CHAPTER 5

Summary of Research findings, Conclusions and Recommendations

This chapter presents a summary, conclusions and recommendations on a study that set out to understand the relationship between motivational beliefs and self-regulated learning strategies and academic achievement of school students. It also aimed at analyzing and comparing differences on motivational beliefs and self-regulated components across gender. In addition, the study considered influence of parents' education on motivational beliefs and self-regulated learning components in their students.

Conclusions and recommendations that are pertinent to this study are made an analysis data.

5.1 Summary

Many psychologists believe that motivation plays an important role in learning. If that is the case, in institutes of higher education where students are expected to be self-directed in their learning, motivation becomes an essential element. Though aspects of motivation and learning have been studied quite extensively in the West, to date there is a dearth of research in this area in India. Therefore, this study can help students to regulate their learning behavior and to take responsibility for their own learning. Also they have to make decisions in such a way which will help them to accomplish their learning tasks. So the level of motivation may play an important role in the way they attend to these learning tasks. Also this study is important as it addresses educators, teachers and parents.
about improving students’ achievement through fostering their patterns of beliefs and behaviors which subsequently improve their well being.

This study was undertaken to examine if an association existed between motivation and learning strategies and if it influenced on academic achievement of students in India. The study further aimed to find out gender difference in motivational beliefs components and self-regulated components and also, explored the influence of parents’ education on motivation and self-regulated learning components of students.

The sample for the present investigation included eight standard students in Pune city. The study considered English medium schools and 1020 students were included (502 girls, 518 boys). Method of the study was descriptive survey. It enabled the researcher to get information and find out the opinions of the school students. Tools used for data collection was MSLQ (Motivated Strategies for Learning Questionnaire-Appendix, A) from Pintrich and De Groot (1990) which included 44 items and two scales: motivational beliefs and self-regulated learning. This test is standardized and reliability of it with Cronbach’s alpha coefficient for each component was calculated and the test was validated through pilot study.

The data obtained with the help of the scales was analyzed through statistical techniques such as Pearsons product moment correlation, t-test and one-way Analysis of Variance (ANOVA).

5.2 Conclusions:

Following are the major conclusions from the present study:

1. (a) The study found significant correlation between motivational beliefs components and self-regulated learning components of school students at 0.01 level of significance. This study therefore concluded that there was relationship between motivation factors and cognitive strategies.
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1. (b) Test anxiety as a motivational beliefs components had negative correlation to all components. This suggests that students who had high test anxiety, were less confident, less motivated to learn and less likely to use cognitive and meta-cognitive (self-regulation) strategies.

2. (a) The findings from the second research question showed that there were significant differences between three levels of self-efficacy and their academic achievement. Whenever students had higher self-efficacy, their academic achievement was better too. This study therefore concluded that self-efficacy can strongly influence academic achievement of the students.

2. (b) The findings related to intrinsic value showed that there was significant difference between academic achievement of students with medium and high level of intrinsic value, whereas there was no significant difference between students with low and high level of intrinsic value. This study therefore concluded that intrinsic value had a limited influence on academic achievement of the students.

2. (c) Significant differences existed between academic achievement of three levels of students for test anxiety, but in inverse direction. Results showed that whenever students' test anxiety increased their academic achievement decreased. This study therefore concluded that test anxiety strongly influences academic achievement of students inversally.

3. (a) The comparison of academic achievement of students on cognitive strategy use showed some significant differences in the group mean scores. There was significant difference between low levels of cognitive strategy with other levels, but there was no significant difference between academic achievement of medium level with high level of students' cognitive strategy. It was concluded that cognitive strategy had a limited influence on academic achievement of the students.

3. (b) Significant differences were found in academic achievement of three levels of students' self-regulation. Whenever students had higher self-regulation, they had better academic
achievement. This study therefore concluded that self-regulation can strongly influence academic achievement of the students.

4. (a) The findings from gender difference on motivational beliefs components showed that there was no significant difference between boys and girls students. Nevertheless, mean scores of girls were higher than boys in motivational beliefs components.

5. (a) Significant differences existed in cognitive strategy and self-regulation across gender. The findings showed that girl students were significantly better in cognitive and meta-cognitive strategy use. The conclusion drawn is that girls used more cognitive strategy and persisted more at difficult or uninteresting academic tasks.

6. (a) The findings related to parents’ education indicated that there was a significant difference between students’ motivational beliefs (except intrinsic value) based on parents’ educations. The study therefore concluded that in this study parents’ education influences students’ self-efficacy and test anxiety. Multiple comparison of mean scores of different group of parents’ education showed that parents with high level of education had children with high self-efficacy and low test anxiety.

6. (b) The findings related to parents’ education in intrinsic value showed that there was no significant difference between students in intrinsic value based on parents’ education. This study therefore concluded that parents’ education did not influence students’ interest in the task.

7. (a) Significant differences existed between students in cognitive strategy and self-regulation based on parents’ education. The study therefore concluded that in this study parents’ education influences students’ cognitive strategy and self-regulation. The comparison of group means of students based on parents’ education showed that student who used more cognitive and self-regulatory strategies belonging to parents’ with higher levels of education.
7. (b) Overall results related to parents’ education showed that parents with professional degree and post graduate level had children with high level of these variables (self-efficacy, cognitive strategy and self-regulation and academic achievement) and naturally they had low test anxiety. The difference between the groups of parents having different educational qualification was found to be significant as calculated by Post Hoc Test.

