An Analysis of the Impact of Classroom Perception on Student Academic Achievement

Moe Moe Naing[1] & Hnin Hay Man Thein[2]

Abstract

The main purpose of this study was to investigate the impact of students' classroom perception on academic achievement in a particular classroom setting. Quantitative design was used in this study. Instrument for Classroom Perception and Academic Ability Tests were used as research instruments. Instrument for classroom perception includes six instructional dimensions (task, authority, recognition, grouping, evaluation, timing) and is composed of 17 items ($\alpha=0.82$). 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 classroom perception by the whole sample. ANOVA result indicated that there were significant differences with regard to students' classroom perception by regions. In addition, multiple regression analysis showed that students' classroom perception (F = 17.476, p<0.001) was the best predictor of their academic achievement.

Keyword: Perception, Classroom perception, Academic Achievement

Introduction

In today's education reform era, students' academic achievement becomes more important. Every parent wants to see their children succeeding. They want their children getting high marks in the examination and having good grade in the class. Students also want to get achievement. There are many factors that can influence students' academic achievement such as their psychological factors and their environment. Hartigan (2012) said that academic achievement is directly or indirectly associated with student himself and his environment, especially with his learning environment. Within a classroom, children constantly interact with other children, with teachers, and with materials, providing countless opportunities for interactions and feedback. Through these interactions and

---

[1] Dr, Associate Professor, Department of Educational Psychology, Yangon University of Education

[2] Staff Officer, Bago Region Education Office, Department of Basic Education

feedback teachers regulate student behaviors; they model and support what behaviors they expect of students and create structures, both implicitly and explicitly, through established classroom procedures. These school experiences and the teacher support have an impact on student learning strategies and academic achievement.

In particular, the classroom context, in which students spend a great deal of time every day, can be the most powerful predictor of achievement behaviors and academic outcomes (Kaplan, Midaleton, Urdan, & Midgley, 2002 as cited in Ohtani, 2013). These early school experiences have lasting impacts on children's academic and social development, and set the groundwork for how students may interpret future classroom experiences (Ka Paro, Pianta, & Stuhlman, 2004 as cited in Hartigan, 2012). Within the classroom, not only how teachers think about teaching learning but also how teachers create classroom goal structure using their instructional strategies, teaching methodology and evaluation can influence student academic achievement. If the teacher gives a challenging or interesting task to the student, it is sure that the student will do this task completely. And if the teacher gives students options or offer choices, the students will choose the task which they are interested. So, it is important for the teacher to create the effective classroom goal structure and the students' perceptions of classroom goal structure are important for academic success.

The field of psychosocial learning environment furnishes a number of ideas, techniques and research findings which could be valuable in school psychology. Traditionally, school psychologists have tended to concentrate heavily and sometimes exclusively on their roles in assessing and enhancing academic achievement and other valued learning outcomes. The field of classroom environment provides an opportunity for school psychologists and teachers to become sensitized to subtle but important aspects of classroom life, and to use discrepancies between students' perceptions of actual and preferred environment as a basis to guide improvements in classrooms (Burden and Fraser, 1993 as cited in Fraser, 1998). Child development research suggests that schools, along with the family and peer group, are one of the most influential social contexts for children's development (Eccles, 2004 as cited in Meece, Anderman, & Anderman, 2006). So, the classroom goal structure is important for the creation of effective learning environments.

Literature Review

Different classroom environments can also affect students' use of learning strategies. Hamre and Pianta (2010) argue that the most critical ingredients of any classroom environment are the interactions among adults and students because this view of classroom environments provides a broad, holistic view of the classroom environment that includes all types of interactions—those that are social, organizational, and instructional in nature. As such, this view of classroom environments is inclusive of research focused on more discrete aspects of classrooms such as quality or effective teaching, learning environments, and student-teacher and peer relationships (Areepattamannil, 2011). Indeed, a careful analysis of school learning research conducted by Wang, Haertel, and Walberg (1990) showed that social and affective characteristics of classrooms rival traditional instructional and cognitive characteristics in their influence on learning (Doll, Spies, LeClair, Kurien, & Foley, 2010).

