



Teachers Thinking Styles and Teacher Effectiveness: A Comparative Analysis at Secondary School Level

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Abstract

The prime goal of the study is to explore the 'Teachers Thinking Styles and Teacher Effectiveness: a comparative analysis at secondary school Level'. The study also determines comparison in views of male/female and urban/rural teacher about their thinking styles and teacher effectiveness. The study is descriptive. Two valid and reliable research tools were used, which were structured by the researcher himself. All male/female teachers in the secondary school of southern districts in Khyber Pakhtunkhwa constituted the population of the study. Stratified random sampling technique was adopted following Krejcie, and Morgan rule and 380 teachers were consulted for the collection of data. For analysis, Mean, SD, t-test and correlation were applied as suitable statistics. Findings of the study show a significant correlation between thinking styles and teacher effectiveness. The study also indicated an insignificant comparison in the views of male/female and urban/rural teachers about their thinking styles and teacher effectiveness.

Key Words: Teaching Effectiveness, Thinking Styles, Secondary School

Introduction

Education plays a vital role in personal and social development. Every aspect of society is changing day by day; therefore, to maintain pace with the changing society, education is the only appropriate tool. Education is an important human activity because Education cannot be considered as a magical formula, and it's not an end. Still, it is considered as a mean to dispose-off evils of society. It fosters the harmonious development of human by changing the technological and scientific arena. To meet ever going demands of society, the education system should also accelerate with the same speed. The task of building and enlightening the nation only depends on the shoulders of its children and education always helps in shaping their behavior in developmental phases.

Education should be the composition for life and a demonstration of behavior. Our education system is moving towards an untold future and so as the society. Due to the rapid population boom and lack of resources, our society is surrounded by new problems. So, to cope up with these challenges, the education system should be revitalized. But, unfortunately, the education system is getting decayed rapidly, which induces lacunae in our educational system.

Thinking Style

This era is of acute modernization, and thus every field is changing radically like inventions in science and advancement in technology. To cope up with these advancements and to fulfil the fast-changing requirements and development in society, people need to think rationally and creatively and thus able to clearly express them thoughts. Independent and positive thoughts, keen and careful observation are the contributing factors of success.

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Thinking is a major aspect of cognitive behavior. Thinking provides the base to a person on which cognitive, affective and conative domains of behavior depends which properly justify the comment like “think before you act”. Thinking has a definite purpose and end. It always initiates with some difficulty and solution at the end. The solution includes the exploration of the problem and to manipulate the objects, activities and experiences.

Thinking styles are not like intelligence. Intelligence refers to individual capabilities and potential to perform the task; however, thinking styles refers to the preferences of an individual (Seif, 2008). Style is the combination of both cognition and personality. Thinking style is the ways that individual preferred to conceive information. It also refers to the individual’s priority to think regarding information or task in the learning process. Sternberg explains that individuals have not only one specific style but a set of a profile of styles which helps people to adjust with their abilities according to environmental needs and demands. Styles can be modified or adapted in any specific situation (Sternberg, 2008). This modification was proved by Zhang (2001) reported that thinking style is influenced by several factors like age, socioeconomic status, gender, job, number of hobbies, leadership, travel etc. Thinking styles are defined as how a person elects the ways of doing a task according to their abilities. We manage our daily activities with our preferred style of thinking through which we are feeling comfortable (Sternberg, 1998). Sternberg explored that it is not a conscious activity or ability rather its only involves preferences of styles according to one’s abilities and needs (Armstrong, 2000; Sternberg and Grigorenko, 1997; Zhang, 1998; Sternberg and Zhang, 1998).

The thinking style referred the way an individual preference to manage and process the intellect and knowledge. Thinking style dimensions were defined by Sternberg under the mental self-government theory, which is grouped in the 13 thinking styles. Mental self-government theory (Sternberg & Zhang, 2001) refers to styles of constructs with respect to human notions of government. Sternberg stated that there are different ways to govern society; people also have many processes to manage or govern their own activities. According to mental self-government theory, people use more than one style they not only confined to one particular style rather they switch from one style to another style according to their task requirement (Sternberg, 1988). This theory explored the Thinking styles of people in terms of functions, forms, levels, scopes, and leaning. The theory also explains the implication of styles mainly in education to study the behavior and to solve its problems, but it can also solve the problems related to personal and professional life. The dimensions/sub-dimension of thinking style are described in the below table.

