Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 9, 1209-1217

A Study On Learning Style Preferences Among Secondary School Students

[1]Dr. T. Sharon Raju , [2]E. Sudha Madhuri

[1]Associate Professor, & Head, Dept. of Education, Andhra University, Visakhapatnam, A.P, India.
[2]Research Scholar, Department of Education, Andhra University, Visakhapatnam, A.P, India.

Abstract:

Teachers must often be familiar with learning styles and related issues to organise and teach effectively. Concerning the difficulties associated with employing a learning style preference strategy, teachers should provide an opportunity for all students to work with their chosen style and in the domain of their intelligence profile. Allowing for different systems at different times and providing learners with some control in how they approach specific activities and respond to specific "needs" of education are all part of this condition. Some of these options may look simple and insignificant, but for some students, they can significantly impact their learning progress. As a result, the scientists were obligated to look into the learning patterns of secondary school students. The researcher chose 600 students from public and private secondary schools in rural and urban Visakhapatnam districts for the study and collected data using a random sample technique. The researcher used a self-created questionnaire to determine the students' favourite learning modes. It consists of 50 claims that are assessed on a five-point scale. The split-half reliability coefficient of the instrument is 0.788, and the scale's validity is based on content and construct validity. This study attempted to study the learning styles of secondary school students.

Key Words: Learning styles, Teachers, Intelligence, Learning progress, Students, Reliability.

Interdiction:

Learning is something that individuals are all aware of, and it is a continuing process in their lives. Learning occurred in various formal and informal settings, ranging from the relative limitations of a school classroom to broad open spaces or quiet nooks of the countryside, where a chance chat led to a deeper grasp of a topic. Learning is not limited to the educational system. Learning begins long before school, continues long after school, and occurs swiftly in various methods and contexts. Many diligent scholars and opinion makers have detailed and discussed the technique in multiple versions.

Learning occurs inside a person's head in mind and is a multifaceted and intricate process. When learning standards are given, learning information can be gathered using analytical techniques and checked successfully. Learning is a process that enables educators to recognise that learning has occurred when they notice a change in a student's behaviour and the consistency of that change. Learning occurs in phases, and understudies learn in many ways at each step. Learning style conflicts are frequently the source of homeschooling issues.

Pressey, Robinson, and Horrocks define learning as an event in which a motivated individual strives to change their behaviour to succeed when the action is necessary to achieve

a goal (1967). Learning is an ongoing and vital activity. Learning is limited to school or a set age in human life. No, it is a broad term that encompasses all aspects of life at all growth phases. It is the foundation of every individual's achievement.

Individual approaches and strategies to studying and processing information and knowledge enable students to learn more quickly and easily by allowing them to select and apply the appropriate learning method. A learning style is a difference in your capacity to gather and integrate knowledge; a learning style is a mechanism for collecting and using knowledge in a specific way. Most experts agree on three primary learning styles. Each person may have a single learning style or a blend of several.

A different but connected area of human research, Neuro-Linguistic Programming, provides an additional explanation of learning styles (NLP). The focus of neuro-linguistic programming is the study of how we speak and how that influences our learning. Three main learning styles—visual, auditory, and kinesthetic—have been found over the years and through many studies that have taken a careful and detailed look at how we communicate.

Visual style (visual learner)

Pupils in this category typically learn by seeing with their own eyes. Everything they see is interpreted in terms of pictures by visual learners. These kids prefer illustrations such as drawings, diagrams, maps, and graphs. Visual learners are frequently the best writers and excel at written work.

Visual learners can organize knowledge by recording, allocating, calculating, simplifying, explaining, proving, planning, reviewing, rewriting, drawing a picture, making a mind map, taking notes, and utilizing a graphical organizer.

Visual style has the following characteristics:

They have difficulty remembering visual instructions, frequently asking someone else to repeat what they said unless it is written down. They read quickly and intently and prefer to read for themselves rather than have someone read for them. They favour art above the music. They constantly like to perform or prepare their speech than give it. They rarely have noise issues.

There are some learning strategies for the visual learner, such as:

Draw a bold line around the things on the worksheet to assist learners in following an item when they like it. Allow learners to point to a word or sentence while reading. Write the instructions on the white or blackboard. Make use of images, charts, maps, or colors. Use mind mapping to organize and process information.

Auditory style

Auditory style (Auditory learning style) is a learning style in which the learner or students excel at listening. They can acquire knowledge more efficiently through sounds, music, conversations, lectures, etc. These individuals are more inclined to record the lessons to replay them later for study purposes. Auditory learners enjoy audiobooks and may find that reading aloud helps them remember knowledge. Auditory learners perform better in oral presentations and reports than in written words. An auditory learner can best digest knowledge by saying it aloud, listening to a voice recording, discussing it with friends or a learning group, recording an argument or remark, interviewing, educating others, and consulting..

