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Learning strategies and academic achievement among higher secondary school students

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Abstract
Learning is a cognitive process. It is one of the most important mental functions of human, animals and artificial cognitive systems. It relies on the acquisition of different types of knowledge supported by perceived information. Strategies are 'the secret algorithms of learning'. The term 'strategy' is used to indicate a level above that of skills: strategies are the executive processes which choose, co-ordinate and apply skills. Understanding the strategies of learning and gaining self-knowledge helps us to control these processes and do better. Learning strategies is a technique that assists in the acquisition, manipulation, integration, storage and retrieval of the studied content. This study aims to find the relationship between Learning Strategies and Academic Achievement of the Higher Secondary School Students. By using normative method a sample of 300 Higher Secondary School Students studying from 6 schools in and around Krishnagiri District of Tamil Nadu were randomly selected. SMALSI, a four point scale developed by Stroud and Reynolds (2006) was used for data collection. It consists of 7 dimensions and 52 questions. The collected data were put in to statistical treatment and the results showed that there was significant highly positive correlation (r= 0.739) between the Learning Strategies and Academic Achievement. Hence sound Learning Strategies are important for every learner since it helps them achieve more in their academics.

Keywords: learning, strategies, academic achievement, correlation, knowledge

Introduction
Research over the past 30 or more years in educational, school, and related areas of psychology has demonstrated repeatedly that students who engage in strategic learning and test-taking perform at higher levels academically than those who do not, Academic achievement levels can be improved significantly by improving the study skills, learning, reading comprehension, test-taking, and related strategies of learners at all ages and is effective with both regular and special education students.

A mutual aim of teaching and learning is to help the student learn tasks more efficiently and hopefully be able to transfer this knowledge to new situations. Learning strategies have been used throughout time to make this aim achievable. Learning strategies are the tools and techniques used by the learner in the understanding and learning of new materials or skills.

A learning strategy is a tool or technique used by students to enable them to successfully approach new learning situations and to complete school assignments independently. Learning strategies can be used to enhance learning and comprehension of skills or text; to integrate new information with previous knowledge; and to recall information or skills for application in both familiar and new situations. Learning strategies can help students complete tasks successfully despite their disabilities by utilizing the strengths they bring to the learning process.

Learning Strategies
Learning is a cognitive process. It is one of the most important mental functions of human, animals and artificial cognitive systems. It relies on the acquisition of different types of knowledge support by perceived information. Psychologists define learning as "a relatively permanent change in behavior, which occurs as a result of activity, training, practice or experience". Strategies are 'the secret algorithms of learning'. The term 'strategy' is used to indicate a level above that of skills: strategies are the executive processes which choose, co-ordinate and apply skills. Understanding the strategies of learning and gaining self-knowledge, in the form of awareness of the processes we use in learning helps us to control these processes and give us the opportunity to take responsibility for our own learning.

Learning strategies and the learner
The definition of a strategy is an organized approach to a task and it can be called a method, plan, tool or technique that facilitates learning, aids problem solving, or accomplishes any task undertaken by the learner. Strategies provide a carefully sequenced plan of student behaviors designed to effect successful task completion and learning. Learning strategies is a technique that assists in the acquisition, manipulation, integration, storage and retrieval of information across situations and settings. In simpler terms strategies are the tools and techniques used by the learner in the understanding and learning of new material or skills. The term 'learning strategy' is used to describe the assisting of the learner in his learning. An example of a learning strategy would be to restate instructions in one's own words. Learning strategies may also assist in improving one's memory but they take into account such things as the characteristics, of the learner and the learning materials.

Learning strategies in the classroom

Current cognitive theories of learning point to the important role students' thought processes play in learning. Students need to be mentally active processors of information if learning is to occur. In these formulations, several criteria must be met if learning is to occur. First, students must attend to information to be learned. Second, students must create an understanding of the material by creating or identifying relationships amongst the to-be-learned ideas. Third, students need to relate new ideas to prior knowledge. Fourth, students need to understand that learning requires mental effort - good learners are strategic and poor learners are not, and that strategy use is the means by which learning occurs.

