangon Region	281	80.52	9.674
	Bago Region	261	78.39	10.329
	Mandalay Region	300	78.78	9.922
	Shan State	246	76.24	9.817
	Mon State	244	78.54	10.046
	Total	1332	78.56	10.032

It can be seen that there were differences in motivation among regions (see figure 4.3). In order to obtain more detailed information on the difference

of students' motivation among regions, one way analysis of variance (ANOVA) was conducted. According to ANOVA results, there was significant difference at 0.001 level within groups (F= 6.130, *p*= 0.000). To get more specific difference, Tukey HSD test was used. It stated that the regions differed significantly in motivation scale at 0.05 level (see table 4).

Table 4: The Results of Tukey HSD Multiple Comparison for Motivation of Students by Regions

(I) region	(J) region	MD (I-J)	SE	*p*
Yangon Region	Shan State	4.284*	.869	.000
Mandalay Region	Shan State	2.548*	.856	.025

*$p<0.05$

Table 4 revealed that Yangon and Mandalay Regions were differed significantly with Shan State at 0.05 level. Although the schools were selected randomly from 5 regions and states, Yangon and Mandalay Regions were the most developed regions in Myanmar. It can be said that the students from Yangon and Mandalay Regions have been motivated by several factors than those in Shan State. Moreover, the socio-economic status of the students from Yangon and Mandalay Regions may be higher or they have more opportunities to learn than those from Mon and Shan States. So, it became clear that the socio-economic factors effected the students' motivation.

2 Motivation Factors of Students

Motivation factors are self-efficacy, achievement goals and perceived instrumentality. The questionnaire for students' motivation factors was composed of six subscales: self-efficacy, mastery approach goal, mastery avoidance goal, performance approach goal, performance avoidance goal and perceived instrumentality. Therefore, the researcher conducted a comparative study for six subscales of motivational factors. Descriptive analysis revealed the differences in means and standard deviations for six subscales of motivation factors.

Table 5: Means and Standard Deviations of the Subscales of Motivation Factors

Subscale	Mean	Mean Percent	SD
self-efficacy	15.06	23.80%	2.308
mastery approach goal	10.01	15.82%	1.439
mastery avoidacnce goal	8.33	13.17%	2.096
performance approach goal	9.65	15.25%	1.527
performance avoidance goal	10.45	16.52%	1.688
perceived instrumentality	9.77	15.44%	1.501
motivational factors (the whole test)	63.26	100%	7.280

Based on the descriptive statistics shown in table 5, the mean percent score for self-efficacy is the highest among other subscales. It can be said that self-efficacy factor is more dominant than the others and the mean percent score of performance-avoidance is the second highest. So it can be assumed that students believe their abilities to get achievement in learning. However, the students have the goal of trying not to be the worst or look stupid or dumb relative to others because the performance-avoidance factor is secondly higher than other achievement goal factors. Also, it is probable that they are motivated to do to the best relative to the others and have high interest in learning. They have confidence to deal effectively with unexpected events. In other word, they believe that they can stick to their aims and accomplish their goals. Most of students imply tasks as a means to attain personal goals that are valuable in the future but they have tendency to avoid learning the things that they have not mastered or orient not getting wrong.

2.1 Motivation Factors of Students by Gender

Based on the results of t-test, motivation factors were influenced by gender. Significant differences were found in motivation factors by gender in each subscale. Descriptive statistics was also used to find gender differences in motivation factors (see table 6).

Table 6: The Results of the Subscales of Motivation Factors by Gender

	Gender	**N**	**Mean**	**SD**	***t***	***df***	***p***	**MD**
Self-efficacy	male	578	14.85	2.483	-2.895**	1330	0.004	-0.368
	female	754	15.22	2.153				
Mastery-approach	male	578	9.68	1.581	-7.582***	1330	0.000	-0.591
	female	754	10.27	1.262				
Mastery-avoidance	male	578	8.33	2.130	0.059	1330	0.373	0.007
	female	754	8.32	2.071				
Performance-approach	male	578	9.26	1.624	-8.242***	1330	0.000	-0.679
	female	754	9.94	1.379				
Performance-avoidance	male	578	10.11	1.813	-6.497***	1330	0.000	-0.597
	female	754	10.71	1.537				
Perceived instrumentality	male	578	9.54	1.595	-4.759***	1330	0.000	-0.392
	female	754	9.94	1.403				

.p<0.01, *. p<0.001

The results of t-test confirmed that there was statistically significant difference between genders on most of the subscales of motivation factors apart from mastery avoidance subscale. It was found that the mean scores of self-efficacy, mastery-approach, performance-approach, performance-avoidance and perceived instrumentality level of female were slightly higher than male students. The results on these subscales were significant at 0.001 level. No statistically significant difference between male and female students was found for mastery avoidance.

