

Impact of Learning Styles on Academic Achievement of Scheduled Caste and Scheduled Tribe Students of Secondary Schools of Jammu District

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Abstract

The present study was undertaken to study levels of different learning styles and their effect on academic achievement among Scheduled Caste and Scheduled Tribe students. A sample of 200 SC and ST students was selected by using Simple random sampling technique from government and private schools of Jammu District. Learning Style Inventory developed by Prof. K. S. Mishra was used to collect data. Mean, S.D. and Critical Ratio were used for analysis of data. The results indicate that significant differences were found among SC and ST students on the levels of different learning styles. Moreover, the results indicate that SC & ST students having high Enactive, Figural and Verbal learning styles have better academic achievement than the SC & ST students having low Enactive, Figural and Verbal learning styles.

Key Words: - *Learning Styles and Academic Achievement.*

INTRODUCTION

Education is the ladder with the help of which we can reach the heights of success and development. It not only leads to the development of individual but also to the development of a nation at large. For the maximum growth and development of the person, it is important to provide congenial learning environment to the learners so that maximum learning can take place. For maximizing learners' learning with regard to his/her performance, numerous factors play their role simultaneously, for e. g., students' own efforts for learning, teaching strategies, teaching-learning environment, and resources used for teaching and learning. In addition to these factors, there are other factors such as the learning styles of learners and teaching styles of teachers that influence the teaching-learning process to a large extent. The learning styles affect the performance of the students and motivate them for more learning. Different learners have different needs, learning styles and they are keen to learn more enthusiastically through the approach which can provide maximum attention to their individual needs. The present

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day, teachers and researchers have understood the significance of learning styles for the betterment of learning process. Learning styles refer to the understanding that every child is different from the other and hence follow different ways to learn things. Different learning styles motivate the learners to absorb, the process, understand, and retain information in their own different ways. Some students learn things orally; some may learn by visual presentation, some learn material by repetitive writing, while others may learn things by doing things. Hence, different individuals have their own learning styles and preferences.

According to Keef (1979), “Learning styles are the composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment”.

According to Stewart and Felicetti (1992), “Learning styles are those educational conditions under which a student is most likely to learn”.

Learning styles refer to the way one internally represents experiences and recalls or processes information. Several researches have been conducted on learning styles and preferences, but still there is no clear and definite definition of learning style, ambiguity still exists. The concept of learning styles can also relate to the American Psychologist Howard Gardner’s work on multiple intelligence. According to Gardner, “Intellect is not fixed; people can be smart in different ways.” He talked about seven kinds of intelligence and the students have particular learning styles according to their type of intelligence (such as spatial intelligence, musical intelligence, interpersonal intelligence, etc.). Merrill (2000) argued that most students are unaware of their learning styles. Knowledge of one’s learning styles can be used to increase self-awareness about their strengths and weaknesses as learners. All the advantages claimed for meta-cognition (being aware of one’s thought and learning processes) can be gained by encouraging learners to become knowledgeable about their own learning and that of others (Coffield et. al, 2004). Teacher can play a crucial role in identifying the different learning styles of students and can assist learners to become aware of their weaknesses and strengths in learning, and this can add to the existing knowledge of both learners and teachers. Reid (1999) stated that the following teaching considerations should be kept in mind by the teachers for planning teaching in accordance with the learning styles of the learners:

- 1) Recognise learners’ unique learning style strengths.
- 2) Assist and guide children understand how to use learning strengths for academic success.

- 3) Encourage children to appreciate and praise the unique learning styles of self and others.
- 4) Motivate children to keep records of their achievements.
- 5) Try to make adjustments as needed to ensure achievement by every student.

In the classroom, the teacher can identify the learners' learning styles with the help of observation and can motivate them for their better study habits and learning styles. Sometimes children have difficulties in learning and they experience feelings of failure and most often it happens if the teacher is not aware of their learning styles and study habits, it may lead to their failure. In such a case, the awareness and knowledge of teachers about learning styles can help students recover from the problematic situations and achieve better in their learning. Teachers' observation and discussion with the students help them to know and understand more about the students and their styles. Moreover, it is the responsibility of teachers to motivate students for social learning because it leads to better academic learning. Implementation of learning styles should be taken as a whole-school effort. It can be a big success if the whole school and authorities are involved.