When students attend to information, try to see how new ideas relate to each other, or try to relate new information to prior knowledge they are engaged in strategy use. A strategy is a mental event carried out by the learner to achieve some desired goal (such as remembering some fact). For example, if the teacher announces there will be a test next Thursday, the student may repeat that fact over and over (rehearsal) until the student is confident he/she remembers it.

Statement of the problem

The present study is termed as "Learning Strategies and Academic achievement among Higher Secondary School Students" in Krishnagiri District of Tamil Nadu.

Need and significance of the study

The outcome of students' achievement in the course depends on the learning strategies they use. Various researches have investigated the relationship between these learning strategies and academic success. Byrne *et al*. (2001) revealed that the deep and strategic approaches are positively associated with high academic performance and the surface approach with poor academic performance. There was a significant positive relationship between the deep and strategic approach and the total assessment marks.

Strichart and Mangrum (1933) also state reasons why students need to learn strategic practices for learning. They contend that "for learning to occur, students must be able to remember newly acquired information so that they can retrieve the information and use it whenever necessary. Information that is not remembered is of no value to students for dealing with current requirements in or out of school.

The present study is significant because it encourages autonomous learning especially in the time of the large amounts of information and technological complexities to our world and our societies and it provides insight for both teachers and learners on strategy use. It highlights the importance of using effective strategies in carrying out learning activities. It stresses the value of strategy instruction in planning courses in order to help learners become successful learners.

Education is unique investment and academic achievement is a vital aspect of it. In this world of industrialization and globalization, education has become highly commercial and academic excellence has gained through tough competitions. The educational status of an individual is highly depicted through the academic achievement. Academic achievement of students has been a great concern to educationist since time immemorial. Now a day, this trend has been intensively felt by the academicians, parents and students. Strikingly, academic achievement has become a detrimental index in determining a child's future. This speaks a lot about the significance of taking up the present investigation

Operational definition

Learning strategies

Learning strategies are "operations employed by the learner to aid the acquisition, storage, retrieval, and use of information...(they are) specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990, p. 8)

Learning strategies can be defined as behaviors of a learner that are intended to influence how the learner processes information" (Mayer, 1988, p. 11).

Academic achievement

Academic achievement can be defined as excellence in all academic disciplines, in class as well as extra-curricular activities. It includes excellence in sporting, behavior, confidence, communication skills, punctuality, assertiveness, Arts, Culture, and the like.

Academic Achievement is the level of accomplishment attained in curricular subjects as a result of teaching-learning process, and is measured in terms of the marks obtained at the examination.

In this study Academic achievement refers to the score of students in their half early examination as obtained from the school records.

Objectives of the study

- To study whether there is any relationship between Learning Strategies and Academic Achievement of the Higher Secondary School Students.

Hypothesis of the study

- There is no significant relationship between Learning Strategies & its dimensions and Academic Achievement of the Higher Secondary School Students.

Method of the study

Among the different method of study Normative method is used in this Research. Normative Method describes and interprets what exists at present. They are concerned with existing conditions or relations, prevailing practices, beliefs, attitude etc. processes and the emerging trends.

Sample and sampling techniques

Totally 300 samples were collected from 6 schools. Samples were selected at random from the population for the present study. The population was all the Higher Secondary School Students studying in and around Krishnagiri District of Tamil Nadu.

Tools used in the study

A tool is an instrument, which is used to collect data for the

sample. In the present study the tool namely, SMALSI developed by Stroud and Reynolds (2006) was used. The tool was standardized, modified in terms of languages and content wherever necessary and translated and into Tamil by the investigator and supervisor. This can be used to measure Learning strategies and Academic Achievement of the XI standard students.