Table 1. Dimensions of Thinking Style

Dimensions	Sub Dimensions
Functions	“Legislative style”
	“Executive style”
	“Judicial style”
	“Monarchic style”
Forms	“Hierarchic style”
	“Oligarchic style”
	“Anarchic style”
Levels	“Local style”
	“Global style”
Scopes	“Internal style”
	“External style”
Leanings	“Liberal style”
	“Conservative style”

Dimensions/sub-dimensions of thinking style are described below-

Functions

Functions are the first dimension of a theory which refer to the preference of an individual in creating and assessing ideas and performing rules. It includes three roles/functions of the government, e.g. legislative, executive and judicial styles (Sternberg, 2001).

1. **Legislative:** In the legislative style, people want to work on different projects, tasks and situations which require creativity in working or performing tasks. They have a fondness for planning and formulation of new ideas & strategies. Legislative processes are extensive and involve higher mental processes. These styles are used to solve the problems by blending the coherent strategy and allocation of thoughts. These types of people mainly spotlight on strategies to perform the tasks, rather than to be told. Legislative people also favour innovative and productive actions based on planning, such as papers writing, projects designing, policymaking, architecture and creating novel business or educational systems.
2. **Executive:** People with executive thinking styles have a preference for tasks, projects or situations that focus on structures and procedures. Executive thinking style concerned with implementing the task, but they are not involved in the planning of a cognitive activity. They are the implementers. They like to follow existing rules and fond of the tasks that are pre-structured. They perform tasks mainly that include knowledge acquisition components viz. encoding, combining and comparing the information. They execute the legislative plans. They are like to engage in the profession such as lawyer, policeman, builder soldier etc.
3. **Judicial:** judicial thinking style refers to activities of judging. They show fondness for tasks that involves analysis, comparison, evaluation and judgment of thought, projects, strategies etc. These persons prefer to do evaluative work and usually comment on other people's thoughts. They like to give remarks on the strength and weaknesses of the other tasks.

Forms

It includes four forms of government discussed under:

1. **Monarchic:** In the monarchic form, people focus on a thing at the same time and try to complete that task first. They have a predilection of tasks that perform one task in one way and doesn't like process things in other ways. They are inflexible and relatively unaware of other things. They give focus to their own decisions because they are single-minded. They have little sense of priorities and alternativeness.
2. **Hierarchic:** The hierarchic people involve the tasks and projects to create and fulfilled the hierarchy of goals. These people tend to prepare lists of a task and even few times make a list of lists. Hierarchic thinking style imbibes the accomplishment of goals sequentially, with the goals assigned having different importance. An Individual who opts hierarchic style finds that some goals are crucial than others, and not all goals are treated equally. They are self-aware, tolerant and flexible.
3. **Oligarchic:** People with oligarchic thinking style have an outlook for tasks that allow the accomplishment of multiple, equally distributed goals. They want to do tasks simultaneously in time but face trouble in setting priorities. A person with an oligarchic thinking style tends to be empowered by multiple, sometimes competing goals having equal importance. They are usually driven by goal conflicts & stress and believe that the satisfaction of the constraints is as important as the problem-solution itself. Sometimes they find it complex to be self-aware, tolerant and agile. These People always have multiple approaches to problems.
4. **Anarchic:** Anarchic people show divergence from pre-existing approaches and processes to find a solution. They follow new ways to solve the problems. They perform tasks with agility and like to try things which satisfy them. Such people are unsystematic and exhibit their nature to an extreme level by either being too prompt or uncertain. People with anarchic thinking style have a good spirit for creativity as they like to adopt new ideas. They might be disorganized in their working style but sometimes bring laurels.

Levels

As government functions at multiple levels like that thinking also work at two different levels- global thinking style and local thinking style.

1. **Global:** People follow global thinking style to engage with broad and abstract ideas to fulfil the tasks or projects. They like to work on big and unique ideas even though sometimes they are unaware of task details or unable to justify their own work in the absence of evidence. Globalists prefer in dealing with relatively big and complex issues. Globalists can tend to get stumbled with a list of ideas.
2. **Local:** Individuals who follow local thinking style have a proclivity towards the tasks which need the involvement of specific, exact details. People having this style entertain the tasks that keep them busy with details and focus on specifics of the situation. Such people are down to earth and tend to work on a major level.