Martin (2007) examined gender differences in scores on the motivation in over 12,000 students and found that girls scored significantly higher than boys in many adaptive aspects of motivation (e.g., valuing of school, mastery orientation (learning focus), planning, task management and persistence (Bugler, McGeown & StClair-Thompson, 2015). Therefore, the results of the study are congruent with the research of Martin (2007). Ablard and Lipschultz (1988) carried out a study and found that girls are higher at learning goals (mastery goals) but they did not find difference on performance goals (Tahir, Ghayas, & Adil, 2012).

2.2 Motivation Factors of Students by Regions

Since the samples were selected from different Basic Education Schools in 5 Regions and States, the researcher conducted a comparative study of motivation factors among 5 regions. Descriptive analysis revealed the differences in means and standard deviations of students' motivation factors among regions respectively (see table 7).

Table 7: Means and Standard Deviations of Motivation Factors by Regions

	Regions	No. of Students	Mean	SD
Self-efficacy	Yangon Region	281	15.55	2.038
	Bago Region	261	15.48	2.252
	Mandalay Region	300	15.43	2.287
	Shan State	246	14.72	2.423
	Mon State	244	13.92	2.132
	Total	1332	15.06	2.308
Achievement Goal	Yangon Region	281	38.86	4.488
	Bago Region	261	39.01	4.511
	Mandalay Region	300	39.48	4.492
	Shan State	246	37.30	4.981
	Mon State	244	37.19	4.947
	Total	1332	38.44	4.759
Perceived Instrumentality	Yangon Region	281	9.90	1.519
	Bago Region	261	10.18	1.316
	Mandalay Region	300	10.09	1.268
	Shan State	246	9.39	1.576
	Mon State	244	9.14	1.572
	Total	1332	9.77	1.501
Motivation Factors (The Whole Test)	Yangon Region	281	64.32	6.531
	Bago Region	261	64.67	6.835
	Mandalay Region	300	65.00	6.805
	Shan State	246	61.41	7.707
	Mon State	244	60.25	7.384
	Total	1332	63.26	7.280

It can be observed that there were differences in motivation factors among schools (see table 7). The mean score of the self-efficacy of the students in Yangon Region was the highest among the regions and states. It was also found that the mean score of the achievement goal of the students in Mandalay Region was the highest and the mean score of the perceived instrumentality of the students in Bago Region was the highest among regions and states. However, the mean scores of the students in Mon State was the lowest in the three subscales of the motivation factors among the regions and states.

In order to obtain more detailed information on the difference of students' motivation factors among schools, one way analysis of variance (ANOVA) was conducted. According to ANOVA results, there was significant difference at 0.001 level within groups (F= 24.198, *p*= 0.000). To get more specific difference, Tukey HSD test was used. It showed that Basic Education Schools differed significantly in motivation factors scale at 0.05 level (see table 8).

Table 8: The Results of Tukey HSD Multiple Comparison for Motivation Factors of Students by Regions

(I) region	(J) region	MD (I-J)	SE	*p*
Yangon Region	Shan State	2.902*	.615	.000
	Mon State	4.071*	.616	.000
Bago Region	Shan State	3.260*	.625	.000
	Mon State	4.428*	.627	.000
Mandalay Region	Shan State	3.582*	.605	.000
	Mon State	4.751*	.607	.000

*. $p < 0.05$

Table 8 revealed that motivation factors of students in Yangon, Bago and Mandalay Regions differed significantly with those in Mon and Shan States. It can be seen that significant differences were found among regions and states. It was probable that the students from 3 regions (Yangon, Bago and Mandalay) have been motivated by several factors or have higher socio-economic status than the others from 2 states (Mon and Shan). It can be assumed that the students' socio-economic factors have an impact on students' self-efficacy, achievement goal and perceived instrumentality.

3: Relation among Motivation, Motivation Factors and Academic Achievement

Table 9 showed the correlation matrix for the variables such as motivation, motivation factors and academic achievement (see table 9).

