



A STUDY ON COGNITIVE STYLES OF SCHOOL TEACHERS OF KALABURAGI EDUCATIONAL DISTRICT

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Abstract:

Cognition is a regular process in human lives. Cognition connotes 'knowing' and it is the basic process that helps human beings to conduct their lives. It is a process comprising of perception, information processing and the resultant output. Even though it is a universal process that occurs in human beings, however, it varies from person to person. Therefore, it is construed as ways of cognition and is psychologically known as 'Cognitive Style'. The present investigation is directed to profile whether there is an association between the Cognitive Styles of School teachers and some selected personal variables such as Gender, Age and Type of Management. It is based on data collected from 1400 school teachers working in Coimbatore Educational district using Stratified Random Sampling technique. The Cognitive Style Inventory (CSI-J) by Praveen Kumar Jha has been used as tool to collect the data. Results indicate that the school teachers possess all the Five types of Cognitive Styles, namely, Systematic, Intuitive, Integrated, Undifferentiated and Split Cognitive style. It has also been found that there exists an association in cognitive styles of school teachers based on variation in their age and type of management of School Teachers.

Keywords:

School Teachers, Cognitive Style, Systematic Cognitive Style, Intuitive Cognitive Style, Integrated Cognitive Style, Undifferentiated Cognitive Style, Split Cognitive Style.

Introduction:

Cognitive styles describe how the individual acquires knowledge (cognition) and processes information (conceptualization). Cognitive styles are related to mental behaviors which individuals apply habitually when they are solving problems. In general, they affect the way in which information is obtained, sorted and utilized. Cognitive style is usually described as a stable and persistent personality dimension which influences attitudes, values and social interaction. It is a characteristic of cognitive processing which is particular to a certain individual or class of individuals. There are many different definitions of cognitive style. Tennant (1988) defined cognitive styles as "an individual's characteristic and consistent approach to

organizing and processing information". Riding, Glass and Douglas (1993) termed Cognitive Styles as "a fairly fixed characteristic of an individual" and "are static and **are** relatively in-built features of the individual". Based on the above definitions, in the researcher point of view, Cognitive Styles of teachers refer to the individual's consistent and characteristic ways of thinking, perceiving, problem solving, remembering, storing, organizing, processing and transferring information.

Types of cognitive styles:

The Cognitive Styles are classified into five styles. They are:

1. **Systematic Style:** An individual with this style operates with a well-defined step- by-step approach when solving a problem, looks for an overall method or pragmatic approach and then makes an overall plan for solving the problem.
2. **Intuitive Style:** The individual, whose style is intuitive use an unpredictable ordering of analytical steps when solving a problem, relies on experience patterns characterized by un verbalized areas or hunches and explores and abandons alternatives quickly.
3. **Integrated Style:** A person with an integrated style is able to change style quickly and easily. Such style changes seem to be unconscious and take place in a matter of seconds.
4. **Undifferentiated Style:** A person with such a style appears not to distinguish or differentiate between the two extremes that is systematic and intuitive and therefore appears not to display a style.
5. **Split Style:** An individual with split style shows fairly equal degrees of systematic and intuitive specialization, However, people with a split style do not possess an integrated behaviour response; instead they exhibit each separate dimension in completely different settings using only one style at a time based on nature of their task.

The present study:

This descriptive survey is entitled as, "The Cognitive Styles of School teachers".

Objectives:

1. To study the association between the Cognitive styles and Gender of School teachers.
2. To study the association between the Cognitive styles and Age of School teachers.
3. To find out the association between the Cognitive styles and Type of management of school teachers.

Hypotheses of the Study:

1. There is no association between Cognitive Styles and Gender of School Teachers.
2. There is no association between Cognitive Styles and Age of School Teachers.
3. There is no association between Cognitive Styles and Type of Management of School teachers.

Sample of the Study:

The size of sample of the study is 1400 schoolteachers working in Kalaburagi Educational district (Karnataka). Stratified Random Sampling technique has been used to collect the sample.