Reid (2002) has given a very far-reaching and broad approach to learning styles by including five learning systems which are based on the brain's natural learning systems, which are emotional, social, cognitive, physical and reflective learning systems. These systems are influenced by the genetic code but are also affected by environmental conditions and the individual's responses to different learning situations.

Hence, it is very important that teachers must recognise the significance of different learning styles and must assist the learners to develop educationally. In some areas of learning in which students face difficulties, the teachers' teaching style must match the learning style of learners. But at the same time, the teacher should keep in mind that a specific learning style should not unnecessarily label the learners with a particular style. Learning styles should enrich or extend learners' learning experience rather than restricting it to a particular style. It is very important that learning experiences should be enriched in as many ways as possible. Learners should be motivated to establish a degree of flexibility in the use of style. This will enable them to face a wide variety of learning situations confidently. Learning styles are also important to know about the weaknesses and strengths of learners and learning abilities (Reid, 2005). Damavandi et al., (2011) found a significant difference in the academic achievement of learners with converging, diverging, accommodating, and assimilating learning styles. He also suggested that teachers must organise their teaching in accordance with the students' learning styles. Bhat & Govil (2014) found a significant difference in the academic achievement of

students with different learning styles. However, they found no difference in learning style preferences as far as gender and place of living were concerned. Nzesei (2015) too found no significant difference in learning style preference in terms of gender. However, a strong positive relationship was found between learning styles and academic performance of the learners. Rani (2016) found that the perceptual learning styles were greater for female and Tamil medium learners than those of males. She also found a high correlation between perceptual learning styles and scholastic performance of the learners. Bethелеke & Ereme (2017) found a significant relationship of learning styles with academic achievement of the students. They recommended due recognition of learning styles while designing instructional methods. Gopal krishnan & Palanivelu (2018) found that there exists a positive high correlation between kinaesthetic learning style and academic performance of secondary school learners in Mathematics. They also found a significant role of other learning styles e.g., visual and auditory learning styles, in influencing academic achievement of the students. Munir et al. (2018) found that male students had higher level of preference in visual and auditory learning styles as compared to their female counterparts. However, no significant relationship was found between learning styles and academic achievement of the students. Studies related to academic performance highlight the fact that studying and understanding individual differences in relation to academic achievement has long been a main issue for researchers and educators. Numerous studies have been conducted to study the effect of different intellectual, personality and demographic and environmental factors on the academic achievement of students. (Crede & Kuncel, 2008). Academic achievement of the students gets affected by the environment and the society where we live. In our country, people belonging to different castes and social groups live. The Constitution of India grants equal rights to all its citizens irrespective of caste, colour, creed, and gender. It contains special provisions for the socio-economic development of the Scheduled Castes (Articles 15 (4), 16 (4) of Part iii), Scheduled Tribes (Article 46 of Part IV), and Other Backward Classes (OBCs). Irrespective of these provisions and safeguards, Scheduled Castes and Scheduled Tribes still suffer as far as their socio-economic and educational conditions are concerned. No doubt, social constraints hinder the development of persons belonging to these disadvantaged sections of society and consequently, their educational achievement also gets affected. The present study investigates the impact of learning styles on the academic achievement of SC and ST students of Jammu District. (Pandya, 2010).

SIGNIFICANCE OF THE STUDY

This study is of great significance because it throws light on one of the very important factors of learning i.e., the learning styles of the learners which play their crucial role in

the academic performance of the learners. The findings of the study can be used to improve the learning abilities and achievement level of the students. This study can be helpful in making students aware of their learning preferences and can lead to metacognitive awareness. Acknowledgement of learning styles at the early stage can help to promote skills that can extend beyond school. Moreover, the findings of the study can also be of great help for the teachers. Teachers having the knowledge of the learning styles of students can deal with many of the challenges they face in the classroom easily and efficiently. They can use learning styles as an aid to make their lessons more effective and to adjust teaching strategies in accordance with the learning styles of students. (Reid, 2005).

