



A study on Thinking Styles of Prospective Secondary School Teachers

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Abstract:

The present study aims to find out the thinking styles of secondary school prospective teachers. 110 prospective teachers studying in various Colleges of Education of Mandya city affiliated to University of Mysore were selected using Random sampling technique. The data was collected using the Thinking Style Inventory. The findings of the study revealed that 73.11% of prospective teacher's most preferred thinking style was Executive and 65.61% of prospective teacher's least preferred style of thinking was Judicial. The Male prospective teacher's found to possess External style of thinking as the dominant style of thinking followed by Executive and Liberal thinking styles and the least preferred thinking style was found to be Judicial. Female Prospective teacher's, dominant thinking style was found to be Executive followed by External and Hierarchic Thinking styles and the least preferred was Judicial thinking style. The t-test value showed that there was no significant difference in Thinking Styles of Male and Female Prospective Secondary school Teachers.

Keywords: Thinking Styles, Prospective Teachers.

Human beings are regarded as the crown of the nature as they are endowed with both physical and mental capacities. Thinking is the basic characteristic of individuals separating them from other beings and it is a process aiming individual to reach to the most accurate result. Thinking is a cognitive activity which helps an individual to conceptualize, apply and evaluate knowledge gathered through observation, experience, intuition and reasoning. Thinking is a very complex and abstract skill and going beyond the available knowledge' Saban (2005). According to Ozden (2005) thinking is the way to discipline analysis and evaluation of the information

obtained from observation, experience and reasoning. This era is of acute modernization and thus there has been a radical change in every field like scientific inventions and technological advancement. To cope up with these advancements and to fulfil the requirements of this fast changing and developing society, people need to grow in the ability to think rationally, creatively and thus able to express their thoughts clearly. Independent and positive thoughts, careful and keen observation are the contributing factors of success.

Thinking styles are the individual's preferred ways of using abilities. These are in fact related to cognition, which includes perceiving, sensing, problem solving, thinking and remembering. However, thinking styles are different from cognitive styles in the sense that these are more general and instead of one they have many dimensions. Individuals use different thinking styles in their daily routine. While choosing the styles they decide the most suitable one for them. Styles cannot be described as good or bad.

This study makes use of the most comprehensive theory of thinking that is; "Mental Self Government Theory" by Robert Sternberg (1997). Sternberg in his theory argues that people need to govern themselves and organize their daily activities. In the theory, it is stated that thinking styles are not abilities but preferences in using abilities. The basic idea of this theory is that people are like societies and they have to organize as Government themselves. Thus the theory answers the question of how people govern and manage their everyday cognitive activities.

In this theory, Sternberg proposes thirteen Thinking Styles grouped within five dimensions of Mental self-Government they are:

1. Functions : (Legislative, Executive, Judiciary)
2. Forms : (Monarchic, Hierarchic, Oligarchic, and Anarchic)
3. Levels : (Local, Global)
4. Scope : (Internal, External)
5. Leanings : (Liberal, Conservative)

Thinking Styles in Sternberg's Theory of Mental Self-Government and their Key characteristics

1. Legislative: Likes to create, invent, design, do things on own way, has little assigned structure.
2. Executive: Likes to follow directions, do what he or she is told, follow given structure.
3. Judicial: Likes to judge and evaluate people and things.
4. Monarchic: Likes to do one thing at a time, devoting to it almost all energy and resources.
5. Hierarchic: Likes to do many things at once, setting priorities for which to do when and how much time and energy to devote to each.
6. Oligarchic: Likes to do many things at once, but has trouble setting priorities.
7. Anarchic: Likes to take a random approach to problems; dislikes 'systems' 'guidelines' and practically all 'constraints'.
8. Global: Globalists prefer to deal with relatively big and complex issues. They can have a tendency to get stumbled with list of ideas.
9. Local: They are often inclined towards pragmatics of situation. Such people are down to earth and tend to work on major level.

10. Internal: Likes to work alone, focus inward, be self-sufficient.
11. External: Likes to work with others, focus outward and be inter-dependent.
12. Liberal: Likes to do things in new ways, defy conventions.
13. Conservative: Likes to do things in tried and true ways, follow conventions.