Tool of the Study:

Cognitive Style Inventory developed by Praveen Kumar Jha (2010) has been used to study the cognitive styles of School teachers.

Administration of the test and scoring procedure:

In Cognitive Styles Inventory, 40 statements are given where situations are such in which an individual has to solve his problems. Each statement contains five response alternatives — Totally disagree (1), Disagree (2), Undecided (3), Agree (4) and Strongly Agree (5) and they have to go through these statements in the middle and tick mark (P) their choices in any of the five cells () of response alternatives as given.

Respondents are classified according to the following interpretation.

- A respondent who rates 81 and above on the systematic scale and below 61 on the intuitive scale is identified as having a Systematic style.
- Respondent who rates below 61 on systematic scale and 81 and above on intuitive scale is designated as a person having an Intuitive style.
- A testee with an Integrated style rates high on both scales (i.e., scoring above 81 in both Systematic and Intuitive) and is able to change styles quickly.
- An individual rating low on both the systematic and intuitive scale (i.e., scoring below 61) is described as having Undifferentiated Cognitive style.
- The person rating in the middle range on both the Systematic and the Intuitive scale i.e., between 61 and 81 is considered to have a Split-style.

As the CSI is a bi-dimensional measure of Systematic style and Intuitive style consisting of 20 items each; the minimum and maximum score on both dimensions ranges between 20 and 100.

Hypothesis I:

Null Hypothesis: H_{01} : There is no association between Cognitive Styles of School Teachers and Gender of School Teachers.

Table -1:
**Chi-Square test for association between Cognitive Styles
and Gender of School Teachers**

| Cognitive Styles | Gender | | Total | Chi-Square value | P-value |
|------------------|----------|---------|----------|------------------|---------|
| | Male | Female | | | |
| Systematic | 18 | 56 | 74 | 7.852 | 0.097 |
| | (24.3%) | (75.7%) | (100.0%) | | |
| | [5.8%j | [5.1 %] | [5.3%] | | |
| Intuitive | 20 | 63 | 83 | | |
| | (24.1%) | (75.9%) | (100.0%) | | |
| | [6.4%] | [5.8%] | [5.9%] | | |
| Integrated | 72 | 220 | 292 | | |
| | (24.7%) | (75.3%) | (100.0%) | | |
| | [23.1 %] | [20.2%] | [20.9%j | | |
| Undifferentiated | 27 | 58 | 85 | | |
| | (31.8%) | (68.2%) | (100.0%) | | |
| | [8.7%] | [5.3%j | [6.1 %] | | |
| Split | 175 | 691 | 866 | | |

| | | | | | |
|-------|----------|----------|----------|--|--|
| | (20.2%) | (79.8%) | (100.0%) | | |
| | [56.1 %] | [63.5%] | [61.9%] | | |
| Total | 312 | 1088 | 1400 | | |
| | (22.3%) | (77.7%) | (100.0%) | | |
| | [100.0%] | [100.0%] | [100.0%] | | |

Notes:

1. The value within () refers to Row Percentage
2. The value within [] refers to Column Percentage

Since P value is greater than 0.05, the null hypothesis is accepted with regard to Gender of School teachers. Hence, it is concluded that there is no association between Cognitive Styles and Gender of School teachers.

Based on the row percentage, 75.5% of Female Teachers and 24.3% of Male Teachers have Systematic Style; 75.9% Female Teachers and 24.1% of Male Teachers have Intuitive Style, 75.3% Female Teachers and 24.7% Male Teachers have Integrated Style; 68.2% of Female Teachers and 31.8% Male Teachers have Undifferentiated Style and 79.8% of Female Teachers and 20.2% Male Teachers have Split Style.

Based on the column percentage, Male Teachers seems to be good in Integrated Style, Systematic Style, Intuitive Style and Undifferentiated Style scoring 23.1%, 5.8%, 6.4% and 8.7% respectively whereas Female Teachers are very good in Split Style securing 63.5%.

Null Hypothesis: H_0 There is no association between Cognitive Styles of School Teachers and Age of School Teachers.