Table 9: Correlation Matrix among Motivation, Motivation Factors and Academic Achievement

	IM	**EM**	**AM**	**SE**	**MAP**	**MAV**	**PAP**	**PAV**	**PI**
AA	0.247***	0.170***	-0345***	0.808***	0.623***	-0.012	0.508***	0.198***	0.496***

***. $p<0.001$

where, AA = Academic Achievement
IM = Intrinsic Motivation
EM = Extrinsic Motivation
AM = Amotivation
SE = Self-Efficacy
MAP = Mastery Approach
MAV = Mastery Avoidance
PAP = Performance Approach
PAV = Performance Avoidance
PI = Perceived Instrumentality

It can be seen from table 9 that there is a strong correlation among motivation, motivation factors and academic achievement at 0.001 level. It can be found that there was a strong correlation between self-efficacy and academic achievement. There was also a strong correlation between mastery approach goal and academic achievement. Moreover, it was found that there was a negative correlation between amotivation and academic achievement. However, there was no correlation between mastery avoidance goal and academic achievement. So, the regression analysis was used to find the prediction of motivation and motivation factors.

Table 10: Regression Analysis for Predicting Academic Achievement from Motivation

Variables	**B**	**β**	***t***	**R**	**R^2**	**Adj R^2**	**F**
Academic Achievement	2.694						
Intrinsic Motivation	0.029	0.253	7.083***	0.407	0.166	0.164	87.946***
Extrinsic Motivation	-0.007	-0.055	-1.533				
Amotivation	-0.093	-0.327	-12.905***				

*p****<0.001

It can be seen that a total of 16.6% of the variance in academic achievement was accounted for by the motivation scale in this model (see table 10). In the following regression analysis, academic achievement scale was measured using the subscales of motivation which had the Tolerance value of above 0.488.

From the above table 4.11 Academic Achievement (AA) can be predicted from Intrinsic Motivation (IM), Extrinsic Motivation (EM) and Amotivation (AM). Intrinsic motivation was able to account for 25.3% of the variance in academic achievement. Amotivation was able to predict 32.7% of the variance in academic achievement. Then the model can be defined as the following equation:

$$AA = 2.694 + 0.29\ IM - 0.093\ AM$$

These findings showed that academic achievement is dependent on intrinsic motivation and amotivation. Therefore, students' motivation was the best predictor for their academic achievement. Thus, students who have high intrinsic motivation may have high academic achievement. However, students who have high amotivation may have low academic achievement.

According to Wigfield and Eccles (2002), numerous research studies have shown that intrinsically motivated students have higher achievement levels than students who are not intrinsically motivated (Saeed & Zyngier, 2012). Most studies demonstrate that there is a positive correlation and between intrinsic motivation and academic achievement (Saeed & Zyngier,

2012). Consistent with the research by Aye Thida Soe (2012), students' motivational strategies played an important role in geography concept understanding and the results also confirmed that extrinsic goal orientation cannot predict students' conceptual understanding.

Table 11: Regression Analysis for Predicting Academic Achievement from Motivation Factors

Variables	B	β	*t*	R	R^2	Adj R^2	F
Academic Achievement	-0.341						
Self-efficacy	0.182	0.671	30.804***	0.832	0.692	0.690	495.734***
Mastery Approach	0.095	0.219	9.895***				
Performance Approach	0.022	0.054	2.705***				
Performance Avoidance	-0.044	-0.118	-6.421***				
Perceived Instrumentality	0.007	0.016	0.805				

*p****<0.001

It can be seen that a total of 69.2% of the variance in academic achievement was accounted for by the motivation factors scale in this model (see table 11). In the following regression analysis, academic achievement was measured using the subscales of motivation factors which had the Tolerance value of above 0.476.

From the above table 4.25 Academic achievement (AA) can be predicted from Self-Efficacy (SE), Mastery Approach (MAP), Performance Approach (PAP), Performance Avoidance (PAV), and Perceived Instrumentality (PI) . Self-efficacy was able to account for 67.1% of the variance in academic achievement. Mastery approach (MAP) accounted for 21.9% of the variance in academic achievement. Performance approach (PAP) accounted for 5.4% of the variance in academic achievement. Performance avoidance (PAV) was able to predict 11.8% of the variance in academic achievement. Perceived instrumentality was accounted for 1.6% of the variance in academic achievement. Then the model can be defined as the following equation:

$$AA = 0.341 + 0.182\ SE + 0.095\ MAP + 0.22\ PAP - 0.44\ PAV$$

These findings showed that academic achievement is dependent on self-efficacy, mastery approach, performance approach and performance avoidance. Therefore, students' motivation factors were the best predictors for their academic achievement. Thus, students who have high self-efficacy, mastery approach, and performance approach may have high academic achievement. However, students who have high performance avoidance may have low academic achievement.

