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A STUDY ON LEARNING STRATEGIES AND PROBLEM SOLVING SKILLS OF COLLEGE STUDENTS

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ABSTRACT

Learning Strategies are a group of practices and methods which are used by students to get knowledge and information on a specific subject and they are referring to different approaches used by students for their particular learning activities and circumstances. Students are having different and variety of sources and freedom to choose their Learning Strategies that guide their learning and manage their emotions and feelings to attain objectives in their learning and they are influencing their Problem Solving Skills. The results demonstrate that significant difference is prevailed amongst profile of Arts and Science College Students and their Learning Strategies excluding age. The Learning Strategies is having significant, positive and substantial relation with Problem Solving Skills of Arts and Science College Students. Hence, Arts and Science College Students must acquire required skills and knowledge on different Learning Strategies so that they can choose and adopt appropriate Learning Strategies highly suitable to them. Faculty Members of Arts and Science Colleges should motivate their Students to use various Learning Strategies for their effective learning. Arts and Science College Students should use correct Learning Strategies in order to meet their demands and objectives of learning. Arts and Science College Students must use different Learning Strategies with high personal interest and convenient to them. Besides, parents should support their Arts and Science College Students to use efficient Learning Strategies for their effective learning. Faculty Members of Arts and Science Colleges must give feed back frequently to their Students on effectives of Learning Strategies and give suggestions to change Learning Strategies if required for them and these measures will improve Problem Solving Skills of Arts and Science College Students.

Key Words: Arts and Science College Students, Learning Strategies, Problem Solving Skills

1. INTRODUCTION

Learning Strategies are activities, methods, techniques and behaviours of students to deal the difficulties for improving their personal learning. Learning Strategies are referring to pattern or habits that are exhibited by students in their learning activity (Alhaisoni,2012) and effective Learning Strategies are enhancing personal learning of students and integrating with new learning experiences in to their prevailing cognitive structures. Learning Strategies comprise of motivational, cognitive, Meta cognitive, behavioral and emotional activities and practices which are facilitating understand ability, learning and realization as the action of integrating new knowledge into minds of students (Weinstein et al 2010).

Learning Strategies are a group of practices and methods which are used by students to get knowledge and information on a specific subject and they are referring to different approaches used by students for their particular learning activities and circumstances (Li et al 2016). Learning Strategies are generally acceptable practices for learning purposes that are selected and used by students (Juste and Lopez, 2010). Learning Strategies are methods and practices of student to deal academic activity and they are including thinking, planning, implementing and assessing performer on academic activity and its results.

Learning Strategies are categorized into memory related, meta cognitive, cognitive, social, affective and compensatory strategies (McMullen, 2009) and students are selecting learning strategies on the basis of their needs, purposes, circumstances, kind of domain, methods of teaching, technologies used for learning, response, required level of knowledge and assessment methods and personal attributes (Montero and Arizmendiarrieta, 2017).

Effective Learning Strategies are referring to practices and methods that are used by students to acquire, store, retrieve and recall and use of information and knowledge. Students are having different and variety of sources and freedom to choose their learning strategies that guide their learning and manage their emotions and feelings to attain objectives in their learning (Diaz et al 2019) and they are influencing their problem solving skills. Therefore, it is essential to study Learning Strategies and Problem Solving Skills of College Students.

2. REVIEW OF RELATED STUDIES

Chen and Zhang (2024) found that college students had moderate degree of learning strategies and it was differing significantly among their age, gender and duration of learning.

Khansir et al (2023) concluded that majority of University students were having moderate degree of learning strategies for English and significant difference was prevailed in learning strategies among age and gender of university students.

Renzulli (2015) showed that undergraduate students had moderate level of learning strategies and it was differing among them and it had positive impact on their academic performance.

3. OBJECTIVES OF THE STUDY

1. To study difference amongst Learning Strategies and gender, age and discipline of Arts and Science College Students.

2. To examine difference amongst Learning Strategies and medium of instruction, type of college and locality of college of Arts and Science College Students.

3. To analyze relation amongst Learning Strategies and Problem Solving Skills of Arts and Science College Students.

4. HYPOTHESES OF THE STUDY

1. There is no significant difference amongst Learning Strategies and gender, age and discipline of Arts and Science College Students.