These thirteen thinking styles have been classified under Type- I, type-II and type-III thinking styles. Type I styles show strong commitment in learning and help to perform more generative, creative and cognitive work. It is comprised of legislative, judicial, hierarchical, global, and liberal thinking styles. Type II thinking styles are norm favouring, requires simplistic information processing and prefer to use a lower level of cognition to handle academic work (Biggs & Tang, 2007). Type III thinking styles basically possess the behaviour of either Type I or Type II thinking styles (Zhang & Sternberg, 2006).

Need and Importance of the study:

The chief concern of the Education system is to bring about reformation in all the sectors to achieve its goals. The National Education Policy 2020 puts teachers at the centre of the fundamental reforms in the Education system. Its main objective is to encourage, train and support the teachers with continuous professional development. Recognising the 'power of a teacher', the policy is intending to make teaching, an attractive profession of choice for bright and talented young minds .Even it has the plans of starting B.Ed programmes in prestigious Institutions like IISc's. Thus the policy is trying to attract the aspirants with true attitude and aptitude towards teaching profession. The fundamental principle of the Policy is recognising, identifying and fostering the unique capabilities of each student.

We are living in a highly competitive society with numerous innovations in science and Technology. Thus to match with the present social needs, the objectives of education, approaches and Methods of teaching must also be modified. Conservative approach must be replaced by Constructivist approach of teaching and learning which nurtures the thought process. De Corte (1995, 2000) believed that learning is a process of knowledge construction rather than simple transmission or reproduction of knowledge and emphasised that teachers should create a powerful environment that would encourage students' high-quality thinking. Collis and Winnips (2002) also pointed out that it is important to make sense of the subject matter and help students construct their mental models, which could be applicable to new fields and situations. Similarly, Moreno and Mayer (1999) stressed the significance of helping students understand the deep structure and process underlying the subject matter. Thus, the major focus of teachers and educators should be showing students how to construct knowledge rather than memorise information. Thinking being a cognitive activity which helps an individual to translate thought into action, it is regarded as the crux of Constructivist approach of teaching and learning. Hence it is imperative to study thinking styles of prospective teachers so to make them conscious of their thinking styles as they are the individual's preferred ways of using abilities, characteristic way of processing information, the way to acquire knowledge, organize thoughts, form views and opinions, apply values, solve problems, make decisions, plan, and express effectively which will enable them to tap on their dominant thinking styles more positively.

It is needless to mention that knowledge of thinking styles will render a great help to students, teachers, teacher educators, guidance workers, counsellors, curriculum designers as well as educational managers in the improvement of total teaching - learning process. Thus this study is a small venture in this direction.

Operational definitions:

Thinking Style: "Thinking style' is a specific reasoning and problem solving strategy by which people govern their own lives in everyday living, just as the government does for the society (Sternberg (1997))." thinking styles constitute Legislative, Executive, Judicial, Monarchic, Anarchic, Hierarchic, Oligarchic, Internal, External, Global, Local Liberal and Conservative styles distributed over five main categories, Functions, forms, Scope, level and leanings).

In the present study 'Thinking style' refers to the scores obtained by the Prospective secondary school Teachers on Thinking Style Inventory-Revised II (TSI-R2, Robert Sternberg, Wagner, & Zhang, 2007).

Objectives of the study:

1. To find out the Thinking Styles of Prospective Secondary school Teachers.
2. To compare the Thinking Styles of Male and Female Prospective Secondary school Teachers.

Hypotheses:

1. There is no significant difference in Thinking Styles of Male and Female Prospective Secondary school Teachers.

Method of Study: The study is Descriptive survey in nature.

Sample of the study: 110 prospective teachers from the Colleges of Education of Mandya City were selected using random sampling technique.

Tools used: Thinking Style Inventory-Revised II (TSI-R2, Sternberg, Wagner, & Zhang, 2007)

Statistical Techniques: The collected data was analysed using Descriptive statistical measures and t-test.

Analysis and Interpretation:

Table 1: The Thinking styles of Prospective secondary school teachers.

