
Cognitive Styles and Job Satisfaction among High School Mathematics Teachers

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ABSTRACT

Cognitive style is an integral process of human beings. The main objective of the current research article is to explore the cognitive styles of high school mathematics teachers. Another important intent is to find out the corresponding levels of job satisfaction vis-à-vis their cognitive styles. 72 high school mathematics teachers from Kuppam and Gudupalli mandals have been selected for the study by means of simple random sampling technique. Cognitive Styles Inventory and Job Satisfaction Scale have been used to collect the data. Results reveal that high school mathematics teachers possess in a major way split cognitive style, integrated cognitive style, and undifferentiated cognitive style. The majority group of 30 teachers falling under split cognitive style category has interesting leanings ranging from high degree job satisfaction to very low degree job satisfaction following normal probability distribution property.

Key Words

Cognitive Style, Systematic cognitive style, Intuitive cognitive style, Integrated cognitive style, Undifferentiated cognitive style, Split cognitive style, Job satisfaction, high school mathematics teacher

1. INTRODUCTION

Cognition is an integral process of human lives. Cognition indicates ‘knowing’. It is the fundamental process that enables the human beings to conduct their lives. This is a process involving perception, information processing, and the resultant output. Though, it is a universal process that exists among human beings, it varies from person to person. Hence, it is considered as ways of cognition and is technically known as ‘*cognitive style*’. Perception is the first process that appears in the cognitive style. Perception occurs through senses. But there is a possibility of its occurrence by means of intuition also. The information processing occurs by means of perceptual matching with previous information available in the memory and subsequent judgement but before the appearance of the output or revelation through retrieval. Cornett (1983) described cognitive style as a predictable pattern of behaviour within a range of individual variability. Messick (1984) indicated that cognitive style deals with the manner in which people prefer to make sense out of their world by collecting, analyzing, evaluating, and interpreting data. Paivio (1971) indicated that cognitive style assesses whether an individual tends to think in verbal terms, using sequential processing of

information, or in visual terms, using parallel processing. Srinivas Kumar (2011) defined that cognitive style has to be considered as a wholistic process of cognition that begins with the perception, and mediated by information processing, and the resultant retrieval; it varies from person to person and it is affected by various personality factors, such as, previous information, heredity and environment, interest, thinking, attitude, value system, intelligence, creativity, social and economic status and so on.

Job satisfaction indicates “the affective orientation of the individual toward the work role he is occupying;” “the attitude of workers toward the company, their job, their fellow workers and other psychological objects in the work environment” (Carroll, 1973); “the favorable viewpoint of the adequacy of the rewards given by employers for the completion of a task” (Smith, 1973). Another view point of job satisfaction is that it is “an affective reaction to an individual’s work situation” or “an overall feeling about one’s job or career” as it relates to specific facets of the job or career like compensation, autonomy, coworkers, etc. (Perie, Baker, & Whitener, 1997). Several other factors may contribute to teachers’ level of job satisfaction: school culture; school size; communication with school leaders, parents, and colleagues; teacher’s attendance; equipment and facilities; student behavior and abilities; professional treatment and professional development (Bridges & Hallinan, 1980; Darling-Hammond, Holtzman, Gatlin, & Heilig, 2005; Ferris, Bergin, & Wayne, 1988; Indik, 1965; Katzenmeyer & Moller, 2001; Lawler & Porter, 1967; Ostroff, 1992; Perie & Whitener, 1997; Shaw, 1981; Silberman, 2003; Smith, 1973; Stolp, 1994). In the context of job satisfaction, it has been thought that cognitive style would be a contributing factor because it forms the very perceptual base of an individual and further in terms of his / her information processing and subsequent output. All these are likely to be influenced by the above said factors like interests, attitudes, value system and so on which are directly related to the cognitive style; and school culture and climate, student behaviour, professional treatment and development etc., pertinent to the job satisfaction. Hence, an attempt has been made to study the cognitive styles and also the patterns of job satisfaction of high school mathematics teachers.

2. OBJECTIVES

Keeping in view the focus of the problem, the objectives are framed as under.

1. To categorize the cognitive styles existing among high school Mathematics teachers.
2. To classify the job satisfaction at different levels based on the patterns of cognitive styles existing among high school Mathematics teachers.

3. METHOD

Survey method has been used in the present investigation in order to analyse the cognitive styles that exist among Mathematics teachers and also to find out the levels of job satisfaction among them. A sample of 72 Mathematics teachers working in high schools located in Kuppam and Gudupalli mandals located in Chittoor district of Andhra Pradesh State have been selected by means of the simple random sampling technique.

The Cognitive Styles Inventory (CSI) has been used in this investigation for purpose of finding out the types of cognitive styles among high school Mathematics teachers. The CSI is standardized for Indian population by Praveen Kumar Jha (2001). It is a self-report inventory of the ways of thinking, judging, remembering, storing information, decision making, and believing in interpersonal relationships. The CSI comprises 40 statements from which 20 statements are related to Systematic Style and the other 20 statements to Intuitive Style and are to be responded on five-point scale running from ‘Strongly Agree’ to ‘Strongly Disagree’ with three middle responses of ‘Agree’, ‘Undecided’, and ‘Disagree’. It enables to assess the five styles, namely, *systematic style, intuitive style, integrated style, undifferentiated style, and split style*.