According to Rostami, Hejazi, and Lavasani (2011), approach-performance goals positively and avoidance-performance goals negatively have relationships with academic achievement. Thety indicated that perceived instrumentality and achievement goals can predict academic achievement.

The relationship model of the impact of motivation and motivation factors on academic achievement was shown in figure 1.

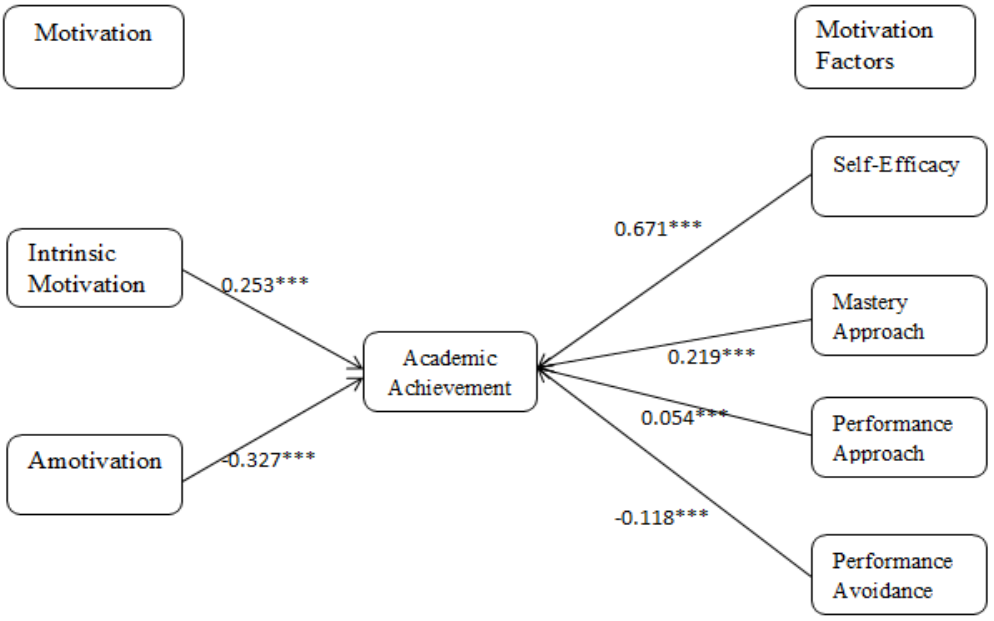

Figure 1: Relationship Model of the Impact of Motivation and Motivation Factors on Academic Achievement

Conclusion and Discussion

In education, motivation plays a crucial role in the performance of students. All students need motivation to attend school and to learn academic subjects. Student motivation has been described as one of the foremost problems in education. It is certainly one of the problems most commonly cited by teachers. Motivation is important because it contributes to achievement, but it is also important itself as an outcome (Ammes, 1990). The teacher should notice the motivation the students have and this will help the teacher in their teaching- learning process and building student-teacher relationship and creating positive learning environment.

Education plays a vital role in shaping tomorrows' leaders. It can become a better nation by acquiring the skills necessary to be productive members of a civilized society. Through education, the knowledge of society, country, and the world is passed on from one generation to generation. So, education is necessary for each individual to improve their lives, to promote their society and to contribute to the nation. Myanmar society has traditionally valued and stressed the importance of education. The mottoes such as "Every school-age child in school" and "Education for All" guide Myanmar's educational efforts. However, education is often criticised in the press in Myanmar and there is still many challenges to become a better learning environment.

The National Education Strategic Plan (NESP) is an ambitious road map for a first phase of reform in Myanmar that aims to improve teaching, learning and inclusion on all education levels, from kindergarten to universities. Some major proposed measures include extending basic education with two years to a total of 13, and the introduction of new curricula, child centered learning and more interactive classrooms. The results form this study can contribute to the basic education teachers as it can provide the importance of students' motivation and its effect on the academic achievement.

Suggestion for Future Research

This investigation highlights the importance of students' motivation and motivation factors in the classroom and their impacts on the academic achievement. A limitation with the research design was that it was cross-sectional. This design was limited the ability to assess motivation and motivation factors overtime. In the study of motivation and motivation factors, longitudinal and experimental research may be better because they are the difficult psychological attributes to measure and they cannot be developed during a short period of time, and also the effect of intervention programme can be investigated.

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