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A Study Of Cognitive Styles Of High Secondary School Students With Respect To Certain Variables

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Introduction:

Every individual prefers his/her own ways for organizing all that he/she sees, remember and thinks about. The stable ways I which the persons think and look at the world and form relationship to it is referred as 'Cognitive style'. The process through which the individual receives information from the environment transforms it in his/her own way and then uses it to respond in his/her own characteristics way had great influence in one's academic success. Individuals differ in the ways of organizing and processing information which is termed as cognitive style by Tennant (1988). Different types of cognitive styles, 'field dependence- independence' and 'reflectivity – impulsivity' have empirically tested on certain psycho-social variables that effect the educational performance of students by researchers.

Identification of cognitive styles of students is one of the methods which may be used to determine the kind of approach that works best with different learners as learners prefer to learn in their own ways of processing the information. This type of knowledge will definitely facilitates teachers to adopt the teaching styles in congruence to the perceptual or cognitive style of the learners leading to learning. Cognitive styles not only play an important role in teaching – learning for effective information processing and achievement of the objectives of instruction but also help in identification of the individual differences in broadening/sharpening ways of thinking., which facilitate in identifying individuals relative ability in performance, in identifying intra individual dimensions and in identifying the mode of approaching the teaching – learning environment.

It is also to point out that not many studies have been carried out in this area in Indian context during the past decade. There are several aspects of cognitive styles on which clear cut answer are yet to be find out by sustained empirical research, For example, "Are secondary school children field dependent or Independent'? 'Do they possess impulsivity or reflectivity'? What is the effect of different environments (rural/urban on cognitive styles? The present investigation is designed to find answer to above said questions the results of which will help the students, parents, teachers, planners of education to design the curriculum to adopt the needed transactional strategies, to provide individualized

instruction/ activities etc., so as to create a better learning of the students. Students at high schools are at adolescent stage where much of development occurs and stable ways of thinking, perceiving and organizing information and looking at the world form. If their cognitive styles are explored through empirical studies it will also help the stake holders to guide/ counsel them accordingly for their further educational and personality development and also for choosing their future vocation or carrier.

Objective of the study:

- To identify whether different sub-groups of Ss differ in their cognitive styles (in terms of FD-I (Field Dependence- Independence) /R-I (Reflectivity-Impulsivity)
- To examine whether different sub-groups of Ss with FD (Field Dependence)and FI(Field Independence) cognitive style differ in their academic achievement.

Hypothesis of the Study:

- There would be no significant difference in the FD-I (Field Dependence- Independence) /R-I (Reflectivity-Impulsivity) cognitive style of different sub-groups of Ss.
- There would be no significant difference in the sub groups of Ss with FD and FI cognitive styles in their academic achievement.

Methodology of the study:

The present investigation was undertaken to study the cognitive styles (FD/I, R-I) of high school students in relation to certain variables viz., academic achievement, personality traits, gender.

Tool used for the study:

- To measure 'Field dependence – independence cognitive style "Group Embedded Figure Test: (GEFT) developed by Oltman, Raskin and Witkin (1971) was used.
- For measuring student's personality Traits, the investigator adopted Cattel's High School Students Personality Questionnaire (14 HSPQ).

Sample of the study:

The sample of the study consists of 240 High School Students studying in VIII, IX and X standards. The sample was selected from Urban and Rural Locality Schools located in Guntur District using simple random sampling technique.

Analysis and interpretation of the data:

Means and SDs of Different Sub – Groups of Ss on GEFT (FD-I cognitive style) and the results of 't'/'F' Tests.

Group	N	Mean	SD	't'/'F'values
Whole Group	**240**	**11.55**	**1.90**	
Boys (B)	**120**	**11.58**	**2.05**	**0.17@**
Girls (G)	**120**	**11.53**	**1.74**	
Rural (R)	**120**	**11.23**	**1.54**	**2.65****
Urban (U)	**120**	**11.88**	**2.16**	
VIII Class	**80**	**10.53**	**1.53**	**26.67*****
IX Class	**80**	**11.63**	**1.82**	
X Class	**80**	**12.51**	**1.80**	
Scheduled Castes/ Scheduled Tribes(SCs/STs)	**80**	**10.44**	**1.67**	**26.83*****
Backward Classes (BCs)	**80**	**11.76**	**1.58**	
Other Classes (OCs)	**80**	**12.45**	**1.85**	

From the above table the obtained the t-value and F-values is 0.17,2.65,26.67,26.83 It shows that , there exists significant difference in the FD-I Cognitive Styles of Ss belonging to different localities, different grades (classes) and different social classes. But the difference in the mean FD-I Cognitive Styles of boys and girls was not significant indicating that boys and girls did not differ significantly in their FD-I Cognitive Style. Hence, the formulated null hypothesis "There would be no significant difference in the FD-I cognitive style of different sub groups of Ss", was accepted only in the casse of the FD-I scores of boys and girls. But with regard to other variables Viz., locality, grade, and social class, this hypothesis was rejected.

