Thinking Styles of University Teachers: A Gender Based Difference

Shazia Qummer*
Shazia Zamir**

Abstract

Thinking styles play very important roles in our lives. They are multidimensional in nature. Sternberg had given a theory of mental self-government. This theory provided a complete framework of thinking styles. This study was comparative in nature and based on thinking styles of private sector universities teachers of capital territory. The main focus of the current study was, to explore the thinking styles of instructors working in higher educational institutions in the private sector. This comparison was based on gender. The theoretical background of the study based on Sternberg theory of self-government (2007). The population of current study consisted of two hundred seventy-one teachers. Random sampling technique was used. One hundred and sixty teachers were selected as sample for this study. Sternberg had designed a research tool for his theory, that tool was used for data collection with his permission. Statistical technique t-test was used for data analysis. The results of the study pointed out that there was no significant difference in the opinion of male and female university teachers. As Sternberg had explained in his theory that thinking styles are not categorized as good or bad, they are discussed on the matter of differences only. These thinking styles played a significant role in the teaching-learning environment. When teachers acknowledge all students on the basis of their thinking styles, it will help to enhance the teaching-learning process.

Keywords: Thinking styles, legislative, conservative, gender, self-government, liberal.

Introduction

Styles of thinking can be defined the individuals preferred ways of dealing with external environment. Every individual has unique mind and way of thinking, gather ideas and process information, and use of that information in decision making. According to Maati (2005) thinking styles include making many mental processes. These processes include classification, reasoning, analysis, and comparison etc. Individuals use different ways of thinking in their personal as well as professional lives.

_____

* PhD Scholar, Education Department, National University of Modern Languages Islamabad, Email: shazia493@yahoo.com
** Assistant Professor, Education Department, National University of Modern Languages Islamabad, Email: shaziazamir@yahoo.com

Their way of thinking is shaped by the experiences they have learned through formal and informal ways of dealing with external world. This study was designed to investigate the gender based differences in ways of thinking among male and female university instructors. As thinking is defined "a process to exercise the power of judgment, conception, or inference" (Miriam Webster, 2006). Sofo describes ways of thinking as "individuals' comfortable ways of responding to a situation that influence people's cognition and emotion, lead to specific habitual styles which guide and control people's daily life activities"(Sofo, 2008). Thinking style is the specific approach of a person in assessing and processing information, solving problems and decision making (Armstrong & cools, 2009). Vital role of thinking. Styles can be observed in all human activities. These activities include learning interpersonal activities. These styles developed through socialization and often work unconsciously. Sternberg (2007) stated thinking styles are not good and bad. It might be said that some ways of thinking can be more effective in one situation than other. In teaching learning process thinking styles plays significant role.

Sternberg's theory was first introduced in 1988. He had used the word government metaphorically. According to his opinion that government plays central role in society. There are many ways of dealing with society. We use our abilities in different ways. One individual may thinking in more than one way. This is important feature of this theory. For instance personnel working in one environment may switch their roles in different situations. A person having a legislative thinking style may also deal effectively in executive ways of thinking. In the same way an individual having a judicial thinking style may be externally proficient in executive or legislative position (Sternberg. 1997).

Author of this theory classified these different ways of governing and managing our activities in thirteen different ways. These thinking styles were discussed under five dimensions. He explained that as government has three main functions, namely legislative, executive and judicial. The second dimension is form of thinking, as government has hierarchic, monarchic, oligarchic and anarchic forms. Third dimension is level, as government has two basic levels, global and local. These levels explain that humans are vary in their degree of concern. Government has scope of internal and external matter, these mater can also be explained as foreign and domestic affairs. Liberal and conservative ways of thinking discussed under the dimension of learning. This theory is popular theory for thinking styles in various countries of the world. Most elements of thinking styles that correspond with both western and eastern contexts are included in this theory (Zhang, 2006; Stephen, 2008).

The Statement of the Problem

Every individual has his/her preferred way to grasp and process information according to his own way. The problem under discussion related to gender based differences in thinking styles. Gender based differences in organizations attracted significant research interest. This research study also compare the point of view of male and female teachers working in universities about their thinking styles. All professional fields are interrelated and globalized in 21st century. Individuals use different ways of thinking in their professional lives. They have learned new experiences through formal and informal ways. Thinking styles contributed to decision-making and self-efficacy as well. These experiences have strong effects on individuals' thinking styles.