Learning styles should not be considered in isolation, but other factors like the learning environment, the nature of the task, and the curriculum to be taught should also be taken into account. For the maximum benefit and learning among the students, it is necessary that social learning should take place. Teachers should create a supportive emotional learning environment. Classroom activities and instructional materials should be organised and designed in such a way that can meet a range of learning styles. Teacher can use the knowledge of the learning styles of his students in planning and organising classroom and school activities. The findings of the present study highlight the differences in learning styles and their effect on the academic achievement of SC and ST students who are lagging behind the other groups of society. On the basis of the results of the study, the teacher can plan his/her teaching accordingly as per the learning styles of the students.

STATEMENT OF THE PROBLEM

The investigators have gone through various studies and studied the impact of learning styles of SC and ST students on academic achievement. Studies related to them will be fruitful in the direction of more inclusion of these two categories of Socio-Economically Disadvantaged Groups (SEDGs). The topic is briefly stated as:

- 6) *Impact of learning styles on academic achievement of Scheduled Castes and Scheduled Tribe students of secondary schools of Jammu District.*

OPERATIONAL DEFINITIONS

- 1) **Learning Styles:** - Learning styles refer to the preferred ways of learning. Each child is different from the other and hence, it follows different ways to learn things. In the present study, learning styles refer to the scores obtained

by participants in three dimensions of 'Learning Style Inventory' developed by K.S. Mishra.

- 2) **Academic Achievement:** - In the present study, academic achievement refers to the scores obtained by participants in the previous class examination.
- 3) **Scheduled Caste and Scheduled Tribes:** - In the present study, Scheduled Caste and Scheduled Tribe refers to the disadvantaged sections of society as envisaged in the Constitution of India.

OBJECTIVES OF THE STUDY

- 1) To study the levels of learning styles among SC and ST students.
- 2) To study the effect of different learning styles (Enactive, Figural and Verbal) on academic achievement of SC and ST students
- 3) To study the effect of overall learning styles on academic achievement of SC and ST students.

HYPOTHESES OF THE STUDY

- 1) There will be no significant difference in the levels of learning styles among SC and ST students.
 - 2.1) There will be no significant difference in academic achievement among SC students belonging to high and low groups of Enactive Learning Style.
 - 2.2) There will be no significant difference in academic achievement among ST students belonging to high and low groups of Enactive Learning Style.
 - 2.3) There will be no significant difference in academic achievement among SC students belonging to high and low groups of Figural Learning Style.
 - 2.4) There will be no significant difference in academic achievement among ST students belonging to high and low groups of Figural Learning Style.
 - 2.5) There will be no significant difference in academic achievement among SC students belonging to high and low groups of Verbal Learning Style.
 - 2.6) There will be no significant difference in academic achievement among ST students belonging to high and low groups of Verbal Learning Style.
- 3) There will be no significant difference in academic achievement on the basis of overall learning styles among SC and ST students.

DELIMITATIONS OF THE STUDY

1. The present study was confined to Jammu district only.
2. The present study was confined to the sample of 200 (i.e., 100 SC and 100 ST students) only.
3. The present study was confined to the government and private schools run by State Board of School Education only.
- 4) The present study was confined to secondary schools only.

METHODOLOGY

The present study was descriptive in nature. In the present study, the following variables were delineated:

1. **Independent Variable:** Learning Styles.
2. **Dependent Variable:** Academic Achievement.

POPULATION: Population comprised of 43244 secondary school students from Government and Private Schools of Jammu.

SAMPLE: Sample selected for the study comprised of 200 students (100 Scheduled Caste students and 100 Scheduled Tribe students) from government and private schools of Jammu District by using Simple Random Sampling technique.