The auditory style has the following characteristics:

Students or learners enjoy discussing, analyzing, and explaining things in depth. They move their lips and write in the book while reading. They like to read aloud. They struggle to write down information yet excel at expressing it. They want to imitate and repeat the tone, rhythm, music, voice, or sound. They have a rhythmic way of speaking. They read pretty well. They like music. Completing a project or task involving vision is difficult for them. They are better at spelling aloud than they are at writing.

Kinesthetic style (kinesthetic learner)

Kinesthetic learning requires students or learners to learn through touch. They know best by movement, doing, acting, and touching. Hands-on projects are best suited to kinesthetic learners. When forced to sit for extended periods, kinesthetic learners become bored. They like to experiment, explore, and try new things.

Kinesthetic learner has the following characteristics:
Learners or students are continually moving—that is how they learn. They move their bodies when memorizing knowledge, such as when walking around. They point out the text in the book with their fingers while reading. They can't sit still for long. They speak slowly and usually have someone standing close when talking. They are always concerned with their studies and physical activity. They enjoy learning through repetition and physical exertion. They communicate with a lot of body language, such as nodding to say 'yes.' They require physical objects as learning materials. They desire to do something and enjoy playing games.
Some learning strategies for kinesthetic learners (kinesthetic style) include:

Use a role-playing game as a learning tool. Look around and take notes. Demonstrate how to accomplish something and utilize tools to help them learn. Provide peaceful activities following active activities (example: reading a text aloud after physical training at school. Make use of a manipulative method (example: moving body parts to name)

Overreliance on one style and an inability or unwillingness to adopt another style when appropriate can be restrictive and inhibit learning in some learning contexts. Fleming created an extension of the NLP concept of learning techniques (2001). When we have the information we need, we use all of our senses as Fleming gathers information from the world around us. Some of us rely more on one reason than others. The V-A-R-K system measures how much people rely on the following senses: visual, visual-auditory, and kinesthetic.

Need and significance of the study

When evaluating the many preferred methods of individual learners or the range of possibilities when considering varied intelligence profiles, a teacher may conclude that there are too many variables and requirements to be satisfied. One of the issues raised in talks regarding learning styles and multiple intelligences is whether the teacher should tailor learning activities to each learner's needs or encourage each learner to extend their learning strategy. Regarding various bits of intelligence, the debate is whether a learner with a specific multiple intelligence strength should be taught with that strength at the expense of ways that require other espionage or whether training should involve fewer bits of intelligence to strengthen specific areas of intelligence. These types of inquiries are challenging to answer.

Some go so far as to argue that learners with kinesthetic learning inclinations should be taught in ways that allow them to use one learning style rather than another. Some might claim that a learner with high logical intelligence but low linguistic intelligence should get phonology/linguistics-focused teaching and learning methodologies to "better"

this learner in this area. As a result of this particular strategy, this individual student cannot learn efficiently.

It is widely believed that teachers must be knowledgeable about learning styles and related topics, influencing how they plan and teach. Regarding the challenges of using a learning style preference approach, teachers should provide opportunities for all students to work with their preferred style and in the domain of their intelligence profile. This condition includes allowing for diverse systems at different times and giving learners some say in how they approach specific activities and respond to specific "needs" of instruction. Some of these options may appear easy and minor, but for some students, they can significantly impact their learning progress. As a result, the investigators felt compelled to investigate secondary school pupils' learning styles.

Objective of the study:

1. To evaluate the learning styles of secondary school students in the following types.

a. Visual Learning Style b. Auditory Learning Style
c. Reading Learning Style
d. Kinesthetic Learning Style

2. To find out the learning styles of 8^{th} and 9^{th} class students with respect to the following variables:

a. Gender
: Male/ Female
b. Area
: Rural / Urban

Hypotheses:

1. There is no significant difference in the learning styles of Male and Female students.
2. There is no significant difference in the learning styles students studying in rural and urban schools.

Method of Research and Data Analysis:

This study employed the descriptive survey research approach. The study's population included all 8th and 9th-grade students from public and private secondary schools in Andhra Pradesh's Visakhapatnam district. The researcher selected 600 pupils from public and private secondary schools in rural and urban parts of the Visakhapatnam district for the study and utilised a random sampling technique to collect data from them. The researcher employed a self-created questionnaire to determine the students' preferred learning modes. It is made up of 50 assertions rated on a five-point scale. The instrument's split-half reliability coefficient is 0.788, and the scale's validity is based on content and construct validity. The scale was correlated with various other measures as an example of construct validity, and the relationships produced were statistically significant. The acquired data was input and evaluated in the SPSS database. The data was analyzed using the mean, standard deviation, and t-test.