Classroom goal structures also have longitudinal effects on academic outcomes (Ohtani1, Okada, Ito, & Nakaya, 2013). Ames and Archer (1988) found that students who perceive their classroom as emphasizing mastery rather than performance goals were more likely to use effective learning strategies. This is an important finding for two reasons. First, students may acquire many different learning strategies but never choose to use them unless they are motivated to do so. Second, one factor determining students' motivation to use strategies is their perceptions of the classroom climate. Therefore teachers should be aware that they must establish classroom environments that support the use of the learning strategies they are teaching (Dembo & Eaton, 1997).

Results of numerous studies on perceptions of class structures indicate that perception of classroom structure will lead to various goals (Ames, 1992). Certain teacher behaviors and classroom instructional organizational factors are more likely to encourage students to develop a mastery orientation to learning (Ames, 1992). When teachers adopt an autonomy-supportive motivating style, they allow students the time and space they need for self-paced learning and personal development to occur (Areepattamannil, 2011).The characteristics of students with a mastery orientation include an interest in improving their knowledge, willingness to take risks, enjoying academic challenges, belief that errors are part of the

learning process, and belief that ability can be improved through exhibiting greater effort (Dembo & Eaton, 1997).

Perception of classroom structure has an impact on adopting achievement goals and, in turn, achievement goals adoption has a direct impact on achievement goals and intrinsic motivation (Church, Elliot and Gable, 2001 as cited in Rostami, Hejazi & Lavasani, 2011). Debaker et al. (2004), suggest direct impacts of perception of classroom structure on variables of achievement goals and perceived instrumentality and their indirect impacts on academic achievement (Rostami, Hejazi, & Lavasani, 2011). Classroom environment which consists of classroom characteristics, setting evaluation, affective-academic support, affect different motivational variables and make students choose various motivational models and achievement goals (Badiee, Babakhani, & Hashemian, 2014). Appropriate perceptions of learning tasks, evaluating methods and supporting autonomy increase motivation in students and finally lead to their academic achievement (Ames, 1992).

In the classroom, students are daily exposed to a variety of assessment activities. Educators have long recognized that the activities presented in the classroom communicate important messages to students about what is emphasized there, which in turn may lead to different patterns of achievement-related outcomes (Alkharusi, 2010). Ames (1992) noted that the following classroom assessment practices are likely to elicit positive patterns of motivation in students: (a) designing classroom assessment tasks that include challenge, variety, novelty, and active involvement; (b) giving students opportunities to make choices and decisions in the assessment process; (c) conducting assessment practices that are private, assess progress, improvement, and mastery, and avoid social comparisons; and (d) allowing for time on the assessment task to vary with the nature of the task and student needs.

The dimensions of the classroom environment were first identified by Epstein (1988) and were used by C. Ames (1990), Maehr (1992), and Midgley (1993). These dimensions first identified the acronym TARGET: task, authority, recognition, grouping, evaluation, time (Dembo & Eaton, 1997). Using the TARGET framework, Maehr and Midgley (1991) conducted a three year intervention study, working with middle school teachers in a school-wide plan to develop specific practices that would emphasize mastery goals. The school selected to participate in this

intervention project were paired with control schools for comparison purposes. At the end of the three years, the students in the intervention schools had much lower reports of performance-oriented goals, both personally and perceived in the classroom and school, than those students attending the control schools (Hartigan, 2012).

The classroom learning environment provides a common experience for all students. The research on teacher effectiveness shows that there is considerable variation in teacher behavior wihtin classrooms.The children in the same classroom are treated differently and therefore have different experiencees. Brophy's (1981) analysis of teacher praise provides a good example of how praise and verbal rewards are not evenly distributed in the classroom, but equally important is Brophy's point that praise can be interpreted quite differently by students, as a function of their prior experiences (Ames, 1992).

Similarly, Marshall and Weinstein (1986) found that certain grouping practices and evaluation methods make differential treatment salient to high and low achieving students, but Marshall and Weinstein also found considerable within-class variability in how students perceived opportunities for making choices, feedback from the teacher, and the general work orientation of the classroom (Ammes, 1992).