Description of the tool

The SMALSI developed by Stroud and Reynolds (2006) was used to assess and evaluate the Learning strategies of the students of standard XI. It consists of 7 dimensions and 52 questions. There is no negative question. It is a four point scale with points of reference as Never true, Sometimes true, Often true, Almost Always true.

Collection of data

The Researcher visited 6 schools personally, asked permission from the Principal and the data were collected from the students. The Investigator requested the students to fill the tool. Thus, 300 copies of Questionnaire were distributed. The duration of filing up the Inventory by the student was around 30 minutes.

Reliability and validity of the tool

In order to establish reliability for the tool SMALSI, Cronbachs' Alpha Co-efficient was calculated to be 0.88. The intrinsic Validity Co-efficient was established by taking Square root of reliability co-efficient, which is equal to 0.94. Thus from the two co-efficients it may be inferred that the tool is highly reliable and valuable.

Findings based on the correlational analysis

Table 1: Correlation of Overall Learning Strategies and its dimensions with Academic Achievement

Variables		Pearson's Correlation r-value	Level of significance	Level of correlation
Academic Achievement	Study strategies	0.766	P<0.01	High
	Note-taking / Listening skills	0.758	P<0.01	High
	Reading / comprehension	0.761	P<0.01	High
	Writing / research skills	0.744	P<0.01	High
	Test taking strategies	0.621	P<0.01	High
	Organizational techniques	0.828	P<0.01	Very High
	Time management	0.760	P<0.01	High
	Overall Learning Strategies	0.739	P<0.01	High

From the above table 1, it is inferred that the variables are positively correlatedat 0.01 level of significance. The interpretations are as follows:

- r (300) =0.766, p < 0.01 showed that there was significant positive high correlation between the dimension Study Strategies and Academic Achievement.
- r (300) = 0.758, p < 0.01 showed that there was significant positive high correlation between the dimension Note-taking / Listening skills and Academic Achievement.
- r (300) = 0.761, p < 0.01 showed that there was significant positive high correlation between the dimension Reading / comprehension and Academic Achievement.
- r (300)= 0.744, p < 0.01 showed that there was significant positive high correlation between the dimension Writing / research skills and Academic Achievement.
- r (300)= 0.621 p < 0.01 showed that there was significant positive high correlation between the dimension Test taking strategies and Academic Achievement.
- r (300)= 0.828, p < 0.01 showed that there was significant positive very high correlation between the dimension Organizational techniques and Academic Achievement.
- r (300)= 0.760, p < 0.01 showed that there was significant positivehigh correlation between the dimension Time Management and Academic Achievement.
- r (300)= 0.739, p < 0.01 showed that there was significant positive high correlation between the Overall Learning Strategies and Academic Achievement.

Conclusion

Learning strategies determine the approach for achieving the learning objectives and are included in the pre-instructional activities, information presentation, learner activities, testing, and follow-through. The strategies are usually tied to the needs and interests of students to enhance learning. Learning strategies basically encompass the entire spectrum of a learning environment, to include processes, such as media, methods, technologies, and styles. It is the very important tool to found the learner individual difference. Learning strategies is important for every learner since it helps them achieve more in their academics.

Educational implications

The term learning strategies is used in a very broad sense to identify a number of different competencies that researchers and practitioners have postulated as necessary, or helpful, for effective learning and retention of information for later use. These competencies include cognitive information- processing strategies, such as techniques for organizing and elaborating on incoming information to make it more meaningful: active study strategies, such as systems for note-taking and test preparation, coping with performance anxiety, and directing attention to the learning task at hand. In addition, there is a range of metacognitive strategies that learners can use to detect discrepancies between what they know and what they do not know and to monitor and direct their acquisition of the new information. It should be noted that the term "learner" is being used here to refer to any person trying to acquire new knowledge, attitudes, or skills, regardless of whether this occurs in a formal school setting, an on-the-job placement, or an informal interaction.