Objective-1

To analyse this objective, the following method is followed. Means and standard deviations of the whole group on the scores belonging to four areas of learning styles obtained by secondary school students have been computed.

TABLE No.1- Learning Style preference of Secondary School students.

Component	N	Mean	Std. Deviation	%M	Rank
Visual	600	49.8	3.87	87	1

Auditory	600	49.46	4.25	86	2
Reading	600	47.25	4.55	84	3
Kinesthetic	600	42.01	4.46	80	4

Interpretation:

The table 1 indicates that the secondary school students give more preference to visual learning style (87%) when compared to other learning styles. Second place was taken by Auditory learning style (86%) and the third rank was taken by reading learning style (84%). The fourth rank was taken by Kinesthetic learning style which is 80%.

TABLE No. 2 CLASSIFICATION OF THE TOTAL SAMPLE ON DIFFERENT TYPES OF LEARNING STYLES

Types of Learning Styles	**Score**	**Size of sample (N)**	**%**	**Verbal Description**
Visual Learning Style	<46 (M-1SD)	79	13	Low level preference
	In between 46 & 130 (M ±1 SD)	391	65	Moderate level preference
	> 53 (M + 1 SD)	130	22	High level preference
	Total	600	100	
Auditory Learning Style	<45 (M-1SD)	109	17	Low level preference
	In between 45 & 53 (M ±1 SD)	381	64	Moderate level preference
	> 53(M + 1 SD)	110	19	High level preference
	Total	600	100	
Reading Learning Style	<42 (M-1SD)	69	11	Low level preference
	In between 42 & 52 (M ±1 SD)	461	77	Moderate level preference
	> 52(M + 1 SD)	70	12	High level preference
	Total	600	100	
Kinesthetic Learning Style	<37 (M-1SD)	69	11	Low level preference
	In between 37 & 46 (M ±1 SD)	411	69	Moderate level preference
	> 46(M + 1 SD)	120	20	High level preference
	Total	600	100	

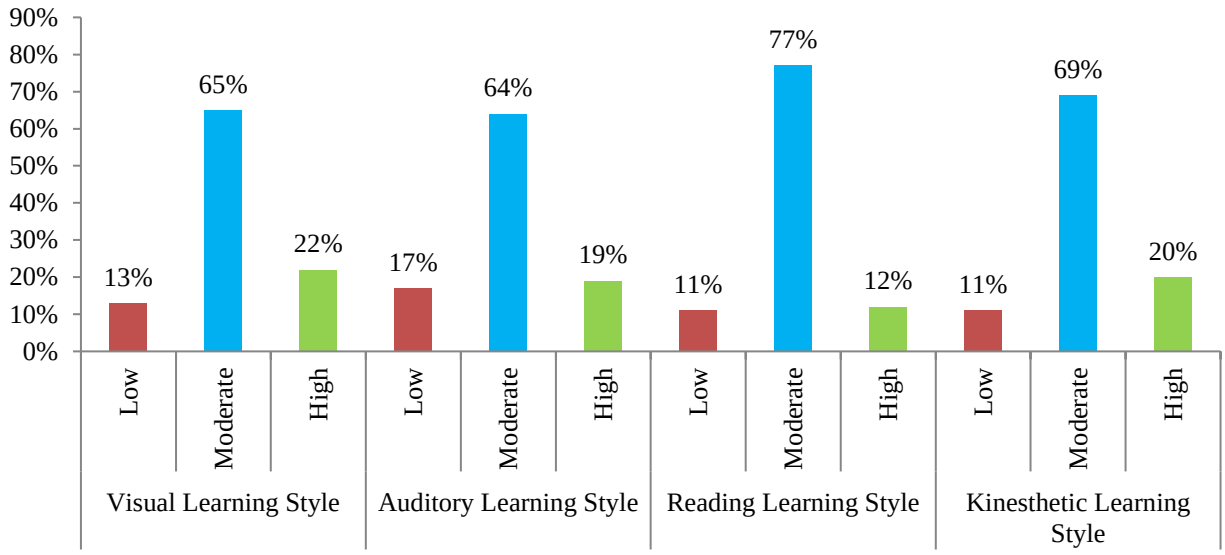
Interpretation:

The table 2. indicates that the subjects whose scores are less than [Mean - 1SD = 49.8 – 3.87] 46 are considered as giving low level preference to visual learning styles. Their number is 79 i.e. 13%. The subjects whose scores are above [M + 1SD = 49.8 + 3.87] 54 are considered as giving high level preference to visual learning styles. Their number is 130 i.e. 22% and the remaining 65% come under moderate level preference to visual learning style. Hence, it is observed that 13% of the sample secondary school students give low level preference to visual learning styles. Sixty five percent of the sample shows moderate level preference to visual learning styles and remaining 22% of the sample has high level preference to visual learning styles. It can be inferred that secondary school students differ in their preference of visual learning styles.