The importance of student perceptions in depicting classroom climate is well-recognized and evidenced by the shift away from observational approaches to studying classroom processes. However, more recently attention has been directed toward the role of individual student perceptions and interpretations. Maehr (1984) referred to this as the personal meaning of classroom events and later suggested that classroom climate may be more appropriately conceived of as "psychological environment" (Maehr & Midgley, 1991 as cited in Ames, 1992). Students have different classroom experiences, but because they also bring different prior experiences with them, they may interpret a teacher-student interaction or event quite differently (Ames, 1992).

Methodology

Sample of the Study

Sample was selected through multistage sampling. Firstly, regions and states were firstly selected using simple random sampling and then

townships were chosen randomly. Second, schools were chosen randomly with regard to 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

Researcher modified the questionnaires of Blackburn (1998) and Liftenegger, School, Schober, Finsterwald and Spiel (2014). Instrument for Classroom Perception consisted of 17 items and was composed of 6 subscales. 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 Instrument for Classroom Perception. The Alpha reliability for overall scale of Instrument for Classroom Perception was 0.82 with 17 items.

Data Analysis and Results

Instrument for classroom perception includes six instructional dimensions (task, authority, recognition, grouping, evaluation, and timing). Therefore, the researcher conducted a comparative study for six subscales of classroom perception of students. Descriptive analysis for survey of classroom perception are shown in the following table 1 and are depicted in figure 1 to figure out obviously the level of strength of students' classroom perception.

Table 1. Means and Standard Deviations of the Subscales of Students' Classroom Perception

Subscale	Mean	Mean%	SD
task	27.74	28.2%	3.33
authority	16.74	17%	2.38
recognition	16.80	17%	2.43
grouping	8.78	8.92%	1.94
evaluation	17.19	17.48%	2.69
timing	11.11	11.3%	1.87
Classroom perception	98.36	100%	10.32
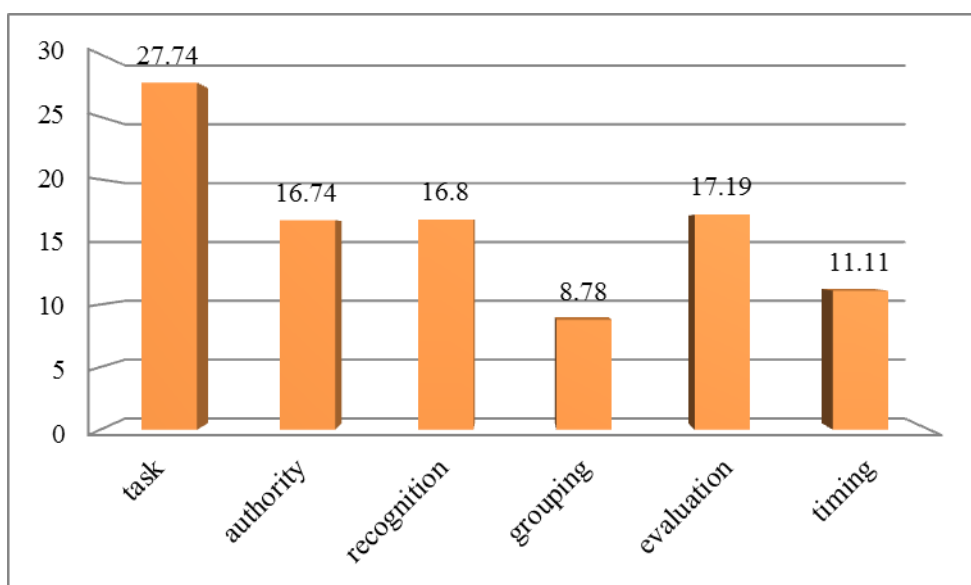
Figure 1. Mean Comparison for the Subscales of Students' Classroom Perception

Based on the descriptive statistics shown in table 1 and figure 1, the mean percent score for task dimension is the highest among grade 8 students. It can be said that the task used in the classroom may influence the students' adoption of their achievement goals. Moreover, their teachers' evaluation has a great impact on their classroom perception. However, the

grouping dimension is the lowest among the six subscales. It can be said that it is hard to the teachers to make groups in the classroom in the teaching-learning process as most schools in Myanmar have the small classroom area and the teacher-student ratio is more than 1:40 in most schools.