Scope

The government used to work on internal as well as external affairs; similarly, mental self-government theory also deals with internal and external thinking styles.

1. **Internal Style:** The internal person likes to work autonomously. They do not like to work in groups and known as typically invert people. They are task-based, socially less active and less aware compared to externalists. These people prefer a situation where they can apply their intelligence to solve problems in separation to others.
2. **External style:** People following external thinking style find opportunities where they can work with others as a team and interact with others at different phases of work. They do not like to work individually, rather believe in togetherness. An externalist likes to work as a team and ask for collaboration among team members. They tend to be people-based, socially more active and more active than internists.

Leanings

Leanings has two types in mental self-government theory. Liberal and Conservative styles.

1. **Liberal style:** Liberals likes to follow the situations that involve less understanding of tasks, going over existing rules & procedures and changes to the maximum limit. They need change only for the sake of show off, even though both aren't ideal for that situation. They like faced challenges and work in new situations. Liberally oriented people are the ones who love to do things in traditional ways, only consistently looking for alternatives to do things in unknown ways.
2. **Conservative Style:** People follow conservative style like to approach existing rules & procedures. They like to work in a traditional way. These people want minimum changes in their tasks and avoid confusion. They feel very anxious when someone asks them to work creatively. Such people often feel hesitant to try alternatives to do things. Life generally not depending on "how we" think, but "how well" we are thinking and learning. These aspects influence the individual's life and thinking plays a major role in it. All children born with individual differences and so as their thinking differ. And problems are arising when teaching, learning and thinking process is not matching. Teaching and thinking style of teachers and students respectively differ because there is no understanding of different thinking styles, which mainly influence both teaching and learning.

Teachers' Effectiveness

Teacher Effectiveness refers to the output of a teacher to progress the learners make towards some specific

educational goals. A teacher has a unique and precious status in the society as they act as transformers of knowledge to draw out the innate capacities of the human intellect.

Teacher effectiveness is defined as the ability to interact with the physical, academic and psychological behaviour of students, content or materials, teacher's competency and evaluative procedures. Teacher's effectiveness greatly affects the student's academic growth and thus yields better interest in learning. Students grasp more when teachers get involved in systematic teaching procedures. It's good when a teacher works more on small groups of pupils to apply a systematic approach to share students' performance feedback.

Teacher's effectiveness may define as an act of responsibility. The Most fashioned procedure to measure teaching skills is the student's educational outcomes, and their academic achievements their training has been the major areas for focusing and re-envisioning ([Cochran-Smith, 2006](#)). Teacher's effectiveness works as a crucial parameter to improve student's attainment ([Brewer, 2006](#)). Effective instructions are more significant to determine students learning level ([Sanders, 1998](#)). Academic achievement of students, success and outcome depends on the effectiveness of teachers ([Rockoff 2009](#)). A teacher usually limits control over many important factors which at the end impact students learning, skills, attitude, basic and conceptual content knowledge, skills of learning, time management, and readiness to learn emotionally and so on. The teacher and student have share bonding. Effectiveness of the educational system is directly proportional to the resourceful, active and competent teachers at the same time. In the recent scenario of tough competition, teacher effectiveness is crucial to meet global challenges. Teacher Effectiveness is mandatory to revive student achievement (Rivkin et al., 2005). Teacher effectiveness is a term used widely, means a set of skills, characteristics, and teachers' behaviours to enable the students to accomplish desired results at all educational levels ([Hunt, 2009](#)). The educational process is changing following the concurrent needs and demands of society. Consequently, at a present teacher is playing different roles, and professionally able, a skilled teacher, a communicator, a designer and a learning facilitator and an active individual in public life. There is a big need for reviving the teacher quality by enhancing the effectiveness of teachers. Academic growth of students only depends on effective teachers ([Goldhaber, 2007](#)). Teacher's virtue and effectiveness depend on their content knowledge, pedagogical process and their personality ([Liakopoulou, 2011](#); [Sadler, 2013](#)).

Objective

Following were the main objectives of the research study:

1. To explore the teacher effectiveness of teachers at the secondary level.
2. To explore the thinking style of teachers at the secondary level.
3. To investigate the relationship in teacher effectiveness with teachers' thinking style at secondary school.
4. To determine significant comparison in the views of teachers towards thinking style across different demographic variables.
5. To determine significant comparison in teachers' perceptions towards effectiveness across different demographic variables.