5.3 Recommendations for Teachers:

- An implication arising from this finding is that teachers may need to adopt instructional and management practices that encourage and support the students’ perceived efficacy as means to enhance self-regulatory capability and optimize learning outcomes. These practices could include encouraging cooperation and participation from all students, providing opportunities for positive interactions through teamwork and underlining the role of self in successful learning.
- It is important to facilitate strategy use. Instructors might consider modeling specific strategies or ways of thinking for learning maths in class, in addition to encouraging students to share their strategies for learning the course content.
- Directing students’ attention to the strategy aspects of a learning task can have positive effect on students’ self-efficacy and their motivation. Strategy instruction is an instructional format designed to teach procedures for thinking about maths processes. When introducing a new task, teachers explain the strategies required for the task and state that they are learnable and can be used to advance mathematical achievement.
- There is a dearth of available data to determine how many teachers teach strategic learning skills, how many are even aware of their existence, or if they are aware, do they have the skills to teach them. So, it is necessary that teachers undergo in-service training on strategic learning skills so that they can
have the capacity to impart the same among learners in order to enable learners to know how and when to make use of them.

- Teachers should pay attention not only to students’ competence, but also to their perception of competence. Self-efficacy should be assessed through questionnaires, surveys (examples of which may be found on the internet), journals, or any other method deemed useful. Teachers must be aware about the student in terms of self-efficacy. They must also remain alert and up-to-date in using techniques for importing self-efficacy of their students.

- Teachers should teach a way that builds confidence as well as competence. This requires, in part, a teacher that is knowledgeable and enthusiastic about the subject, and has appropriate pedagogical knowledge. It should be noted that the ability to create a classroom environment conducive to fostering of self-efficacy and cognitive development depends very much on the self-efficacy of the teacher.

- Students should be encouraged to compare their progress to their personal standards, not to the performance of others (again, a concern in the standardized-test driven educational environment). In the light of this, instruction should be as individualized as possible, and teachers should be given individualized feedback on a regular basis, informing students of their performances. This individualized approach should take into account gender, ethnic, and age differences, together with tutor instructional methods.

- Competitive classroom environment tends to be less successful in promoting higher self-efficacy than cooperative environments. Cooperative learning should therefore be incorporated whenever possible, and should be carefully planned and monitored to ensure meaningful participation and learning on the part of all students.

- Teachers should help students set achievement goals (this allows students to work towards anticipated outcomes), then help them to achieve those goals.

- For teachers and school psychologists, these results suggest that academic achievement, study skills, and engagement can be increased by
tapping into students’ interests. It can be done by building upon personal interest or creating situational interest. That is, allowing students to work on topics they find personally interesting may help them to engage in such ways that they use better strategies for learning and ultimately achieve higher levels. One way to capitalize on personal interest is to allow students to pick topics for class projects or reports. Admittedly, it is difficult to design classroom activities that capitalize on the personal interest of all students in the classroom. For situational interests, for instance, when designing classroom activities, having an experiment in science or using an innovative computer program in subjects may spark situational interest and teachers also try to make the topic meaningful to students. This maybe done by capitalizing on the utility of what is being learned (e.g., helping students see that the material is useful for things outside of school or for future goals).

- Allow students as much control over the grade they earn as possible, this could include making things like attendance and participation part of grade. Students should be encouraged to take personal ownership of their own educational outcomes.

- Collaborative learning is needed for some students. Some students feel more comfortable speaking in small groups. In groups, students may obtain emotional support and academic assistance. More structured group activities reduce math anxiety, students with high math anxiety do not trust themselves to obtain math answers, often prefer not to work alone and they do not necessarily like discovery learning

5.4 Recommendation for Parents

- High significant differences in students based on parents’ education suggest successful regulation of academic work, important role of family and interaction with their children, and influencing their motivation.

- Parents encouragement of a feeling of independence thus seems to be a precondition for lowering children’s level of test anxiety and trait anxiety, and consequently for enforcing their sense of self-efficacy and self-confidence.
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- Findings of this study revealed that parents have an important role in increasing students’ motivation and use of learning strategies by them. So, parents’ expectations from their children can have a strong influence on their attitude and their behaviors. This need for more parental and academic support, further enhances students' ability, self-efficacy and their interest.

5.5 Recommendation for Further Research

- This study was confined only to English medium schools; a study therefore needs to be conducted in schools that use other medium of instruction such as Marathi.
- As this study targeted only eighth standard students, a replication can be done at another level such as elementary and college students and also other standards in high school.
- As noticed, parents are very important in their children’s motivation and cognitive engagement of students, so other variables related to parents such as having both parents at home; amount of their expectation from their children, socio-economic status, and parental involvement with the school can help for further study.
- Teachers also play a very important role in developing self-regulatory process and growth of motivation in their students. As such, a study needs to be undertaken to examine some variables of teachers such as teachers’ motivation, how well they know about different strategies for teaching to their students, job satisfaction, salary, experience, amount of teachers’ security to maintain his/her job, among others.
- Cross-cultural research will help clarify as regards how motivational beliefs and self-regulated learning are created and developed as a result of different cultural practices as well as how these different practices influence children’s achievement about their schooling.
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- As this study was confined only to Pune city, it is recommended that a comparative study be undertaken to determine whether differences exist between rural and urban settings regarding the variables explored in this study.

- Future research should take into account not only the differences in performance in different subjects, but also differences that are produced as a function of gender in motivational beliefs, self-regulated learning in different discipline.

- It is necessary for a further research to determine how other variables, such as boys’ and girls’ perceptions of their classes and their teachers, as well as differential treatment they might be receiving, might be influencing their motivational and cognitive orientation.

- More research is needed to shed light on which motivational constructs can be identified as predictors of success in the students.