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

Table 2. The Result of the Subscales of Classroom Perception of Students by Gender

	Gender	N	Mean	SD	*t*	*df*	*p*
task	male	578	27.24	3.527	-4.922***	1330	0.000
	female	754	28.13	3.119			
authority	male	578	16.26	2.432	-6.500***	1330	0.000
	female	754	17.10	2.276			
recognition	male	578	16.46	2.369	-4.519***	1330	0.000
	female	754	17.06	2.440			
grouping	male	578	8.73	1.957	-.930	1330	0.352
	female	754	8.83	1.922			
evaluation	male	578	16.79	2.852	-4.859***	1330	0.000
	female	754	17.50	2.510			
timing	male	578	10.90	1.948	-3.572***	1330	0.000
	female	754	11.27	1.790			

***.$p<0.001$

The result of t-test confirmed that there was statistically significant difference between genders on most of the subscales of classroom

perception apart from grouping. The female students had higher task, authority, recognition, evaluation and timing perception about the teaching of their teachers in the classroom than the 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 grouping dimension.

The results by Rostami et.al., (2011) showed that girls got higher scores in components of perception of classroom structure (tasks, authority, recognition, grouping, evaluation and timing) than boys. Consistant with the research by Kaufman and Dodge (2009), females perceived the class as being more valuable than males.

It seemed that higher scores of girls than boys in classroom perception stemed from culture. Parents' expectations and how they treat, especially for mothers, always leads children to be better in all contexts. In Myanmar society, it can be found that most girls were more trying hard in the classroom to get high marks in the academic subjects. This may be due to fact that most of the girls were more shameful than boys when they were scolded by their parents or teachers for their poor marks or incomplete assignments.
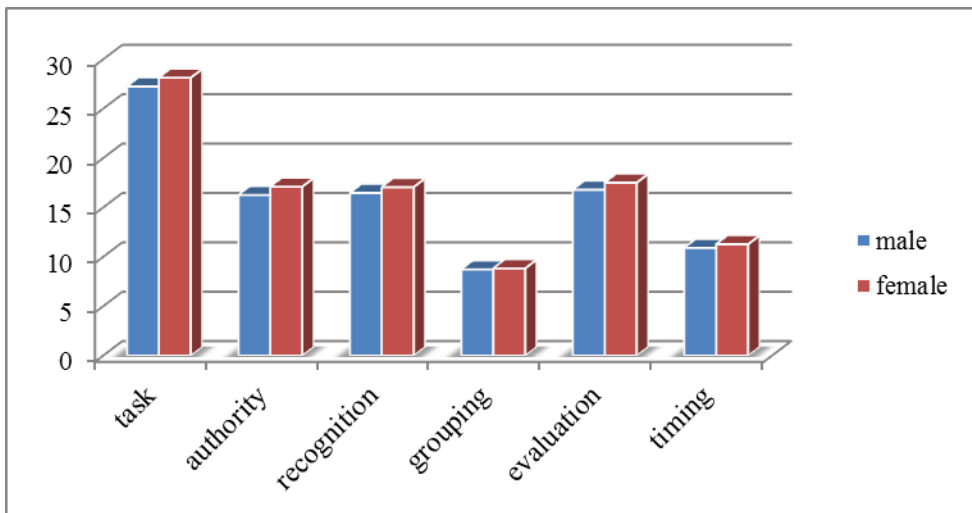

Figure 2. Mean Comparisons for Six Subscales of Classroom Perception by Gender

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. The mean value of classroom perception of Bago Region was the highest and the mean values of Mon and Shan States were the lowest. 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 Classroom Perception
       by Regions