Rationale of the Study

Rational behind this study was to analyze different thinking styles of teachers on the bases of Mental Self Governance theory given by Sternberg. He proposed that much like there are different ways of governing society, there are different ways that people prefer to solve problems, approach tasks, and organize projects. The main idea behind this research was that styles of thinking helped people to understand themselves and find the correct completion of tasks. Thinking styles contributed to decision-making and self-efficacy as well. The awareness of their thinking styles help them to adjust in work environment. University teachers are performing very sensitive job at higher education level in Pakistan. So awareness about their thinking styles will help them to deal with student effectively.

Objectives of the Study

1. To explore the gender based differences regarding thinking styles of private sector university teachers.

Research Hypotheses

Following are the hypotheses of the study

Sr. No.	Hypotheses
H_O 1	There is found no significant difference in opinion of the teachers on the basis of gender regarding functions of thinking styles at university level.
H_O 2	There is statistically no significant difference in opinion of the male and female teachers related to forms of thinking styles at university level

H$_O$ 3	There is no significant difference in opinion of the teachers on the basis of gender regarding levels of thinking styles at higher educational institutions.
H$_O$ 4	There is statistically no difference in point of view of the university instructors regarding scopes of thinking styles.
H$_O$ 5	There is no significant difference in opinion of the teachers on the bases of gender regarding learnings of thinking styles at university level.

Delimitations of the Study

Due to limited time and resources study delimited to four private sector universities of Islamabad. The study was further delimited to the instructors of selected departments in four universities. Only those universities were selected which had the departments of social sciences, management science, computer sciences and engineering.

Theoretical Framework of the Study

The framework of this research work based on Sternberg's theory of mental self-development (Robert J. Sternberg, 2007). This theory based on five main dimensions. Author had discussed thirteen thinking styles under these five dimensions. The word government used by the writer as a metaphor in this theory. He had given the view that as government had three main functions, same case with human mind. Human mind also work on these functions. The important functions of government is legislative, executive and judicial (1997). He further explained the forms of government. Under this dimension he had discussed four thinking styles, hierarchic. Monarchic, oligarchic and anarchic ways of thinking. The level of thinking styles are local and global. The two main important domain of government are internal and external or we can say foreign and domestic. Human mind is also thinking on these two levels. The fifth dimension of thinking styles is learning. Liberal and conservative thinking styles were discussed under learning.

Significant of the Study

This study is significant because of the insight and contributions it provides the university administrators to better understand the thinking styles of instructors. This research work will be beneficial for the teachers teaching in higher educational institutions. As teachers thinking style directly affect the work environment. They might get some benefits from this study. Every subject demands different type of teaching

methods. So if teachers and administrators are aware of their thinking styles, they can easily adjust their way of teaching accordingly. Awareness about different thinking styles is very important at university level. Private sector universities fee charges are very high, in this situation students and parents' expectations are also high. This study may help university administration in recruitment process as well. Knowledge of thinking styles also help managers to assign different responsibilities to their staff. The findings of this research work could be very noteworthy for staff selection, assessment and evaluation process. Findings also provides help in training and development programmes.

Literature Review

The basic purpose of reviewing the literature is to organize, envelope and edifice of knowledge to show the present study would be an addition to the specific field of study. Styles are individuals preferred ways of dealing with situations. Literature related to style focused on personality-based style and ability based styles (Zhang &Sternberg, 2005).

There are different ways of thinking. The behavior is of the people some time different in a different state of affairs. People behave differently in different situations. Some people are proactive and some are interactive. In certain situations some individuals are impulsive and some are reflective. Reflective thinkers take time to think about the situation before the decision. They always spend time evaluating their opinion. In different situations, reflective thinkers gave a long explanation of the problem and tend to think before making decision and spend time evaluating their opinions. On the other hand the people response impulsively on the tasks without thinking. They quickly give solution to problems. The ratio of error in any decision is less in a reflective way of thinking, whereas impulsive person takes less time in decision-making with more errors (Kagan, 1966).