2. There is no significant difference amongst Learning Strategies and medium of instruction, type of college and locality of college of Arts and Science College Students.

3. There is no significant relation amongst Learning Strategies and Problem Solving Skills of Arts and Science College Students.

5. RESEARCH METHODOLOGY

Krishnagiri district in Tamil Nadu state is selected for conducting the present study. Arts and Science College Students are chosen by applying random sampling method and data are collected from 930 Arts and Science College Students by using structured questionnaire. Learning Strategies Scale (LSS) designed and validated by the Investigator (**R.Rajini**) and Research Supervisor (**Dr. V. Sharmila**) in the year 2023 and Problem Solving Skills Scale (PSSS) had developed and standardized by **Dr. V. Sharmila and Dr. P.C. Naga Subramani** in the year 2021 are used in the study. Percentages, t and ANOVA tests and correlation analysis are used to study objectives and test hypothesis.

6. RESULTS

6.1. PROFILE OF ARTS AND SCIENCE COLLEGE STUDENTS

The profile of Arts and Science College Students is presented in Table-1.

Table-1. Profile of Arts and Science College Students

Profile	Frequency(n=930)	%
Gender		
Male	536	57.63
Female	394	42.37
Age		
18 – 19 Years	332	35.70
20 – 21 Years	417	44.84
22 – 23 Years	181	19.46
Discipline		
Mathematics	513	55.16
Physics	201	21.61
Chemistry	216	23.23
Medium of Instruction		
Tamil	329	35.38
English	601	64.62

Type of College		
Government	420	45.16
Self-Finance	510	54.84
Locality of College		
Urban	564	60.65
Rural	366	39.35

The results reveal that 57.63% of Arts and Science College Students are males, whilst, 42.37% of them are females, 44.84% of them are in 20 – 21 years of age, whilst, 19.46% of them are in 22 – 23 years of age and 55.16% of them are belonging to Mathematics, whilst, 21.61% of them are belonging to Physics disciplines.

The results also explain that 64.62% of them are in English medium, whilst, 35.38% of them are in Tamil medium, 54.84% of them are studying in self finance, whilst, 45.16% of them are studying in Government college and 60.65% of them are studying in colleges located in urban area, whist, 39.35% of them are studying in colleges located in rural area.

6.2. PROFILE OF ARTS AND SCIENCE COLLEGE STUDENTS AND LEARNING STRATEGIES

The difference amongst profile of Arts and Science College Students and their Learning Strategies is presented as below.

6.2.1. Gender and Learning Strategies

The difference amongst gender of Arts and Science College Students and their Learning Strategies is presented in Table-2.

Table-2. Gender and Learning Strategies

Gender	N	Mean	SD	t-value	Level of Significance
Male	536	178.68	33.50	13.236	0.01
Female	394	153.79	19.20		

Male Arts and Science College Students (Mean=178.68) are having higher degree of Learning Strategies than Female (Mean=153.79). The t-value of 13.236 elucidates that significant difference is prevailed amongst gender of Arts and Science College Students and their Learning Strategies in 1% level.

6.2.2. Age and Learning Strategies

The difference amongst age of Arts and Science College Students and their Learning Strategies is presented in Table-3.

Table-3. Age and Learning Strategies

Age	N	Mean	SD	F-value	Level of Significance
18 – 19 Years	332	167.68	25.78	2.615	0.05
20 – 21 Years	417	166.51	34.52		
22 – 23 Years	181	172.72	30.31		

Arts and Science College Students in 22 – 23 Years of Age (Mean=172.72) are having higher degree of Learning Strategies than 18 – 19 Years (Mean=167.68) and 20 – 21 Years (Mean=166.51) of Ages. The F-value of 2.615 elucidates that significant difference is not prevailed amongst age of Arts and Science College Students and their Learning Strategies.

6.2.3. Discipline and Learning Strategies

The difference amongst discipline of Arts and Science College Students and their Learning Strategies is presented in Table-4.

