

## Learning Resources Management Strategies and Academic Achievement of Secondary School Students

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### ABSTRACT

The present study was designed to investigate the relationship between learning resources management strategies and academic achievement. And also to find out the differences between high and low achievers, gender differences, and differences between science and humanities students. To conduct the study, 100 students from class IX and class X were selected purposively. The translated Bangla version (Khanam & Ahmed, 2014) of the 'Motivated Strategies for Learning Questionnaire' (Pintrich, Smith, Garcia, & McKeachie, 1991) was administered to collect data. Students' academic achievement was measured by their last academic results. Findings revealed that academic achievement was significantly correlated with time and study environment management, effort management, and seeking help from qualified others. High achievers were differed from low achievers in using time and study environment management, effort management, peer learning, and seeking help from qualified others. No gender differences existed in learning resources management strategies. Science group students were significantly differed from humanities' students in time and study environment management, and peer learning.

**Keywords:** *Time and study environment management, effort management, peer learning, help seeking, academic achievement.*

### INTRODUCTION

Learning resources management strategies are important component of successful academic learning. Some common and most used learning resource management strategies are – management of learning time, management of study environment, effort management, peer learning, seeking assistance from qualified and significant others etc. Time management involves scheduling, planning, and managing one's study time. It includes not only setting aside blocks of time to study, but the effective use of that study time, setting realistic goals. It varies from an evening studying schedule to weekly and monthly schedule (Pintrich, Smith, Garcia, & McKeachie, 1991). Time management entails that the learner has an awareness of deadlines and the length of time needed for task completion as well as prioritizes learning tasks.

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Study environment management refers to the setting where the student does her class work (Pintrich, et al., 1991). A learner's study environment should be organized, quiet, and relatively free of visual and auditory distractions. Successful learners will be sensitive to the physical learning environment and their time management – making adjustments as necessary. The effort a student expends to reach his or her learning goals is termed effort regulation. Effort management is self-management, and reflects commitment to completing one's study goals, even when there are difficulties and distractions. It is similar to volitional control which is defined as the tendency to maintain focus and effort toward goals despite potential distractions. It enhances the ability of the learner to handle setbacks and failures within the learning process by correctly allocating resources and appropriate effort for more successful learning in the future (Chen, 2002). The effort students expend on a learning task is influenced by the importance, usefulness, and value ascribed to the task. Peer learning refers to students' learning with and from each other as fellow learners without any implied authority to any individual, based on the tenet that students learn a great deal by explaining their ideas to others and by participating in activities in which they can learn from their peers (Boud, 2001). A crucial part of the learning process for adolescents was academic peer support (Eccles, Wigfield, and Schiefele, 1998). Slavin (1996) identifies four theoretical perspectives to explain achievement effects of cooperative peer learning: motivational, social cohesion, cognitive, and developmental perspectives. The motivational perspective focuses on students' goal structures. In this perspective attainment of students' goals are dependent on a group's performance. Groups illustrate social cohesion when students help others learn because of their friendships together and desires for each member to be successful. The cognitive perspective stresses that cooperative peer learning increases students' achievements through interactions that elicit mental processing of information. Under the developmental perspective, students observe modeled behaviors from more advanced students in the group. Another resource management strategy is seeking assistance from qualified and significant others. It can be an adaptive learning strategy that allows a learner to optimize learning by seeking help from local resources such as instructors, peers, tutors, or even additional textbooks. This includes both peers and teachers.

These learning resource management strategies are component of self-regulated learning. These have a direct effect on academic achievement. Academic achievement is the degree of academic learning by the student. It is the chief indicators in evaluating the education. Stegers-Jager, Cohen-Schotanus, & Themmen (2012) found that academic achievement significantly positively correlated with time and study management environment, and effort regulation. Razak & See (2010) found peer learning in enhancing students' academic achievement and facilitating their motivation. Xiaodong & Chung (1999) found academic achievement was positively related to benefits of help-seeking and instrumental help-seeking. Attitudes, value, classroom context and academic achievement had important influence on help-seeking behaviors.