The self-government theory (MSG) was established on researches about coping strategies, cognitive styles and problem-solving. Sternberg has taken the concept of this theory from the idea of how society organized. He further gave his point of view that as there are different methods of governing society, people also have different approaches to solve their problems, organize projects and approach different tasks. The system of government practicing in society is not unexpected. It is simply a reflection of people's mind. So the practice of governing society we observed in our surroundings is a reflection of our own mind. There are many points similar in the organization of individual and organization of society. Individuals need to organize themselves the same as society needs to organize its activities. Self-government theory has presented five dimensions. In real-world, we also observe these dimension in the same way. These

thinking styles elaborate on the preferences of people living in the same society. These ways of thinking make them unique (Zhang &Sternberg, 2002).

Some individuals formulating their own rules, the same as the legislative branch of government. Author of this theory categorized this way of dealing as a legislative way of thinking. Same as some people feel easy to follow the existing rules and regulations. This way of thinking categorized as executive thinking style. The judicial branch of society evaluates and made judgment. Judicial way thinking tends to focus on the evaluation of different programmes and performance of individuals. There are four forms of government. Same forms writer has used in his theory. He explained these forms in the same way as the government is dealing with society. These four styles of thinking related to the way an individual organizes information processing. Monarchic way of thinking focuses on a single task, whereas the hierarchic way of thinking allows the creation of hierarchy of goals to fulfil. Oligarchic individuals feel difficulties in the situations where they need to set the priorities and organize the tasks according to the need of time. Anarchic are flexible in their approach to dealing with others in society, they are also unable to set priorities.

Government operates at two levels in policymaking and in broader decisions. These levels are global level and local problems. Individuals' ways of thinking are also local means down to earth people. These individuals have more concern about concrete problems. They tend to motivate the pragmatics of the situation. Individuals who deal with large and abstract issues are categorized under global thinking styles. They are conceptual people. They prefer to deal with abstract and conceptual issues. There are two scopes of government. These scopes are external or foreign affairs and internals or domestic issues. External way of thinking deals with broader issues. They are extrovert and enjoy to work in groups. They have strong interpersonal skills. Internalists tend to be introverted. They are socially less sensitive they have intrapersonal abilities. They are more creative and good at self-analysis. Mental government theory deals with liberal and conservative thinking style. Individuals having liberal thinking styles tend to be motivated towards challenges. They have the ability to deal with new challenges and go beyond existing rules and procedures. Individuals having conservative thinking styles prefer familiar situations (Sternberg & Wagner, 1991).

Five Dimensions of Self-Government Theory

1.   Functions

a.   *Legislative Thinking Style*

These individuals create their own rules. They are constructivists and prefer to solve the problems by using their own method. They like to design new projects, creating a new education system etc. These kinds of individuals are innovative, they

like to decide what to do, when to do and how to do. They don't like the instructions from other people. They select those professions for their future where they utilize their legislative abilities (Sternberg, 1994).

b.   *Executive Thinking Style*

These individuals are implementer. They like already defined tasks and activities. They do what they are told rather decide. This way of thinking tend to be valued professions like teaching and business, where they already have set syllabus and designed business methods. They don't accept change easily, they prefer to follow existing rules and regulation (Sternberg &Wagner, 1991).

c.   *Judicial Thinking Style*

Judicial way of thinking motivate people towards evaluation. They have ability to test the work of others and like to evaluate and analyze the work of others. They like to judge the existing rules and regulations. These individuals are judgmental (Grigorenko &Sternberg, 1995).

2.   Forms

a.   *Monarchic Thinking Style*

Individuals having monarchic way of thinking tend to be motivated by a single goal. They are single minded people. They prefer to complete one task before starting the new one. They set their framework for one project and complete it within that framework. They never start more than one tasks in one situation. They perform their task in an efficient manner. They are very systematic and organized. They want to highlight their individuality in the given tasks (Sternberg, 1994)

b.   *Hierarchic Way of Thinking*

Personnel with hierarchical thinking styles motivated by the hierarchy of tasks. They are able to set priorities and organize their tasks in the form of hierarchy. They are relatively flexible, tolerant and having a sense of self-awareness. These personnel easily adjust to any institute or organization. The reason behind their success is their way of dealing with given tasks. These individuals are logical, realistic in decision making and set priorities according to the requirement of organization (Sternberg & Wagner, 1997).