From the second calculated values of percentages, the subjects whose scores are less than [Mean - 1SD = 49.46 – 4.25] 45 are considered as giving low level preference auditory learning styles. Their number is 109 i.e. 17%. The subjects whose scores are above [M + 1SD = 49.46 + 4.25] 54 are considered as giving high level preference auditory learning styles. Their number is 110 i.e. 19% and the remaining 64% come under moderate level preference auditory learning styles group. Hence, it is observed that 17% of the sample secondary school students have low level preference auditory learning styles. Sixty four percent of the sample has moderate level preference auditory learning styles and remaining 19% of the sample has high level preference auditory learning styles. It can be inferred that students differ in their levels of auditory learning styles.

From the third calculated values of percentages, the subjects whose scores are less than [Mean - 1SD =47.25-4.55]42 are considered as giving low level preference reading learning styles. Their number is 69 i.e. 11%. The subjects whose scores are above [M + 1SD = 47.25-4.55] 52 are considered as giving high level preference auditory learning styles. Their number is 70 i.e. 12% and the remaining 77% come under moderate level preference reading learning styles group. Hence, it is observed that 11% of the sample secondary school students have low level preference reading learning styles. Seventy seven percent of the sample has moderate level preference reading learning styles and remaining 12% of the sample has high level preference reading learning styles. It can be inferred that students differ in their levels of reading learning styles.

From the fourth calculated values of percentages, the subjects whose scores are less than [Mean - 1SD =42-4.46]37 are considered as giving low level preference Kinesthetic Learning Style. Their number is 69 i.e. 11%. The subjects whose scores are above [M + 1SD = 42-4.46] 46 are considered as having high level preference Kinesthetic Learning Style. Their number is 120 i.e. 20% and the remaining 69% come under moderate level preference Kinesthetic Learning Style group. Hence, it is observed that 11% of the sample secondary school students have low level preference Kinesthetic Learning Style. Sixty nine percent of the sample has moderate level preference Kinesthetic Learning Style and remaining 20% of the sample has high level preference Kinesthetic Learning Style. It can be inferred that students differ in their levels of Kinesthetic Learning Style.



Bar diagram 1. Classification of the total sample on Different types of learning styles

Hypotheses:

1. There is no significant difference in the learning styles of Male and Female students.
2. There is no significant difference in the learning styles students studying in rural and urban schools.

Table 3. Showing the significant differences in the learning styles of different groups of secondary school students

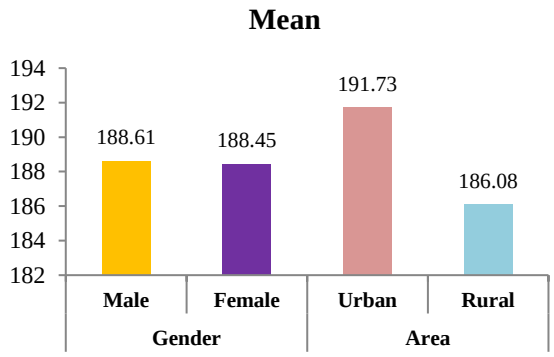
S.No.	Variable	Group	N	Mean	SD	SE_D	"t"	Hypotheses
1	Gender	Male	300	188.61	13.27	1.091	0.140^{NS}	**The null hypothesis is Accepted**
		female	300	188.45	13.47			
2	Area	Urban	260	191.73	14	1.077	5.238*	**The null hypothesis is rejected**
		Rural	340	186.08	12.31			

* Significant at 0.05 level. NS Not significance

Interpretation:

The t-value for the variable class from Table 3 is 0.140, which is not significant. There is no significant difference in male and female students in their learning styles. As a result, the null hypothesis is not rejected. Male and female students were found to have similar learning patterns.

The table 3 indicates that the calculated t-value (5.238) is greater than the table value of 1.96. Therefore, it is significant at 0.05 level. Hence, the null hypothesis is rejected. Furthermore, urban students' mean learning style scores are 191.73, significantly higher than rural students' mean learning style scores of 186.08. Urban students were found to have a higher use combination of learning styles than rural students.