From the above discussion, the aim of the present study was to investigate whether there is any relationship between learning resource management strategies which includes time and study environment management, effort management, peer learning, and seeking assistance from others, and academic achievement of secondary school students. There is dearth of research in this

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context in Bangladesh. The present study would provide information about the secondary students' used resource management strategies that facilitate their learning. Such information would also be helpful to teachers and guardians for taking some interventions effort to students for better advancement. This study would also be beneficial to relevant authorities to design curriculum. Finally, this study would be helpful to increase the quality of education. So the main objective of the study was to see the relationship between learning resources management strategies and academic achievement of secondary school students. There were also three other objectives. These were – i) to compare the differences between high achiever and low achiever students, ii) to compare the level of gender differences, iii) to compare the differences between science and humanities students.

### **METHOD**

#### ***Participants***

The study sample comprised of 100 students from 4 schools of Netrakona District which were selected purposively. From each school total 25 students were selected purposively from class IX and class X. Among 100 respondents, finally we used 92 respondents' responses. Rests were not selected due to missing responses. Of the respondents, 47.8% from class IX and 52.2% from class X, and 22.8% from science group, 6.5% from commerce group, and 70.7% from humanities group. Among the respondents, 52.2% were female and 47.8% male. Amount of study hour (per day) ranged from 2 to 8 hours. High achievers and low achievers were categorized with their results. Those who obtained G.P.A. 1 to G.P.A. 3 were considered as low achievers and those who were obtained G.P.A. 3.01 to G.P.A. 5 were as high achievers.

#### ***Instrument used***

To collect necessary data for the present study, the translated Bangla version (Khanam & Ahmed, 2014) of the 'Motivated Strategies for Learning Questionnaire' (MSLQ) scale originally developed by Pintrich et al. (1991) was used. The scale comprised of 15 subscales and total 81 items. Among these subscales, 4 subscales [time and study environment (item no.- 35,43,52,65,70,73,77,80) for measuring time and study environment management, effort regulation (item no.- 37,48,60,74) for measuring effort management, peer learning (item no.- 34,45,50), and help seeking (item no.- 40,58,68,75) for measuring seeking assistance from others] were used in the present study. Item no. 37,40,52,60,77,80 were reversely coded. The Cronbach Alpha reliability ranged from .52 (for help seeking) to .93 (for self efficacy for learning and performance). Correlation coefficients between original form of MSLQ and Bangla translation of the MSLQ were ranged from .95 (for extrinsic goal orientation subscale) to .79 (for time and study management subscale). Developers of the scale confirmed the factorial validity. All subscales of the scale were significantly correlated with final grade (as reported by developers). The correlations of subscales of MSLQ with the subscales of the 'Academic Self Regulated Learning Scale' (Magno, 2010) were ranged from 0.10 to 0.34.

***Study design;*** The cross-sectional survey design was used to collect data for the present study.

*Procedure*

The above instrument was administered on the study sample in classroom situation. They were informed about the purpose and importance of the study and necessary rapport was established with them. Respondents were given written instructions along with the questionnaire. They were asked to read the items of the questionnaire very carefully and express their feelings. They were required to express their opinion concerning each item using a 7 -point scale, ranging from ‘strongly disagree’ (1) to ‘strongly agree’ (7). They expressed their opinion by putting tick (√) mark on the appropriate response boxes those were best expression of their feelings. They were also requested not to omit any item in the questionnaire and also told that there was no right or wrong answer. They were assured that the information collected from them would be strictly confidential and would be used for only research purposes. After completing their task, they were thanked for their cordial cooperation.

**RESULTS**

From the collected data, to see the correlations among time and study environment, effort regulation, peer learning, help seeking, and academic achievement, the collected data were subjected to the ‘*Pearson Product Moment Correlation*’ analysis. Results appear in Table 1.