Dimension	Thinking styles	Whole sample(N=110)
Functions	Legislative	70.10%
	Executive	73.11%
	Judicial	65.61%
Forms	Monarchic	71%
	Hierarchic	71%
	Oligarchic	68%
	Anarchic	67.3%

Levels	Global	66.62%
	Local	66%
Scopes	Internal	66.49%
	External	72.98%
Leanings	Liberal	72.74%
	Conservative	66.72%

The above table reveals that 73.11% of Prospective secondary school teachers prefer Executive style of thinking, whereas 72.98% and 72.74% of Prospective secondary school teachers follow External and liberal styles of thinking. Monarchic, Hierarchic and Legislative styles of thinking were preferred by 71% and 70.10% of Prospective Secondary school teachers. 68%, 67.3%, 66.72%, 66.62%, 66.49% and 66% preferred Oligarchic, Anarchic, Conservative, Global, Internal and Local thinking styles respectively. 65.61%.of Prospective secondary school teachers preferred judicial style of Thinking.

Table 2: Thinking styles of Male and Female Prospective Secondary school teachers.

Thinking Styles	Male Prospective Teachers	Female Prospective Teachers
	N=51	N=59
Legislative	67.95%	71.96%
Executive	71.59%	74.43%
Judicial	64.81%	66.29%
Monarchic	68.17%	72.54%
Hierarchic	69.24%	72.63%
Oligarchic	67.67%	68.28%
Anarchic	65.60%	68.91%
Global	65.88%	67.26%
Local	65.37%	66.63%
Internal	66.16%	66.77%
External	71.82%	73.99%
Liberal	70.75%	72.59%
Conservative	67%	66.48%

67.95%, 71.59%, 64.81%, 68.17%, 69.24%, 67.67%, 65.60%, 65.88 %, 65.37%, 66.16% 71.82 %, 70.75% and 67% of Male prospective secondary school teachers were found to possess Legislative, Executive, Judicial, Monarchic, Hierarchic, Oligarchic, Anarchic, Global, Local and Internal, External, Liberal and Conservative styles of thinking respectively. The dominant thinking style among male prospective secondary school teachers was found to be External style followed by Executive and Liberal styles of thinking.

71.96%,74.43%,66.29%,72.54%,72.63%,68.28%,68.91%,67.26%,66.63%,66.77%,73.99% 72.59% and 66.48% of Female prospective secondary school teachers were found to possess Legislative, Executive, Judicial, Monarchic, Hierarchic, Oligarchic, Anarchic, Global, Local, Internal, External, Liberal and Conservative styles

of thinking respectively. The dominant thinking style among female prospective secondary school teachers was found to be Executive style followed by External and Hierarchic styles of thinking.

This result can be supported by the findings of Abolqasemi et al., (2010) found that Female more frequently use Executive thinking style than male. Gafoor Abdul (2010) revealed that girls students follow Legislative, Executive and judicial style whereas boys follow conservative, liberal and External Thinking styles.

Table 3: Comparison of Thinking styles of Male and Female Prospective Secondary school Teachers.

Thinking styles	Male/Female	Mean	SD	df	t-value
Legislative	Male	23.78	4.24	107	0.09
	Female	25.18	4.47		
Executive	Male	25.05	4.44	102	0.22
	Female	26.05	4.00		
Judicial	Male	22.68	4.74	104	0.56
	Female	23.20	4.55		
Monarchic	Male	23.86	4.20	104	0.05
	Female	25.38	4.55		
Hierarchic	Male	24.23	4.40	103	0.14
	Female	25.42	3.99		
Oligarchic	Male	23.68	4.05	107	0.78
	Female	23.89	4.20		
Anarchic	Male	22.96	5.28	105	0.24
	Female	24.11	5.09		
Global	Male	23.05	4.23	98	0.52
	Female	23.54	3.55		
Local	Male	22.88	3.89	106	0.55
	Female	23.32	3.91		
Internal	Male	23.15	3.94	105	0.77
	Female	23.37	3.91		
External	Male	25.13	4.42	102	0.35
	Female	25.89	4.05		
Liberal	Male	24.76	4.75	104	0.47
	Female	25.40	4.52		
Conservative	Male	23.45	4.16	105	0.82
	Female	23.27	4.05		

The above table shows that the obtained 't' values of Legislative, Executive, Judicial, Monarchic, Hierarchic, Oligarchic, Anarchic, Global, Local, Internal, External, Liberal and Local thinking styles are not significant at 0.05 level of significance. It indicates that there is no significant difference between thinking styles of Male and Female Prospective secondary school Teachers. Thus the null hypothesis i.e., 'There is no

significant difference in Thinking Styles of Male and Female Prospective Secondary school Teachers' is accepted.