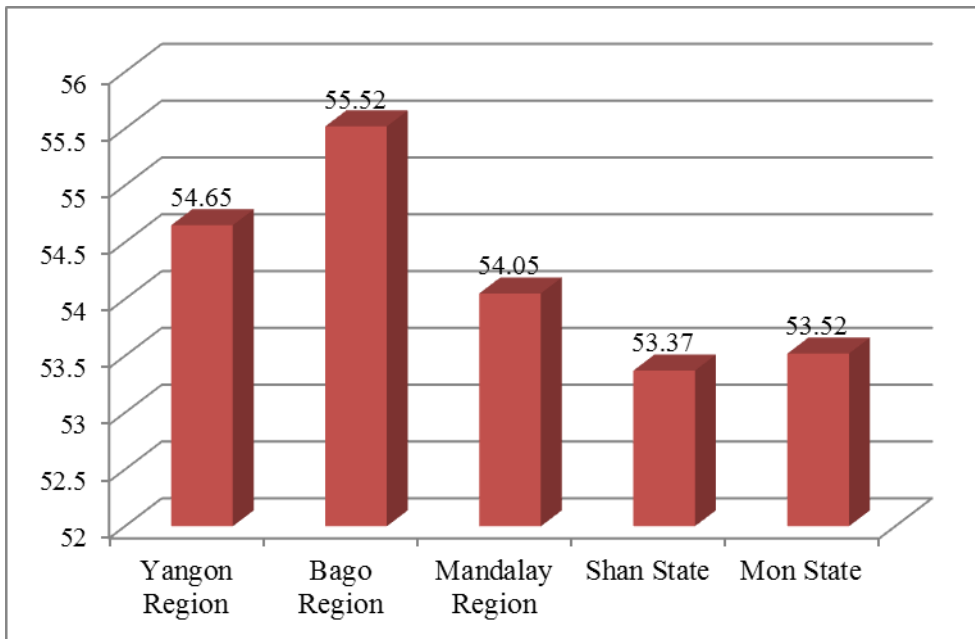|	**Region/State**	**N**	**Mean**	**SD**
Classroom Perception	Yangon	281	54.65	5.77
	Bago	261	55.52	5.58
	Mandalay	300	54.05	6.18
	Shan	246	53.37	6.15
	Mon	244	53.52	5.39
	Total	1332	54.24	5.88

Figure 3. Mean Comparison of Classroom Perception by Regions

In order to obtain more detailed information on the difference of students' classroom perception by regions, one way analysis of variance (ANOVA) was conducted. According to ANOVA results, there were significant differences at 0.01 level within groups.

Table 4. ANOVA Result of Mean Comparison for Classroom Perception by Regions

	Sum of Squares	df	Mean Square	F	p
Between	1793.218	4	448.305	4.250	.002
Within	139972.680	1327	105.481		
Total	141765.898	1331			

To get more specific difference, Tukey HSD test was used. The Post Hoc Test using Tukey HSD Multiple Comparison showed the source of significance in Bago region. The data was shown in table 5.

Table 5. The Results of Tukey HSD Multiple Comparison for Classroom Perception of Students by Regions

(I) region	(J) region	MD (I-J)	SE	p
Bago	Mandalay	2.963[*]	.869	.006
	Shan	2.998[*]	.913	.009
	Mon	3.072[*]	.915	.007

*. $p < 0.05$

From this result, it can be easily seen that Bago Region was significantly differed with Mandalay Region, Shan and Mon States concerning the classroom perception of students. To be specific, the classroom perception of students in Bago region was significantly higher than those of students from Naypyitaw region, Shan and Mon state.

The teacher's support for being responsible for learning and that how is it emphasized for the students to compete in the classroom, are the factors that have an impact on the students' classroom perception (Rostami, et al., 2011). Regarding the differences in students' perception of classroom structure by the region, it may be due to the teaching strategies used in the classroom, caring from their teachers, the students' feeling of relatedness to their teachers and sufficient support from school.

Table 6. Correlation Matrix Between Classroom Perception and Academic Achievement

	task	authority	recognition	grouping	evaluation	timing
Academic Achievement	0.17[***]	0.20[***]	0.13[***]	0.04	0.22[***]	0.13[***]

***. $P < 0.001$

It can be seen from table 6 that there is a strong correlation among students' classroom perception and academic achievement at 0.001 level. So, regression analysis was used to find the prediction of the classroom perception of students.

Table 7. Regression Analysis for Predicting Academic Achievement from Students' Classroom Perception

Variables	B	β	t	R	R^2	Adj R^2	F
Achievement	1.595						
Authority	.031	.12	3.42***				
Evaluation	.040	.17	5.06***	.271[a]	.073	.069	17.48***
Timing	.028	.08	3.05***				

.p***<0.001

It can be seen that a total of 6.9% of the variance in academic achievement was accounted for by the classroom perception scale in this model (see table 7). In the following regression analysis, academic achievement scale was measured using the subscales of classroom perception which had the Tolerance value of above 0.576.