Also, the Job Satisfaction Scale (JSS) has been used for exploring the levels of job satisfaction among the high school Mathematics teachers. The JSS is a standardized scale on Indian population and constructed by Meera Dixit (1993). It consists of 52 statements to be responded on five-point scale ranging from ‘Strongly Agree’ to ‘Strongly Disagree’ with three middle responses of ‘Agree’, ‘Undecided’, and ‘Disagree’. It helps in the assessment of eight major factors pertinent to the job satisfaction of teachers in Indian schools. These factors include: (a) *Intrinsic aspect*, (b) *Salary, Service conditions and Promotion*, (c) *Physical facilities*, (d) *Institutional plans and policies*, (e) *Satisfaction with authorities*, (f) *Social status and family welfare*, (g) *Rapport with students*, and (h) *Relationship with co-workers* (Meera Dixit, 1993).

Data has been collected from the said sample of 72 high school Mathematics teachers and subsequently analyzed and the results are presented hereunder.

4. RESULTS AND DISCUSSION

Data gathered by means of the Cognitive Styles Inventory (Praveen Kumar Jha, 2001) and the Job Satisfaction Scale (Meera Dixit, 1993) has been analyzed and presented in two ways in order accomplish the objectives of the study. First, the data relating to the cognitive styles of high school mathematics teachers has been presented in table 1, and second, the data providing the categorization of job satisfaction corresponding to their cognitive styles has been furnished in table 2.

Table-1: Classification of high school mathematics teachers as per their cognitive styles (N = 72)

S.No	Cognitive Style	Number of Mathematics teachers	%
1.	Systematic Style	8	11.11
2.	Intuitive Style	4	5.56
3.	Integrated Style	16	22.22
4.	Undifferentiated Style	14	19.44
5.	Split Style	30	41.67

The above results are interesting. In a major way, the high school mathematics teachers possess the split cognitive style (41.67%) and the second large group forms the teachers with integrated cognitive style (22.22%) followed by the teachers with undifferentiated cognitive style (19.44%).

Table-2: Showing the cognitive styles and corresponding levels of job satisfaction among high school Mathematics teachers (N = 72)

S.No	Cognitive Style	Level of job satisfaction / Number of teachers	Percentage
1.	Systematic style (N=8)	1. HDS = 0 2. GDS = 3 3. ADS = 5 4. LDS = 0 5. VLDS = 0	0% 37.5% 62.5% 0% 0%
2.	Intuitive style (N=4)	1. HDS = 1 2. GDS = 1 3. ADS = 0 4. LDS = 1 5. VLDS = 1	25% 25% 0% 25% 25%
3.	Integrated style (N=16)	1. HDS = 2 2. GDS = 3 3. ADS = 5 4. LDS = 3 5. VLDS = 3	12.5% 18.75% 31.25% 18.75% 18.75%
4.	Split style (N=30)	1. HDS = 1 2. GDS = 13 3. ADS = 10 4. LDS = 4 5. VLDS = 2	3.33% 43.33% 33.33% 13.33% 6.66%
5.	Undifferentiated Style (N=14)	1. HDS = 0 2. GDS = 6 3. ADS = 3 4. LDS = 1 5. VLDS = 4	0% 42.85% 21.42% 7.14% 28.57%

The abbreviations used in tables are:- Highest Degree of Job Satisfaction (HDS), Good Degree of Job Satisfaction (GDS), Average Degree of Job Satisfaction (ADS), Low Degree of Job Satisfaction (LDS), Very Low Degree of Job Satisfaction (VLDS).

Results from table 2 indicate that from a sample of 72 high school mathematics teachers in which 8 teachers have systematic cognitive style and they could be seen at two different levels of job satisfaction, namely, GDS (3), and ADS (5); 4 mathematics teachers having intuitive cognitive style are scattered at different levels of job satisfaction, that is, HDS (1), GDS (1), LDS (1), and VLDS (1); 16 mathematics teachers falling under integrated cognitive style are also spread across various levels of job satisfaction, namely, HDS (2), GDS (3), ADS (5), LDS (3), and VLDS (3); the majority group of 30 teachers falling under split

cognitive style category have interesting leanings, that is, HDS (1), GDS (13), ADS (10), LDS (4), and VLDS (2), and it indicates normal probability distribution under this category; and finally 14 teachers with undifferentiated cognitive style seem to be spread in a range of job satisfaction levels, that is, HDS (0), GDS (6), ADS (3), LDS (1), and VLDS (4).

5. CONCLUSION

It may be concluded by stating that the causes for such occurrence of such results may be due to family factors, hereditary and environmental factors. The other causal factors may be, such as, obtaining proper education and training, stability and consistency including job change, job enlargement and job enrichment. On the whole these might have led them to develop positive attitudes towards self and others, feelings of equality, fraternity etc. All these consequential factors might have given rise to the presence of a variety of cognitive styles that which comprises the essential components of perception, remembering, information processing and its retrieval. Once again these results strengthen the aspect that cognitive styles are influenced by individual variations. Hence, in a nutshell it may be said that the high school mathematics teachers falling under systematic, intuitive, integrated, undifferentiated and split cognitive styles possess different levels of job satisfaction.

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