Table 1

*Correlations among time and study environment (TSE), effort regulation (ER), peer learning (PL), help seeking (HS), and academic achievement (AA)*

<b>Variables</b>	<b>AA</b>	<b>TSE</b>	<b>ER</b>	<b>PL</b>
TSE	.244*			
ER	.301**	.566**		
PL	.162	.372**	.175	
HS	.215*	.359**	.323**	.259*

\* $p < 0.05$ , \*\* $p < 0.01$

Table 1 indicates that academic achievement was significantly correlated with time and study environment ( $r = 0.244$ ,  $p < 0.05$ ), effort regulation ( $r = 0.301$ ,  $p < 0.01$ ), and help seeking ( $r = 0.215$ ,  $p < 0.05$ ). Time and study environment was significantly correlated with effort regulation ( $r = 0.566$ ,  $p < 0.01$ ), peer learning ( $r = 0.372$ ,  $p < 0.01$ ), and help seeking ( $r = 0.359$ ,  $p < 0.01$ ). Effort regulation significantly correlated with help seeking ( $r = 0.323$ ,  $p < 0.01$ ). Peer learning was significantly correlated with help seeking ( $r = 0.259$ ,  $p < 0.05$ ).

The collected data were subjected to *t test* to see the differences between low achiever and high achiever students in learning resources management strategies. Results appear in Table 2.

Table 2

Mean differences between low achiever and high achiever students in time and study environment (TSE), effort regulation (ER), peer learning (PL), help seeking (HS)

Variables	Low Achiever			High Achiever			Df	t-value
	N	M	SD	N	M	SD		
TSE	32	40.29	5.97	54	44.47	7.09	90	-2.688**
ER	32	18.39	3.75	54	20.59	4.75	90	-2.140*
PL	32	12.43	3.40	54	14.33	3.45	90	-2.404*
HS	32	19.75	3.25	54	21.34	3.83	90	-2.008*

\* $p < 0.05$ , \*\* $p < 0.01$

Table 2 indicates that low achiever and high achiever students were significantly differed in time and study management ( $t$  test score = -2.688 with  $df$  90,  $p < 0.01$ ), effort regulation ( $t$  test score = -2.140 with  $df$  90,  $p < 0.05$ ), peer learning ( $t$  test score = -2.404 with  $df$  90,  $p < 0.05$ ), and help seeking ( $t$  test score = -2.008 with  $df$  90,  $p < 0.05$ ).

To see the level of gender differences in learning resources management strategies, the collected data were subjected to  $t$  test. Results of this test appear in Table 3.

Table 3

Mean differences in time and study environment (TSE), effort regulation (ER), peer learning (PL), help seeking (HS) by gender

Variables	Male			Female			Df	t-value
	N	M	SD	N	M	SD		
TSE	44	41.73	7.83	48	43.33	6.72	90	-1.058
ER	44	19.64	4.24	48	19.85	4.73	90	-.232
PL	44	13.45	3.47	48	13.67	3.67	90	-.284
HS	44	20.61	4.23	48	20.44	3.74	90	.212

Figures in Table 3 indicated that there were no significant mean differences in time and study by gender management, effort regulation, peer learning, and help seeking by gender.

To see the differences between science and humanities students in learning resources management strategies, the collected data were subjected to  $t$  test. Results of this test appear in Table 4.

Table 4

Mean differences between science and humanities students in time and study environment (TSE), effort regulation (ER), peer learning (PL), help seeking (HS)

Variables	Science			Humanities			df	t-value
	N	M	SD	N	M	SD		
TSE	21	45.52	6.54	65	42.00	7.19	84	1.993*
ER	21	20.09	4.01	65	20.01	4.53	84	.072
PL	21	15.24	3.03	65	13.18	3.68	84	2.312*
HS	21	20.38	4.58	65	20.69	3.78	84	-.311

\* $p < 0.05$

Figures in Table 4 indicate significant mean differences between science and humanities students in time and study management ( $t$  test score = 1.993 with  $df$  84,  $p < 0.05$ ) and peer learning ( $t$  test score = 2.312 with  $df$  84,  $p < 0.05$ ). Table 4 also indicates there were no significant mean differences in effort regulation, and help seeking.