Table-2:
Chi-Square test for association between Cognitive Styles and Age of School Teachers

| Cognitive Styles | Age Group in years | | | Total | Chi-Square value | P-value |
|------------------|--------------------|----------|----------|----------|------------------|---------|
| | Below 30 | 30-45 | Above 45 | | | |
| Systematic | 13 | 39 | 22 | 74 | 21.063 | 0.007** |
| | (17.6%) | (52.7%) | (29.7%) | (100.0%) | | |
| | [5.7%] | [4.9%] | [5.8%] | [5.3%] | | |
| Intuitive | 16 | 47 | 20 | 83 | | |
| | (19.3%) | (56.6%) | (24.1%) | (100.0%) | | |
| | [7.0%] | [5.9%] | [5.3%] | [5.9%] | | |
| Integrated | 50 | 175 | 67 | 292 | | |
| | (17.1%) | (59.9%) | (22.9%) | (100.0%) | | |
| | [21.8%] | [22.1 %] | [17.7%] | [20.9%] | | |
| Undifferentiated | 10 | 35 | 40 | 85 | | |
| | (11.8%) | (41.2%) | (47.1 %) | (100.0%) | | |
| | [4.4%] | [4.4%] | [10.6%] | [6.1%] | | |
| Split | 140 | 496 | 230 | 866 | | |
| | (16.2%) | (57.3%) | (26.6%) | (100.0%) | | |

| | | | | | | |
|-------|----------|----------|----------|----------|--|--|
| | [61.1 %] | [62.6%] | [60.7%) | [61.9%] | | |
| Total | 229 | 792 | 379 | 1400 | | |
| | (16.4%) | (56.6%) | (27.1%) | (100.0%) | | |
| | [100.0%] | [100.0%] | [100.0%] | [100.0%] | | |

Notes:

1. The **value** within () refers to Row Percentage
2. The value within [J refers to Column Percentage
3. **Denotes **significant at 1% level**

Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence, it is concluded that there is an association between Cognitive Styles of School Teachers and Age of School Teachers.

Based on the row percentage, 52.7% of School Teachers in the age group between 30-45years have Systematic Style,29.7% of School Teachers in the age group of above 45 years have Systematic Style and 17.6% School Teachers in the age group of below 30 years have Systematic Style whereas 56.6% of School teachers in the age group between 30-45 years have Intuitive Style, 24.1% of School Teachers in the age group of above 45 years have Intuitive Style and 19.3% of School Teachers in the age group of below 30 years have Intuitive Style; 59.9% School Teachers in the age group between 30-45 years have Integrated Style, 22.9% School Teachers in the age group of above 45 years have Integrated Style and 17.1% of School Teachers in the age group of below 30 years have Integrated Style: 47.1% of School Teachers in the age group of above 45 years have Undifferentiated Style, 41.2% School Teachers in the age group between 30-45 years have Undifferentiated Style and 11.8% School Teachers in the age group of below 30 years have Undifferentiated Style; 57.3% of School Teachers in the age group between 30-45 years have Split Style, 26.6% of School Teachers in the age group of above 45 years have Split Style and 16.2% of School Teachers in the age group of below 30 years have Split Style.

Null Hypothesis:H₀₃: There is no association between Cognitive Styles of School Teachers a-e Type of Management of School Teachers.