From the above table 7, Academic Achievement (AA) can be predicted from Authority (AU), Evaluation (EV) and Timing (TI). Authority was able to account for 11.9% of the variance in academic achievement. Evaluation was able to predict 17% of the variance in academic achievement. Timing was able to account 8.3% of the variance in academic achievement. Then the model can be defined as the following equation:

$$AA = 1.595 + 0.031 \text{ AU} + 0.04 \text{ EV} + 0.028 \text{ TI}$$

These findings showed that academic achievement is dependent on authority, evaluation and timing. Thus, students who have high authority, evaluation and timing may have high academic achievement.

The relationship model of the impact of classroom perception on academic achievement was shown in figure 4.
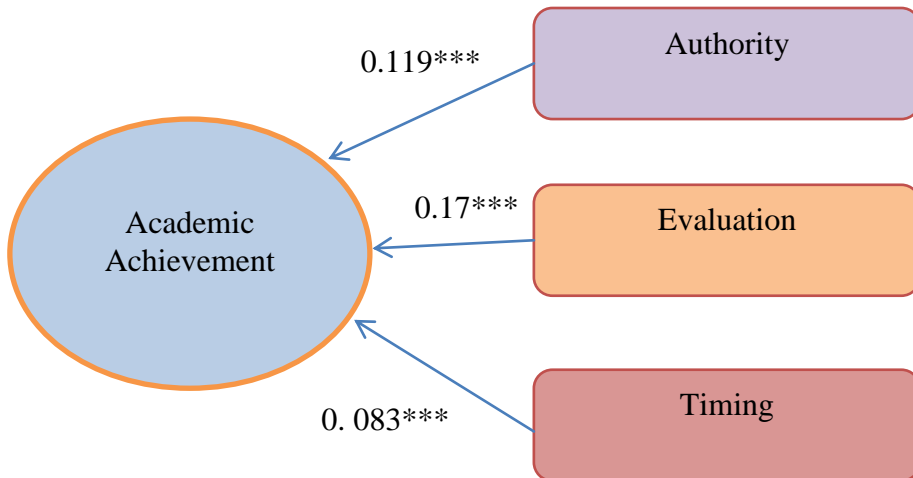
Figure 4. Relationship Model of the Impact of Classroom Perception on
              Academic Achievement

A large body of evidence found student perceptions of classroom psychosocial characteristics to be strongly related to cognitive and affective outcomes (Shirley, 2003). Consistent with previous research, Church, Elliot and Gable (2001) conducted a study with undergraduate college students to investigate this relationship between the students' perceptions of the classroom environment and the students' personal achievement goals, as well as students' grades and motivation toward the class. They concluded that the perceived classroom environment influenced the students' personal goal adoption and students' performance.

Conclusion and Discussion

This study was conducted to investigate the impact of the students' motivation and classroom perception on their academic achievement. A total of 1332 grade 8 students from high school and high school (branch) in Yangon Region, Mandalay Region, Bago Region, Shan State and Mon State participated in this study. Among the sample, 281 (21.1%) were drawn from Yangon Region, 300 (22.5%) were drawn from Mandalay Region, 261 (19.6%) were drawn from Bago Region, 246 (18.5%) were drawn from

Shan State and 244 (18.3%) were drawn from Mon State. Female comprised 56.6% of Grade 8 students and the rest were male.

Concerning the classroom perception, the mean scores of stuents in task subscale was the highest and that of students in evaluation subscale was the second highest, however, the mean scores of students in grouping subscale was the lowest. So, the students may view that the task they did in their class and the teacher's assessment were appropriate to them. However, they will think that the teacher rarely made the groups of students in the class while teaching-learning process.

The result of independent sample t-test confirmed that there was statistically significant difference between genders on most of the subscales of classroom perception apart from grouping. The female students had higher task, authority, recognition, and evaluation and timing perception about the teaching of their teachers in the classroom than the male students. It pointed out that there was gender effect on the classroom perception of Grade 8 students.