## DISCUSSION

The present study was designed to investigate the relationship between learning resources management strategies and academic achievement of secondary school students. Other objectives of the present were - i) to compare the differences between high achiever and low achiever students, ii) to compare the level of gender differences, iii) to compare the differences between science and humanities students.

Table 1 indicated that academic achievement was significantly positively correlated with time and study environment management, effort management, and seeking assistance from qualified others. This findings is consistent with some previous studies ((Pintrich et al., 1991; Xiaodong & Chung, 1999; Jones, Alexander, & Estell, 2010; Stegers-Jager et al., 2012). By effective time management one set goals and try to accomplish these goals by control over the study environment. So, positive correlation between time and study environment management is desirable. Kaur, Rana, & Kaur (2009) found a significantly positive relationship of home environment components of protectiveness, conformity, reward, and nurturance with self-concept and academic achievement. Effort management is important to academic success because it not only signifies goal commitment, but also regulates the continued use of learning strategies. Meera & Dustin (2013) found effort regulation partially mediated the relationship between self-efficacy and GPA. Good students know when they don't know something and are able to identify someone to provide them with some assistance. Many studies indicated that peer help, peer tutoring, and individual teacher assistance facilitate student academic achievement (Pintrich et al., 1991).

Findings from Table 2 revealed that low achiever students are significantly differed from high achiever students in time and study environment management, effort management, peer learning, and seeking assistance from qualified others. Table 2 indicated students who were high achievers used more time and study environment management, effort management, peer learning, and

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seeking assistance from qualified others than low achiever students. These findings also give support the findings from Table 1 where we found that academic achievement was significantly positively correlated with time and study environment management, effort management, and seeking assistance from qualified others.

Figures in Table 3 failed to reveal any significant mean differences in time and study environment management, effort management, peer learning, and seeking assistance from qualified others between boys and girls. One possible reason of no gender differences is that different steps, policies those are taken by Bangladeshi government for more involvement of female students. Now-a-days, boys and girls both receive equal academic opportunities. There is no gender discrimination. So, it is expected to found no significant gender difference in learning resource management strategies.

Table 4 revealed that the students of science group significantly differ from humanities group time and study environment management, and peer learning. Science group students used more time and study environment management, and peer learning than students of humanities group. Curriculum of science group at secondary level more problems oriented. So, do better results in science group, students must use effective time and study environment management. In problematic learning, peer learning is more effective. In peer learning, students will construct their own meaning and understanding of what they need to learn. Essentially, students will be involved in searching for, collecting, analyzing, evaluating, integrating and applying information to complete an assignment or solve a problem. Thus, students will engage themselves intellectually, emotionally and socially in “constructive conversation” and learn by talking and questioning each other’s views and reaching consensus or dissent (Boud, 2001).

Findings of the present study are suggesting that for better academic achievement teachers and guardians may take some psychological interventions for using effective learning resources management strategies.

The present study has some limitations. This study was conducted in one district (Netrakona) out of 64 districts in Bangladesh. As study did not cover wide geographical areas, it is difficult to generalize the findings over whole of Bangladesh. Again, data for the present study were collected from only class IX and class X students. So, it cannot be generalized to the whole secondary students. If future studies will be conducted than it will be better to cover wide geographical areas.

Findings of the present study recommended further researches are needed in several areas with including new variables. For example – i) the effects of various resources management strategies on learning of different types of contents should be examined under experimental conditions; such studies may reveal interactions between strategies and types of contents; ii) new studies should focus on why and to what extent successful students use more some strategies than unsuccessful students; iii) possible links between basic elements of an educational system and students’ use of strategies should be explored; iv) future research should examine what really happens if all students go through strategy training as early as possible in their educational experiences. Finally, more experimental research is needed on the role of learning resources management strategies on both cognitive and affective outcomes in technology-based learning environments. The results of the recommended studies may have great influences and serious implications both for educational researchers and practitioners in Bangladesh.

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