Hypotheses

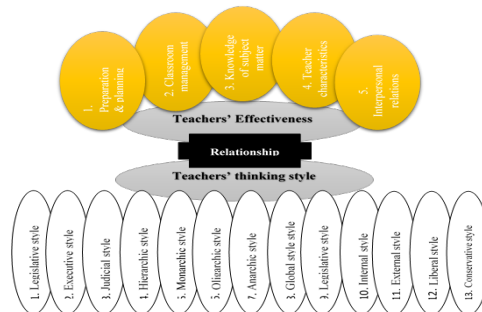
Following were the hypotheses of the research study:

- H₀₁: There is an insignificant correlation between effectiveness and thinking styles of secondary teachers.
- H₀₂: There is an insignificant comparison in the opinions of male & female secondary teachers regarding thinking style.
- H₀₃: There is an insignificant comparison in the opinions of urban & rural secondary teachers regarding thinking style.
- H₀₄: There is an insignificant comparison in the opinions of male & female secondary teachers regarding teacher effectiveness.
- H₀₅: There is an insignificant comparison in the opinions of urban & rural secondary teachers regarding teacher effectiveness.

Research Methodology

The study is quantitative in nature, and the survey method was selected for data collection. All the 9945 teachers (Districts EMIS, 2015-16) in secondary level schools of the public sector of Khyber Pakhtunkhwa (KP) constituted the population. The sample of 380 Teachers (300 M & 80 F) was taken as a sample by following [Krejcie and Morgan \(1970\)](#). Two instruments were constructed following the scale of Likert with five options. Content validity of the instruments was checked and then processed for reliability and pilot testing. Some ambiguous items were deleted while some were partially modified, and finally, the two instruments; were applied to get responses from the teachers. Teacher effectiveness and thinking styles were the dependent and independent variable, respectively, of secondary school teachers. The study was focused on to explore the relationship between teacher effectiveness and thinking style of teachers.

Conceptual Framework



Results and Discussion

Table 2. Correlation in Teacher Effectiveness and Thinking Style of Teachers

Thinking style	r
Legislative	.811
Executive	.902
Judicial	.688
Hierarchic	.775
Monarchic	.552
Oligarchic	-0.228
Anarchic	.301
Global	-0.356
Local	.507
Internal	-0.436
External	.601
Liberal	-0.611
Conservative	.876

*significant at 0.01 significance level

Table #2 revealed high +ve correlation between the executive ($r=.902$) and conservative style ($r=.876$) with teacher effectiveness of a teacher. Hierarchic style ($r=.775$) and legislative style ($r=.811$) shows a positive relationship with teacher effectiveness. While oligarchic ($r=-0.228$), global ($r = -.356$), internal ($r = -.436$) and liberal ($r = -.611$) thinking style showed negative correlation with teacher effectiveness. On the other hand, judicial ($r=.688$), monarchic ($r=.552$), anarchic ($r=.301$), external ($r=.601$) and local style ($r=.507$) has a moderate correlation with teacher effectiveness of teachers. So, it concludes that the hypothesis that “there is an insignificant correlation between effectiveness and thinking styles of secondary teachers” is rejected. The table 2

shows that teacher effectiveness of teachers is significantly related to their thinking style. There is an insignificant correlation between effectiveness and thinking styles of secondary teachers.

Table 3. The difference in Opinions of Male & Female Teachers Towards Thinking Style

Gender.	N	Σ	Test of Levene		t-test		
			F	p-value	t	d.f	p-value
M	300	3.63	.158	.693	-1.66	398	.110
F	80	3.57					

Table#3 showed insignificant Levene’s test ($F = .158, p = .693 > .05$). It concludes equal variances. So, t-statistics concluded insignificant ($p\text{-value} = .110 > .05$) comparison in male & female teachers’ thinking style, though the mean value of male teachers is a little bit greater than the female teachers. So, the results fall in favour of the hypothesis.