When learners try to relate new information to what they already know, we call this active, or generative, learning.

(Wittrock, 1974, 1978) It is generative because the learner must generate the relationships between what he or she already knows and the new information to be learned. These strategies involve taking active steps to manage one's own learning processes and thereby to facilitate knowledge acquisition and comprehension.

Research on ways of instructing students in learning strategies has shown that the development of learning expertise is dependent not only on the existence of a repertoire of cognitive and metacognitive information-processing abilities but also on the readiness of individuals to define their own goals, to be proactive, to interpret success and failure appropriately, to translate wishes into intentions and plans and to shield learning from competing intentions. A repertoire of strategies combined with other attributes that foster learning develops gradually through the practices of teachers who model learning behaviour, through activities aimed at building a scaffolding structure of learning for the student and through analysis of the reasons for academic success and failure. During the process of becoming effective and self-regulated learners, students need assistance and feedback, not only on the results of their learning, but also on the learning process itself. In particular, the students with the weakest approaches to learning need professional assistance to become effective and self-regulated learners.

Poor study skills, ineffective learning strategies, test anxiety—all these things impede academic success. Measure the skills related to academic success early in a student's school career, enabling you to proactively address weaknesses.

A Learning Strategy is a person's approach to learning and using information. Students use Learning Strategies to help them understand information and solve problems. Students who do not know or use good learning strategies often learn passively and ultimately fail in school. Learning Strategy instruction focuses on making students more active learners by teaching them how to learn and how to use what they have learned to be successful.

Suggestions for further research

1. The Present study has focused on Higher Secondary school students. A Similar study could be conducted with College students.
2. The study could be extended to all other levels of education, including teacher trainees of Colleges in Education. The same study may be attempted with a large sample of different areas.
3. The study could be replicated with another City, District and State of different age group students.
4. Learning strategies and Academic Achievement can be studied in relation to some other variables like Learning style, School environment, Study habit etc.

References

1. Ahmad S, Hussain DA, Azeem M. Relationship of academic SE to selfregulated learning, SI, test anxiety and academic achievement. International Journal of Education. 2012; 4(1):12.
2. Kolb AY, Kolb DA. Experiential learning theory: A dynamic, holistic approach to management learning, education and development. In The SAGES Handbook of Management Learning, Education and Development, S.J. Armstrong and C. Fukami, Eds. Sage Publications, London, 2008.
3. Tay B. Elaboration and organization strategies used by prospective class teachers while studying social studies education textbooks. Eurasian Journal of Educational Research. 2013; 13(51):229-252.
4. Chen CS. Self-regulated learning strategies and achievement in an introduction to information systems course. Information Technology, Learning, and Performance Journal. 2002; 20(1):11-23.
5. O'Malley JM, Chamot AU. Learning Strategies in Second Language Acquisition. Cambridge University Press, Cambridge, England, 1990.
6. Nishitani Mari, Matsuda Toshiki. The Relationship between Language Anxiety, Interpretation of Anxiety, Intrinsic Motivation and the Use of Learning Strategies. Online Submission, US-China Education Review B. 2011, 438-446.
7. Rebecca Oxford L. Language Learning Styles and Strategies: An Overview. Learning Styles & Strategies/Oxford, GALA, 2003.
8. Kafadar T, Tay B. Learning strategies and learning styles used by students in social studies. International Journal of Academic Research Part B. 2014; 6(2):259-267. DOI: 10.7813/2075-4124.2014/6-2/B.39
9. John Dunlosky, *et. al*. Improving Students' Learning With Effective Learning Techniques: Promising Directions From Cognitive and Educational Psychology. Psychological Science in the Public Interest. 2013; 14(1):4-58. DOI: 10.1177/1529100612453266
10. Zimmerman BJ. Becoming a self-regulated learner, Theory into Practice. 2002; 41(2):65-70.