Table-4. Discipline and Learning Strategies

Discipline	N	Mean	SD	F-value	Level of Significance
Mathematics	513	163.28	32.21	15.284	0.01
Physics	201	175.96	29.73		
Chemistry	216	172.38	26.39		

Arts and Science College Students studying in Physics Discipline (Mean=175.96) are having higher degree of Learning Strategies than Chemistry (Mean=172.38) and Mathematics (Mean=163.28) Disciplines. The F-value of 15.284 elucidates that significant difference is prevailed amongst discipline of Arts and Science College Students and their Learning Strategies in 1% level.

6.2.4. Medium of Instruction and Learning Strategies

The difference amongst medium of instruction of Arts and Science College Students and their Learning Strategies is presented in Table-5.

Table-5. Medium of Instruction and Learning Strategies

Medium of Instruction	N	Mean	SD	t-value	Level of Significance
Tamil	329	157.84	31.59	7.757	0.01
English	601	173.77	29.01		

Arts and Science College Students studying in English Medium (Mean=173.77) are having higher degree of Learning Strategies than Tamil Medium (Mean=157.84). The t-value of 7.757 elucidates that significant difference is prevailed amongst medium of instruction of Arts and Science College Students and their Learning Strategies in 1% level.

6.2.5. Type of College and Learning Strategies

The difference amongst type of college of Arts and Science College Students and their Learning Strategies is presented in Table-6.

Table- 6. Type of College and Learning Strategies

Type of College	N	Mean	SD	t-value	Level of Significance
Government	420	174.88	31.52	6.158	0.01
Self-Finance	510	162.59	29.24		

Arts and Science College Students studying in Government Colleges (Mean=174.88) are having higher degree of Learning Strategies than Self-Finance Colleges (Mean=162.59). The t-value of 6.158 elucidates that significant difference is prevailed amongst type of college of Arts and Science College Students and their Learning Strategies in 1% level.

6.2.6. Locality of College and Learning Strategies

The difference amongst locality of college of Arts and Science College Students and their Learning Strategies is presented in Table-7.

Table-7. Locality of College and Learning Strategies

Locality of College	N	Mean	SD	t-value	Level of Significance
Urban	564	166.10	31.49	5.498	0.01
Rural	366	171.27	29.70		

Arts and Science College Students studying in Rural Colleges (Mean=171.27) are having higher degree of Learning Strategies than Urban Colleges (Mean=166.10). The t-value of 5.498elucidates that significant difference is prevailed amongst locality of college of Arts and Science College Students and their Learning Strategies in 1% level.

6.3. RELATION AMONGST LEARNING STRATEGIES AND PROBLEM SOLVING SKILLS OF ARTS AND SCIENCE COLLEGE STUDENTS

The relation amongst Learning Strategies and Problem Solving Skills of Arts and Science College Students was studied by employing correlation analysis and the result is presented in Table-8.

Table-8. Learning Strategies and Problem Solving Skills of Arts and Science College Students

Particulars	Correlation Coefficient
Learning Strategies and Problem Solving Skills of Arts and Science College Students	0.533**

** Significance in 1% level

The coefficient of correlation amongst Learning Strategies and Problem Solving Skills of Arts and Science College Students is 0.533 and it implies that they have significant, positive and substantial relation among them.

7. CONCLUSION

The above findings demonstrate that significant difference is prevailed amongst profile of Arts and Science College Students and their Learning Strategies excluding age. The Learning Strategies is having significant, positive and substantial relation with Problem Solving Skills of Arts and Science College Students. Hence, Arts and Science College Students must acquire required skills and knowledge on different Learning Strategies so that they can choose and adopt appropriate Learning Strategies highly suitable to them. Faculty Members of Arts and Science Colleges should motivate their Students to use various Learning Strategies for their effective learning. Arts and Science College Students should use correct Learning Strategies in order to meet their demands and objectives of learning. Arts and Science College Students must use different Learning Strategies with high personal interest and convenient to them. Besides, parents should support their Arts and Science College Students to use efficient Learning Strategies for their effective learning. Faculty Members of Arts and Science Colleges must give feedback frequently to their Students on effectives of Learning Strategies and give suggestions to change learning strategies if required for them and these measures will improve Problem Solving Skills of Arts and Science College Students.

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