Table 4. Comparison in Perceptions of Teachers on Locality Based About Thinking Style

Local	N	Σ	Test of Levene		t-test		
			F	p-value	t	d.f	p-value
Urban.	350	3.60	.351	.556	-.53	398	.591
Rural.	30	3.61					

Table #4 showed insignificant Levine test ($F = .351, p = .556 > .05$). It concludes equal variances. So, t-test concluded insignificant ($p\text{-value} = .591 > .05$) comparison in urban & rural teachers’ thinking style, though the mean value of rural teachers is little bit greater than teachers of urban areas. Therefore, the results fall in favour of the hypothesis.

Table 5. Comparison in Perceptions of Male & Female Teachers Towards Teacher Effectiveness

Gender	N	Σ	Test of Levene		t-test		
			F	p-value	t	d.f	p-value
M	300	3.68	.007	.941	-.59	398	.546
F	80	3.66					

Table#5 showed insignificant Levene’s test ($F = .007, p = .941 > .05$). It concludes equal variances. So, t-test concluded insignificant ($p\text{-value} = .546 > .05$) comparison in teacher effectiveness of male & female, though the mean value of male is a little bit greater than female. Hence, the results fall in favour of the hypothesis.

Table 6. Comparison in Perceptions of Teachers on Locality Based on Teacher Effectiveness

Local	N	Σ	Test of Levene		t-test		
			F	p-value	t	d.f	p-value
Urban.	350	3.66	.282	.597	1.438	398	.152
Rural.	30	3.69					

Table #6 showed insignificant Levene’s test ($F = .282, p = .597 > .05$). It concludes equal variances. So, t-test concluded insignificant ($p = .152 > .05$) comparison in urban & rural teachers’ effectiveness, though the mean value of urban teachers is a little bit smaller than teachers of rural areas. Hence, the results fall in favour of the hypothesis.

Findings

The Findings revealed high +ve correlation in conservative style and effectiveness of teachers. Executive and hierarchic thinking style showed a positive relationship with teacher effectiveness. Oligarchic style, global style, internal style and liberal style showed a negative relationship with teacher effectiveness. The monarchic, judicial, anarchic and external and local style has a moderate correlation with the effectiveness of teachers at secondary level.

Discussion

Findings show that executive and conservative style is positively correlated to teacher effectiveness. So, the study concludes that if teachers prefer executive and conservative style, mostly then the effectiveness of teachers is also increased. Mostly teachers preferred the conservative thinking style. Teachers frequently preferred to work according to existing set rules those who follow conservative style. Teachers who prefer executive and hierarchic thinking style also show a positive relationship with teacher effectiveness. Therefore, those teachers who follow these styles would like to follow the rules and accept his/her duties. They also like to plan and organizing work accordingly. Those teachers who prefer the hierarchic style usually tend to organize their work on a priority basis. Thus, these thinking styles correspond to teacher effectiveness. Those teachers who are giving preference to oligarchic, global and internal thinking style are less effective and shows a negative relationship because teachers who prefer the oligarchic style may do various tasks at the same time which reduces work quality and performance. Teachers who prefer internal style shows a lack of interest in group activities aren't often social. Therefore, the internal style has a negative influence on teacher effectiveness. The results were supported by the findings of [Tsagaris \(2006\)](#) who explore the correlation of thinking style with academic achievement and cultural orientation. The findings showed that hierarchic and monarchic style predict high and low academic achievement, respectively. [Noghondar \(2012\)](#) explored the +ve correlation between executive and legislative style, which enhance academic achievement. Similarly, [Navan and Shariatmadari \(2015\)](#) found that conservative and hierarchic styles showed a positive relationship with students' high academic achievement while legislative, internal and liberal styles showed a negative correlation. The study revealed that teachers who prefer executive and legislative style are planned for their creative activities. They may use different learning activities like cooperative learning, questioning technique, projects and group discussion, which fosters education innovation among students.

Conclusion

The present study is conducted on "Teachers Thinking Styles and Teacher Effectiveness: a comparative analysis at the secondary school level". As teacher effectiveness is an important aspect in terms of qualitative advancements/improvements in the education system, the investigator explored the variable which affects the teacher effectiveness. It means that thinking styles play a dynamic role to improve teacher effectiveness. Teacher effectiveness is significantly related to the executive and conservative style, which contributes to making a conducive environment. The findings showed that teacher effectiveness is significantly related to the legislative, hierarchic, executive and conservative styles. As thinking styles is nearly related to nurture and strengthen the student's academic achievement, suitable thinking styles may be preferred.

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