TOOL USED FOR DATA COLLECTION

Learning Style Inventory developed by Prof. K. S. Mishra was used by the investigators to collect data from the students. With the help of this inventory, three learning styles namely 1) Enactive learning style 2) Figural learning style 3) Verbal Learning style, were studied by the investigators.

ANALYSIS AND INTERPETATION OF THE DATA

After the collection of data, the data were statistically analyzed. Statistical techniques used for data analysis were Quartiles (Q1 &Q3), Mean, S.D., and Critical Ratio.

Table 1 Showing Levels of Learning Styles among SC and ST students

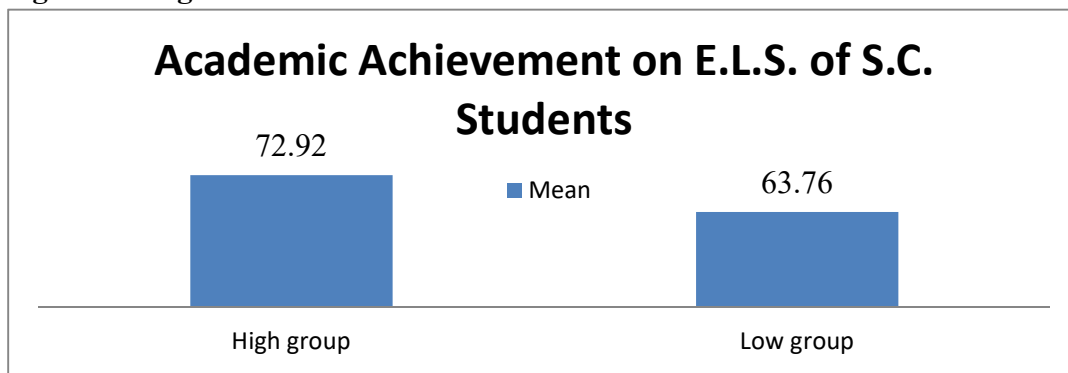
High on Learning Style	Mean	S.D.	SEDM	CR	Level of Significance
SC	191.05	10.48	2.84	2.04	Significant at 0.05 level
ST	185.24	8.40			

From the above Table 1, it is evident that CR value for high groups on learning styles of Scheduled Caste and Scheduled Tribe students has come out to be 2.04 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among SC and ST students with regard to high levels of learning styles. Further, Table 1 indicates that SC students have better learning styles as compared to that of ST students as their mean values came out to be 191.05 and 185.24, respectively.

Table 2) Showing Academic Achievement on Enactive Learning Style of SC students.

Enactive Learning Style	Mean	S.D.	SEDM	CR	Level of Significance
High	72.92	13.162	3.95	2.35	Significant at 0.05 level
Low	63.7619	13.148			

Fig.1 showing academic achievement on E.L.S of SC students

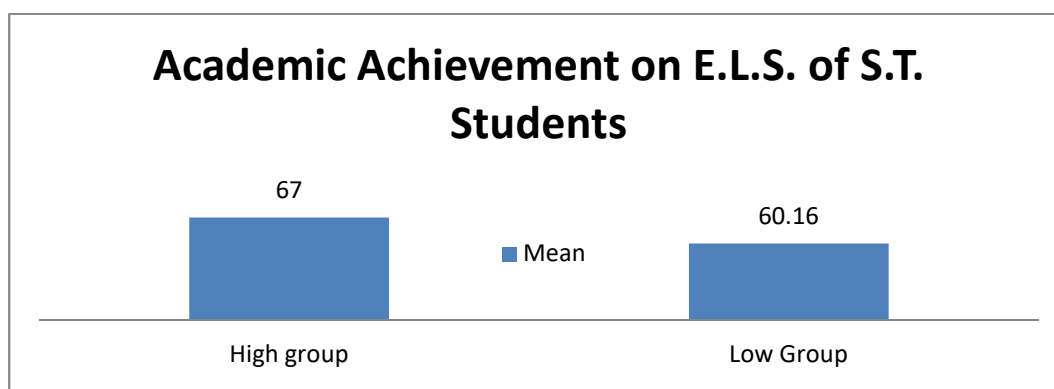


From the above Table 2 and Figure 1, it is evident that CR value for High and Low Enactive Learning Style in academic achievement of Scheduled Caste students has come out to be 2.35 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Enactive Learning Style in academic achievement of SC students. Further, Table 2 and Fig.1 indicate that SC students having High Enactive Learning Style have better academic achievement than the SC students having Low Enactive Learning Style as their mean values came out to be 72.92 and 63.76 for High and Low Enactive Learning Style respectively. Hence, hypothesis 2.1 is rejected.