c.   *Oligarchic Thinking Style*

People having an oligarchic thinking style are motivated by multiple tasks. They like to work on multiple tasks of equal importance. They like those situations which allow them working with competing approaches and multiple tasks. They considered each task equally important that is why it is very difficult for them to set the priorities of tasks (Grigorenko &Sternberg, 1995).

d.   *Anarchic Thinking Style*

These individuals use a random approach to solve the problems. They are flexible in nature and tend to reject the rigid system. They are not clear about their goals and future plans. They have no fixed rules about any task that is why they are unable to set priorities, so these tasks are often difficult for them as well as for other people who are working on the same projects. They give their good performance on the tasks which are disorganized (Sternberg &Wagner, 2006)

3.   Levels

a.   *Local Thinking Styles*

People having a local thinking style focus on the concrete situation and with same problems. They focus on the tangible detail of tasks. They are unable to make a distinction between important and unimportant (Sternberg, 2009).

b.   *Global Thinking Style*

Individuals having global thinking style tend to be motivated towards abstract and conceptual problems. They don't put attention to minor details of situations. Like if they observe forest they ignore the trees. They easily manage those issues which are general in nature (Sternberg &Wagner, 2006).

4.   Scope

a.   *Internal Thinking Style*

These individuals feel difficulties when they assigned tasks in groups. They have strong intra personal skills. Their main concern is with internal affairs. They are less social and tend to be motivated towards those activities which they perform individually. They prefer to work individually (Sternberg &Zhang, 2005).

b.   *External Thinking Style*

These individuals enjoy group activities. They have strong interpersonal skills. Their main concern is with external affairs. They are good at making friends and easily adjust to any environment (Fer, 2005; Sternberg, 2009).

5.   Learnings

a.   *Liberal Thinking Style*

Individuals having liberal thinking style tend to be motivated towards novelty. They prefer to work on ambiguous tasks. They quickly become bored. They don't like instructions. They always preferred new alternatives (Zhang & Sternberg, 2006).

b.   *Conservative Thinking Style*

Conservative individuals avoid ambiguous situations. They like to work in a predictable environment and preferred structured tasks. They also preferred to follow the existing rules and procedures (Zhang &Sternberg, 2006).

Research on Thinking Styles

Thinking styles are defined as preferred ways an individual wants to process and deal with the insight and information (Sternberg & Zhang, 2000). Zhang (2008) conducted a study. The main focus of that study was to examine the ways of thinking. He also put effort to find the consistency among these thinking styles and ways of instructions. This study explained that instructions styles can be anticipated because of the thinking styles of instructors. Teachers thinking styles played a significant role in the teaching learning process. The awareness about different thinking style is very important because if the instructors are aware of their own thinking styles, they will effectively manage pupils thinking styles.

Thinking styles are intensely connected with personality development. A study was conducted in the educational context. This study was based on ways of thinking. Author concluded that ways of thinking are indicators of character advancement. It was concluded on the basis of findings that there was found relationship between two constructs. He has conducted another study that was based on thinking styles of college level students and their psychological development. On the basis of findings it was concluded that many thinking styles are interpreter of psychological development (Zhang, 2008).

Students' psychological development was also studied with reference to their thinking styles. The findings of the study provide help in conclusion. It was concluded that a wider range of ways of thinking is used by the students whose cognitive development levels are advanced as compared with those whose mental development level is lower (Zhang, 2002).

Another research study was conducted on pre service educators. This study was conducted to investigate the relationship between pre-administration instructors' thinking styles and their behavior towards computer simulation. The author has selected one hundred and seventy-eight prospective instructors for this research study. Findings of the study recommended that pre-service educators with an elevated level of critical thinking dispositions and those with legal or authoritative reasoning styles are reflective and analytical, whereas those with executive styles didn't display significant behavioral change toward the end of teaching practice. Executive thinking style people like assignments, tasks, projects and circumstances that furnish structure and rules to work with. They want to be determined what to do and afterwards they give their best to finish their tasks (Yeh. 2002).

A research study on utilizing agents and simulations to create reasonable thinking styles was conducted by Wang. This study investigates the human-environmental interaction using the internet. One hundred and forty-nine professional secondary

school students took an interest in this investigation. It was concluded that it is possible to make and support thinking styles by means of web internet-mediated simulations. In this framework, he observed the judicial way of thinking was predominant (Wang, 2005).