Table-3

**Chi-Square test for association between Cognitive Styles and Type
of Management of School Teachers**

| Cognitive Styles | Type of Management | | | Total | Chi-Square Value | P value |
|------------------|--------------------|------------------|----------|----------|------------------|---------|
| | Government | Government Aided | Private | | | |
| Systematic | 15 | 12 | 47 | 74 | 24.331 | 0.002** |
| | (20.3%) | (16.2%) | (63.5%) | (100.0%) | | |
| | [4.7%] | [4.0%] | [6.0%] | [5.3%] | | |
| Intuitive | 19 | 22 | 42 | 83 | | |
| | (22.9%) | (26.5%) | (50.6%) | (100.0%) | | |
| | [6.0%] | [7.3%] | [5.4%] | [5.9%] | | |
| Integrated | 83 | 79 | 130 | 292 | | |
| | (28.4%) | (27.1%) | (44.5%) | (100.0%) | | |
| | [26.0%] | [26.3%] | [16.6%] | [20.9%] | | |
| Undifferentiated | 19 | 12 | 54 | 85 | | |
| | (22.4%) | (14.1%) | (63.5%) | (100.0%) | | |
| | [6.0%] | [4.0%] | [6.9%] | [6.1%] | | |
| Split | 183 | 175 | 508 | 866 | | |
| | (21.1%) | (20.2%) | (58.7%) | (100.0%) | | |
| | [57.4%] | [58.3%] | [65.0%] | [61.9%] | | |
| Total | 319 | 300 | 781 | 1400 | | |
| | (22.8%) | (21.4%) | (58.8%) | (100.0%) | | |
| | [100%] | [100%] | [100.0%] | [100.0%] | | |

Notes:

1. The value within () refers to Row Percentage
2. The value within [] refers to Column Percentage
3. * Denotes significant at 1% level

Since P value is less than 0.01, the null hypothesis is rejected at 1 percent level of significance. Hence, concluded that there is an association between Cognitive Styles of School Teachers and Type of Management of School Teachers.

Based on the row percentage, 63.5% Private School Teachers have Systematic Style, 20.3% Government School Teachers have Systematic Style and 16.2% Government Aided School Teachers have Systematic Style; 50.6% Private School Teachers, 26.5% Government Aided School Teachers and 22.9% Government School Teachers have Intuitive Style; 44.5% Private School Teachers have Integrated Style 28.4% Government School Teachers have Integrated Style and 27.1% Government Aided School Teachers have Integrated Style; 63.5% Private School Teachers have Undifferentiated Style, 22.4% Government School Teachers have Undifferentiated Style and 14.1% Government Aided School Teachers

have Undifferentiated Style; 58.7% Private School Teachers have Split Style, 21.1% Government School Teachers have Split Style and 20.2% Government Aided School Teachers have Split Style. Among all the styles Split style is adopted by many teachers.

Findings:

1. There is no association between Cognitive Styles and Gender of School teachers.
2. There is an association between Cognitive Styles and Age of School Teachers.
3. There is an association between Cognitive Styles and Type of Management of School Teachers.

Educational implications:

The present investigation gives interesting educational implications. The present study has revealed that the School teachers in Coimbatore Educational district, Tamil Nadu, India possess all the five cognitive styles. In that most of the School teachers adopt Split Cognitive Style (866 out of 1400 (61.9%)) followed by the Integrated Cognitive Style (292 out of 1400 (20.9%)), whereas only a minor chunk of teachers adopt the rest three Styles i.e., Undifferentiated Cognitive Style (85 out of 1400 (6.1%)), Intuitive Cognitive Style (83 out of 1400 (5.9%)) and at the last Systematic Cognitive Style (74 out of 1400 (5.3%)). All the three together contributes less than 17.4% only. Conceptually, split cognitive style is a combination of intuitive and systematic style in the medium level of score. This characteristic feature points towards the ability of the School teachers to perceive and operate in a context-based manner either systematic or intuitive. Results further indicate that the second major portion of school teachers possess the integrated cognitive style. It is indicative of their ability to change the styles very rapidly between systematic and intuitive and to use them in an integrated manner as is required in a particular situation. It is also an indicator of their problem seeking and problem-solving ability. Hence, the school teachers working in Coimbatore Educational district are found to be high in Split style which is very much favourable to the 21st century learners. This ensures the teaching- learning process to be more effective and student-centered.

Conclusion:

Cognitive styles must be taken into account when choosing a method of teaching, evaluation and academic guidance. Cognitive styles have great influence on the teaching styles. Hence, it is important for the teachers to consider cognitive styles as the central goal of their instruction and should create a joyful environment that nurtures the capabilities of students and develop learner's potentials to the fullest.

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