Table 3) Showing Academic Achievement on Enactive Learning Style of ST students.

Enactive Learning Style	Mean	S.D.	SEDM	Df	CR	Level of Significance
High	67	13.14	3.09	55	2.21	Significant at 0.05 level
Low	60.16	10.22				

Fig.2 showing academic achievement on E.L.S of ST students

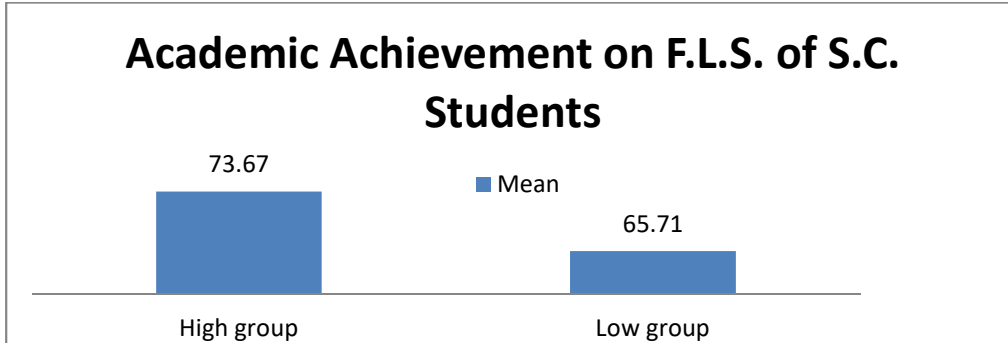


From the above Table 3 and Fig. 2, it is evident that CR value for High and Low Enactive Learning Style in academic achievement of Scheduled Tribe students has come out to be 2.21 with df 55 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Enactive Learning Style in academic achievement of ST students. Further, Table 3 and Fig.2 indicate that ST students having High Enactive Learning Style have better academic achievement than the ST students having Low E.L.S. as their mean values came out to be 67 and 60.16 for High and Low Enactive Learning Style respectively. Hence, hypothesis 2.2 is rejected.

Table 4) Showing Academic Achievement on Figural Learning Style of SC Students

Figural Learning Style	Mean	S.D.	SEDM	CR	Level of Significance
High	73.67	12.65	3.88	2.05	Significant at 0.05 level
Low	65.71	11.78			