Bar diagram 2. Showing mean score values relating to the variables – Gender & Location

Findings:

1. Secondary school students show a moderate preference in their learning styles.

2. There is no significant difference between male and female students in their learning styles.

Naik and Kumar (2018), Khan and Khan (2022), Manjula (2022), and Tambusamy (2002) revealed that gender was not a significant predictor of engineering students' learning style preferences, and Nasir (2006) discovered that learning styles differed between male and female students. They also found that the styles did not vary considerably. They discovered that "gender did not affect pupils' learning styles." The findings contradict the findings of Bayrak (2012), Hamidon (2015), and Sumita. P. R. Siva Prasad (2022) stated that "gender affects learning style preferences."

3. There is a significant difference between urban and rural area students' learning styles.

The result contradicts **Arshid Ahmad Najar (2016)**, who concluded that the rural, urban, and semi-urban students show no significant difference in learning styles.

Conclusion:

According to the findings of this survey, visual learning is the most desired learning style among secondary school students, followed by auditory, reading, and kinesthetic learning styles. With the transition from a pedagogical to a learning paradigm, there is a rising acknowledgement that understanding how children learn is crucial to academic success. Understanding students' preferred learning styles allows teachers to create appropriate teaching tactics and curricula. This criterion enables students to improve their learning and perform better on a topic they previously found challenging. Parents and instructors should give instructional and counselling interventions matched to students' learning styles to attain the desired learning outcome. These findings are essential for shaping instructional practises and highlighting factors that can assist policymakers, administrators, curriculum designers, stakeholders, parents, and faculty members in thinking more deeply about their role in facilitating student learning.

References:

1. Agrawal, S.C. (1987) Learning style among creative students. Allahabad, Central Publishing House.

2. Agrawal, R. and Chawla, N. (2005) Influence of cooperative learning on academic achievement. Journal of Indian Education, XXXI (2), 52-59.

3. Arshid Ahmad Najar(2016) A study of learning style preferences among secondary school students in relation to their gender and place of living Scholarly Research Journal for Interdisciplinary Studies, Online ISSN 2278-8808, SJIF 2016 = 6.17, www.srjis.com UGC Approved Sr. No.49366, NOV-DEC 2017, VOL-4/37

4. Bayrak, B. K. (2012). A Study on Learning Styles of Secondary School Student's according to Gender and Class Level. Procedia - Social and Behavioral Sciences, 46, 843–847. https://doi.org/10.1016/j.sbspro.2012.05.210

5. Hamidon, N. A. (2015). Study on students learning style according to gender factor. Journal of Culture, Society and Development, 8, 20–23. https://core.ac.uk/download/pdf/234690991.pdf

6. Khan,T. & Khan, Z.,A (2022):Learning Style Preferences of First-year Undergraduate Medical College Students;Assessment using VARK Strategy. HmlynJr Appl Med Scie Res, 3(2), 71-75. DOI : 10.47310/Hjamsr.2022.v03i02.010

7. Maya, S.S. and Rao, K.A. (2004) Association between learning style preference and performance in the examination by medical students. Journal of Educational Research and Extension, 41(1), 23-29.

8. Naik, A., & Kumar, K. (2018). Learning styles of higher secondary school students in relation to their gender and locus of control. Researchers World – Journal of Arts Science & Commerce ER.9,103–108.

9. Nasir, Syed Jamal Abdul. (2006). Learning Style among Multi-Ethnic Students in Four Selected Tertiary Institutions in the Klang Valley. Ph.D. thesis. University Putra Malaysia: Malaysia.

10. Pressey, Robinson and Horrocks (1967). Essentials of Educational Technology S.K Mangal PHI Learning Pvt limited New Delhi 2009, p.142

11. Sizemore & Schultz. (2005). Ethnicity and Gender Influences on Learning Styles in Nursing Students from An Hispanic-Serving Institution. Journal of Hispanic Higher Education.4 (4): 343-353. Nasir,

12. Sumitha.P, R. Siva Prasadh (2022) Learning Styles Of Secondary School Students, Journal of Positive School Psychologyhttp://journalppw.com 2022, Vol. 6, No. 8, 9088-9099 https://journalppw.com/index.php/jpsp/article/view/11403/7383

13. Syed Jamal Abdul. (2006). Learning Style among Multi-Ethnic Students in Four Selected Tertiary Institutions in the Klang Valley. Ph.D. thesis. University Putra Malaysia: Malaysia.

14. Thambusamy, R. X.(2002). Learning Styles and Teaching Styles. An Investigation of The Language Learning Styles and Language Teaching Styles of A Selected Sample of ESL Students and Lecturers of Uitm. Unpublished Thesis. University Malaya: Malaysia.