Academic Achievement ,Means and SDs of Different Sub-groups of Ss of FDs and FIs and the results of 't' test.

	FDs			**FIs**			
Group	**N**	**AA Mean**	**SD**	**N**	**AA Mean**	**SD**	**'t'/'F'values**
Whole Group	**38**	**43.87**	**4.52**	**83**	**67.12**	**8.56**	**15.73*****
Boys (B)	**23**	**43.35**	**4.75**	**44**	**65.80**	**8.77**	**11.41*****
Girls (G)	**15**	**44.67**	**4.23**	**39**	**68.62**	**8.18**	**10.75*****

Rural (R)	**19**	**42.95**	**4.52**	**36**	**66.06**	**8.67**	**10.83*** **
Urban (U)	**19**	**44.79**	**4.45**	**47**	**67.94**	**8.5**	**11.23*** **
VIII Class	**19**	**42.79**	**4.98**	**17**	**65.53**	**10.46**	**8.47*** **
IX Class	**11**	**45.55**	**3.47**	**25**	**67.16**	**6.53**	**10.28*** **
X Class	**8**	**44.13**	**4.42**	**41**	**67.76**	**8.92**	**7.27*** **
SCs/STs	**24**	**42.63**	**4.25**	**16**	**57.94**	**9.48**	**6.96*** **
BCs	**8**	**44.75**	**4.30**	**26**	**66.42**	**6.31**	**9.03*** **
OCs	**6**	**47.67**	**4.08**	**41**	**71.15**	**6.41**	**8.66*** **

From the above table, also the obtained the t-values. It shows that , there exists significant difference in the academic achievement of the group as whole is considered, FIs scored significantly higher than the FDs. This was true irrespective of gender or locality or grade or social class of the Ss to which they belonged. Hence, the formulated null hypothesis "There would be no significant difference in the "Students belonging to different sub-group with FD and FI cognitive styles would not differ significantly in their academic achievement", was rejected.

Findings of the Study:

The finding reveals that, there exists significant difference in the FD-I Cognitive Styles of Ss belonging to different localities, different grades (classes) and different social classes. But the different in the mean FD-I Cognitive Styles of boys and girls was not significant indicating that boys and girls did not differ significantly in their FD-I Cognitive Style. There exists significant difference in the academic achievement of the group as whole is considered, FIs scored significantly higher than the FDs. This was true irrespective of gender or locality or grade or social class of the Ss to which they belonged.

Conclusion:

In this investigation, only two cognitive styles viz., field dependence, independence were studied. There are little number of studies on other cognitive style like field articulations, conceptualizing styles, breath of categorization, compartmentalization, conceptual discriminations, conceptual integration, conceptual differentiation, cognitive complexity Vs simplicity, leveling Vs sharpening, scanning etc. Studies on each of these cognitive styles independently are worthwhile to understand how children process the information and organize and assimilate, which in turn will help the educational planners, curriculum

framers, administrators, teachers, parents, and students to act according to the results of the studies. Thus the field of cognitive style helps the stake holders in understanding cognitive processing of information and learning as they play an important role in the field of education.

References:

- **Kozhevnikov, M.Kosslyn, S.M.(2014)** Cognitive style as Environmentally sensitive Individual differences in Cognition, Journal of Psychological Sciences in the Public Interest Vol.15,No.1 P:33.
- **Ahmadzade, L. & Shojae, M. (2013).** Investigating the relationship between cognitive style (field dependence / independence) and academic achievement in male and female students of Behbahan Islamic Azad University. Journal of life Science and Biomedicine, 3(3), 245-249.
- **Aseeri, M.M. (2000).** An investigation of the relationship between students formed level of cognitive development, learning style and mathematics achievement in eleventh grade in Abha Saudi Arabia. Doctoral dissertation of Ohio University. Dissertation Abstract international; 61(7).
- **Beri, N. and Kumar (2016).** Cognitive style of secondary school students in relation to Adversity Quotient. International Journall for Research in Social Science and Humanities Research, 2(1), 1-15.
- **Dowlatabadi, H. and Mehraganfar, M. (2014).** The causal correlation between field-dependence/ Independence cognitive style and no vocabulary learning strategies among Iranian EFL learners. International Journal of Latest Research in Science and Technology, 3(4), 97-103.
- **Gupta and Suman (2017).** Learning & Thinking style as a major determinant of academic achievement among school students: An analytical study. Educational Quest: International Journal of Education and Applied Social Science, 8(3), 495-506. https://doi.org/10.5958/22307311.2017.00098.8