Fig. 3 Showing Academic Achievement on F.L.S. of SC students

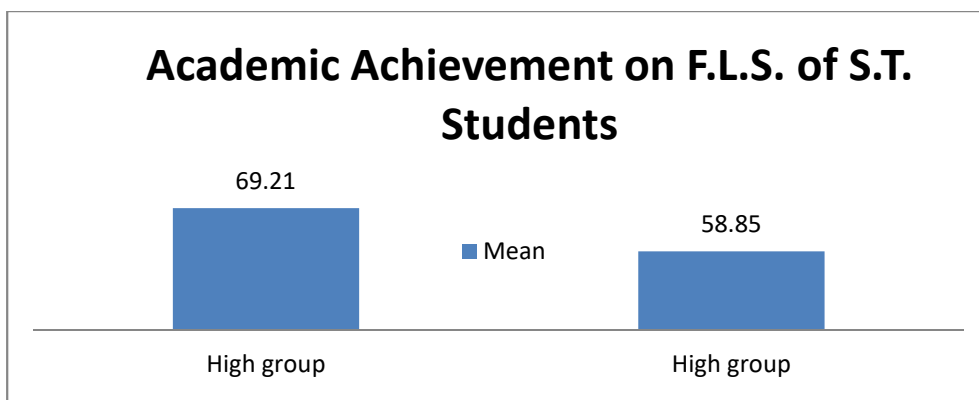


From the above Table 4 and Figure 3, it is evident that CR value for High and Low Figural Learning Style in academic achievement of Scheduled Caste students has come out to be 2.05 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Figural Learning Style in academic achievement of SC students. Further, Table 4 and Fig.3 indicate that SC students having High Figural Learning Style have better academic achievement than the SC students having Low Figural Learning Style as their mean values came out to be 73.67 and 65.71 for High and Low Figural Learning Style respectively. Hence, hypothesis 2.3 is rejected.

Table5) Showing Academic Achievement on Figural Learning Style of ST students

Figural Learning Style	Mean	S.D.	SEDM	CR	Level of Significance
High	69.21	12.27	3.43	3.02	Significant at 0.01 level
Low	58.85	10.96			

Fig.4 showing academic achievement on F.L.S of ST students

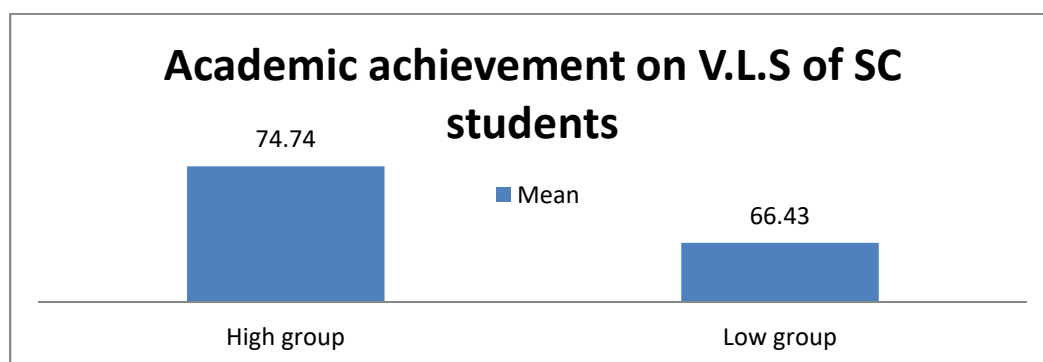


From the above Table 5 and Fig.4, it is evident that CR value for High and Low Figural Learning Style in academic achievement of Scheduled Tribe students has come out to be 3.02 which is significant at 0.01 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Figural Learning Style in academic achievement of ST students. Further, Table 5 and Fig.4 indicate that ST students having High Figural Learning Style have better academic achievement than the ST students having Low Figural Learning Style as their mean values came out to be 69.21 and 58.85 for High and Low Figural Learning Style respectively. Hence, hypothesis 2.4 is rejected.

Table 6) Showing Academic Achievement on Verbal Learning Style of SC students

Verbal Learning Style	Mean	S.D.	SEDM	CR	Level of Significance
High	74.74	12.49	3.52	2.36	Significant at 0.05 level
Low	66.43	12.33			