Findings of the Study:

- 73.11% of the Prospective Secondary school teacher's preferred Executive style of thinking.
- 65.61% of prospective secondary school teacher's least preferred style was found to be Judicial style of thinking.
- The dominant thinking style among male prospective secondary school teachers was found to be External style followed by Executive and Liberal styles of thinking.
- The dominant thinking style among female prospective secondary school teachers was found to be Executive style followed by External and Hierarchic styles of thinking.
- The study revealed that there is no significant difference between thinking styles of Male and Female Prospective secondary school Teachers.

Educational Implications:

- The findings of this study revealed that most of the Prospective secondary school teachers preferred Executive type of thinking style. According to Mental self-government theory (Sternberg, 1997) Executive thinking style is referred to as Type II thinking style which is norm favouring and require more simplistic information processing. Thus it shows that the prospective secondary school teacher's show preferences to work that required minimum changes. They usually like to work in traditional way. Thus Curriculum framing, classroom transactions, assignment designing must be based on thinking styles of prospective teachers so that diversity in thinking styles may be properly exploited for their professional development.
- The teacher training Institutions must assign creative projects, Innovative Lesson planning, Preparation of learning materials and conduct Personality development programmes to instil Legislative, Judiciary, Hierarchic, Global and Liberal styles of thinking in prospective teachers as they are regarded as type I thinking styles. These are more creativity generating and require more cognitive complexity.
- ❖ Administrators may organize various programmes like orientation programmes, seminars, Workshops etc. to help Prospective secondary school teacher's to be more creative, to come up with their own ways of doing things, decision making and problem solving skills.
- ❖ Teacher Educators can organise group activities in which students of different dominated thinking styles would have an opportunity to interact with one another. This interaction will lead to development of necessary cognitive skills as well as social skills to be effective teachers.

Conclusion:

We are witnessing huge demand for quality Education in recent years. As we know that the quality of education depends upon quality of teachers and quality of teachers depends upon the quality of teacher education among many other factors. Having knowledge about thinking styles of students will definitely help in enhancement of quality of teaching learning in the classrooms. An understanding of the nature of thinking styles

helps the teachers in their mission of prompting students' overall development. For example teachers can organise group activities in which students of different dominated thinking styles would have an opportunity to interact with one another. This interaction will lead to student's development not only in cognitive skills but also in social skills. If the teachers exhibit creative thinking skills, students will be more likely to use the same kind of thinking in their learning.

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- Zhang, L.F., & Sternberg, R.J. (1998). “Thinking styles abilities and academic achievement among Hong Kong University students”, *Educational Research Journal*, 13, 41-62. g student development. An understanding of the nature of thinking styles may also help teachers in their mission of promoting students' overall development. For example, a teacher may organize group activities in which students of different dominant thinking styles would have an opportunity to interact with one another. Not only would students learn from one another about more effective thinking styles, but they would also learn how to tolerate differences. This interaction would lead to student development not only in cognitive skills but also in social mission of promoting students' overall development. For example, a teacher may organize group activities in which students of different dominant thinking styles would have an opportunity to interact with one another. Not only would students learn from one another about more effective thinking styles, but they would also learn how to tolerate differences. This interaction would lead to student development not only in cognitive skills but also in social 6. Promoting student development. An understanding of the nature of thinking styles may also help teachers in their mission of promoting students' overall development. For example, a teacher may organize group activities in which students of different dominant thinking styles would have an opportunity to interact with one another. Not only would students learn from one another about more effective thinking styles, but they would also learn how to tolerate differences. This interaction would lead to student development not only in cognitive skills but also in social