According to the ANOVA results, the mean scores of students from Bago Region was the highest (55.52) and that of students from Yangon Region was the second highest (54.65). The mean scores of students from Mon State (53.52) and Shan State (53.37) were the lowest among 5 regions. Specifically, the students from Bago Region were significantly differed with the students from Mandalay Region, Mon and Shan States concerning the classroom perception of students. So, it can be assumed that the classroom perception is affected by different locations.

The correlation coefficients were used to assess the relationship between the classroom perception and academic achievement. It can be seen that there was a strong correlation among the most subscales of classroom perception apart from grouping subscales. To investigate the best predictors of the students' academic achievement, the regression analysis was used. It can be seen that a total of 6.9% of the variance in academic achievement was accounted for by the motivation factors. As results, the identified equation to understand the relation was $AA = 1.595 + 0.031AU + 0.04EV + 0.028TI$. These findings showed that students' academic achievement would be dependent on the subscales of authority, evaluation and timing. The results pointed out that the impotance of learning environments for the students. So, the teachers should create the classroom in which the students

are autonomous in their progress, experience a friendly and positive atmosphere, and interact with intrinsic motivation.

This investigation highlights the importance of students' classroom perception 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 motivational factors overtime. In the study of motivation and motivational 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.

Acknowledgement

References

Alkharusi, 2010 Alkharusi, H. (2010). Literature review on achievement goals and classroom goal structure: Implications for future research. *Electronic Journal of Research in Educational Psychology, 8* (3), 1363-1386.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology. 80* (3), 260-267.

Ames, C. (1992). Classrooms: Goals, goal structures, and student motivation. *Journal of Educational Psychology, 84* (3), 261-271.

Areepattamannil, S. (2011). *Academic self-concept, academic motivation, academic engagement, and academic achievement: A mixed methods study of Indian adolescents in Canada and India.* Unpublished Doctoral Dissertation, Queen's University, Canada.

Badiee, H., Babakhani, N. & Hashemian, K. (2014). The explanation of structural model of academic achievement based on perception of classroom structure and use of motivational strategies in middle schools of Tehran. *Social and Behavioral Sciences, 116,* 397 – 402.

Church, M. A., Elliot, A. J. and Gable, S. L (2001). Perceptions of classroom environment, achievement goals, and achievement outcomes. *Journal of Educational Psychology, 93* (1), 43-54.

Dembo, M. H., & Eaton, M. J. (1997). School learning and motivation. In Phye, G. D. (1997). *Handbook of academic learning: Construction of knowledge*. USA: Academic Press, Inc.

Doll, B., Spies, R. A., LeClair, L. M., Kurien, S. A., & Foley, B. P. (2010). University of Nebraska—Lincoln student perceptions of classroom learning environments: Development of the classmaps survey. *School Psychology Review, 39* (2), 203-218.

Fraser, B. J. (1998). Classroom environment instruments: Development, validity and applications. *Learning Environments Research, 1*, 7–33.

Hartigan, A. (2012). *Using cognitive interviewing to assess primary students' perceptions of classrooms goal structures.* Unpublished Doctoral Dissertation. George Mason University. Fairfax, VA.

Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychology Review, 19,* 141-184.

Kaufman, A., & Dodge, T. (2009). Student perceptions and motivation in the classroom: exploring relatedness and value. *Social Psychology Education Journal, 12,* 101–112.

Meece, J., Anderman, E., & Anderman, L. (2006). Classroom goal structures, student motivation, and academic achievement. *Annual Reviewed Psychology. 57*, 487–503.

Ohtani1, K., Okada, R., Ito, T., & Nakaya, M. (2013). A multilevel analysis of classroom goal structures' effects on intrinsic motivation and peer modeling: Teachers' promoting interaction as a classroom level mediator. *Psychology Journal, 4* (8), 629-637.

Rostami, M., Hejazi, E. & Lavasani, M. G. (2011). The relationship between gender, perception of classroom structure, achievement goals, perceived instrumentality and academic achievement in English course third grad middle school students (English as second language). *Social and Behavioral Sciences 29,* 703 – 712.

Shirley, Y. (2003). *Gender differences in perceptions of school climate: A longitudinal study of school reform*. Australian Association for Research in Education Conference Paper, Auckland.