Fig.5) showing academic achievement on V.L.S of SC students

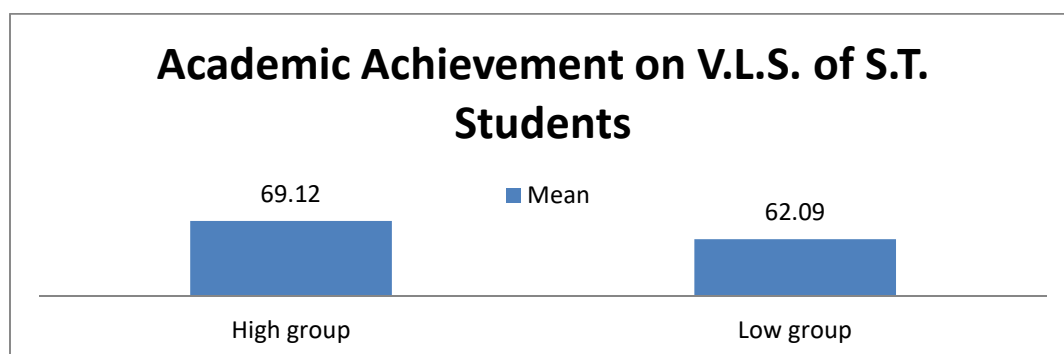


From the above Table 6 and Fig.5, it is evident that CR value for High and Low Verbal Learning Style in academic achievement of Scheduled Caste students has come out to be 2.36 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Enactive Learning Style in academic achievement of SC students. Further, Table 6 and Fig.5 indicate that SC students having High Verbal Learning Style have better academic achievement than the SC students having Low Verbal Learning Style as their mean values came out to be 74.74 and 66.43 for High and Low Verbal Learning Style respectively. Hence, hypothesis 2.5 is rejected.

Table 7) Showing Academic Achievement on Verbal Learning Style of ST students

Academic Achievement	Mean	S.D.	SEDM	CR	Level of Significance
High	69.12	11.49	3.08	2.27	Significant at 0.05 level
Low	62.09	9.67			

Fig. 6) Showing academic achievement on V.L.S. of ST students



From the above Table 7 and Fig.6, it is evident that CR value for High and Low Verbal Learning Style in academic achievement of Scheduled Tribe students has come out to be 2.27 which is significant at 0.05 level of significance. It can thus be interpreted that there is a significant difference among High and Low groups of Verbal Learning Style in academic achievement of ST students. Further, Table 7 and Fig.6 indicate that ST students having High Verbal Learning Style have better academic achievement than the ST students having Low F.L.S. as their mean values came out to be 69.12 and 62.09 for High and Low Verbal Learning Style respectively. Hence, hypothesis 2.6 is rejected.

Table 8) Showing Academic Achievement of SC & ST students having high Learning Styles.

High on Learning Styles	Mean	S.D.	SEDM	CR	Level of Significance
SC	74.57	13.33	3.89	1.81	Not significant at both levels
ST	67.52	12.88			

From the above Table 8, it is clear that CR value for high Learning Style groups in academic achievement of SC and ST students has come out to be 1.81, which is not significant at both levels of significance. It can thus be interpreted that there is no difference between high groups of learning styles in academic achievement of SC and ST students.

Table 9) Showing Academic Achievement of SC & ST students having low Learning Styles.

Low on Learning Styles	Mean	S.D.	SEDM	CR	Level of Significance
SC	64.52	14.17	3.51	1.12	Not significant at both levels
ST	60.6	11.34			

From the above Table 9, it is evident that CR value for low Learning Style groups in academic achievement of SC and ST students has come out to be 1.12 which is not significant at both levels of significance. It can thus be interpreted that there is no difference between low groups of learning styles in academic achievement of SC and ST students. Further, from Tables 8 and 9, it is evident that there is no difference in academic achievement on the basis of learning styles of SC and ST students. Hence, hypothesis 3 is accepted.

CONCLUSION

For making teaching-learning effective and interesting, it is very crucial for the teacher to adjust or to adopt teaching styles that can be easily fitted with the learning styles of students. The findings of the study reveal that students having high in learning styles have better academic achievement than students having low in learning styles. Hence, it is expected from a teacher to adjust his/her teaching style as per the learning styles of the students so that they can show better academic achievement and learning can be more effective. In addition to this, it should be an important duty of the teacher to make the learners aware of their own learning styles. They should be motivated by the teacher to know about their learning styles and realize their strengths and weaknesses. Teachers with better understanding of learning styles should guide the students and can help them strengthen their learning styles by assigning them task for practice according to their learning styles. Mismatch of teaching style with the learning styles can render the efforts of both teacher and students futile. So, it is very essential for the teacher to match his style with the learning styles of the learners. It can yield fruitful results in terms of better

academic performance and motivate learners for learning. Curriculum, classroom activities and methodology should be selected in consonance with the needs of the students. The SC and ST students will be able to achieve better in academics if their learning styles are studied and understood properly.

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