Global and local thinking styles impact on students study habits and on their internet search habits were discussed by Kao, (2007). The focus of the research was also to improve search engine construction. On the basis of findings, the study was concluded that both thinking styles were parallel to the characteristics of global and local thinking styles. It was also found that high local thinking style put the focus on a topic and look for an explicit solution and focus on topic detail. Whereas high global thinker search for a broader picture of the situation (Koa, 2007).

A research study was conducted to explore the effect of teachers thinking styles on students' reflection level. The focus was whether students' reflection levels improved instructional strategies are designed according to the learners need and to fit with students thinking styles in online teaching and learning environment. Three thinking styles, namely legislative, executive and judicial were discussed with three teaching strategies, constructive, inductive, and deductive. These were designed to match with above-mentioned thinking styles. Before experiment, an online learning system was developed to reflect this scenario. Two hundred and twenty-three students were the participants of the study. It was concluded on the basis of findings that the reflection levels of the fit group performed an inefficient manner as compare with the non-fit group (Chia-Chi Liu, 2011).

There are many research studies based on individual differences in thinking styles. He further explores the implicit and explicit learning. Chines university-level students were the population of this study. Among them, eighty-seven students were randomly selected for this study. Results demonstrated that exhibition in the explicit learning condition was decidedly connected with liberal, authoritative and the internal thinking style and contrarily connected with conservative thinking style. There was no noteworthy relationship between thinking styles and performance in the implicit learning condition (Qiuzhi Xie, 2013).

Another research study, which was designed by Zhang (2018). In that study thinking styles and personality traits measured. The sample of the study was based on nine hundred and twenty-six students. The data obtained from these students were used in this study. Students' opinion helps the researcher to measure the ways of thinking, personality traits and career-making decisions. The results of this research study explained that personality traits only described parts of variance in ways of thinking. While thinking styles contributed to decision making and self-efficacy. Most of the

researches were conducted on thinking styles. They restricted to isolate measurements of intellectual styles, learning styles and personality styles. It was discovered that it is a need to view thinking styles of university teachers and the level of differences on the basis of gender (Zhang (2018).

Research Methodology

The research was descriptive and comparative in nature.

Population

The population is the group of interest to the researcher, the group to which researcher would like the results of the study to be generalized. The population has at least one characteristic that differentiates it from other groups (Gay, 2005). The population of the study was (271) teachers of private sector universities of capital territory.

Sample and Sampling Techniques

The critical phase of research was the extraction of desired sample out of target population. The target population of this study comprised of 271 teachers from selected departments of private sector universities of Islamabad. Employees in selected departments were not equal in number. So, proportionate sampling technique was used to select the sample. Total of 160 university teachers were selected from the target population. Which includes seventy-four (74) male and eighty-six female university teachers (Gay, 2005, p.125). As in the proportionate stratified random sampling technique, each stratum has the same sampling fraction. So fifty-nine (59%) sample size was selected from each stratum.

Research Instrument

The questionnaire was used as a research instrument. An instrument of thinking style developed by Sternberg (2007) was used. This questionnaire was based on 65 items. Items were divided into five dimensions.

Data Analysis

The collected data was analyzed by using SPSS, and presented inform of tables. The basic purpose of research was to compare the thinking styles of private sector universities academics on the bases of gender. Collected data was analyzed by using t-test.

Table 1: *Sample detail (N=160)*

Universities	Total Faculty	Sample
University 1	78	46
University 2	60	36
University 3	50	29

University 4	83	49
Total	**271**	**160**

Table 1 presents the detail of private sectors universities. Total 160 teachers were selected from 4 universities. The number of teachers from university 1, 46 and from university number 2, 36, from university number 3, 29 and university number4, was 49. 58% of total population was selected as sample for present research work.

$H_O 1$ There is found no difference in opinion of university teachers on the basis of gender regarding functions of thinking styles.

Table 2: *Functions of thinking styles (N=160)*

Gender	No.	Mean	SD	T	df	Sig(2-tailed)
Male	74	11.43	7.4			
				-.656	158	.513
Female	86	11.61	6.5			

Table 2 describes the scores of 'functions' of thinking styles of male and female university teachers. 11.43 mean score was observed against male university teachers and 11.61 for female instructors. The value of t (-.656) is not significant. Therefore null hypothesis "there is found no differences in opinion of male and female university teachers about functions including the legislative, executive, and judicial) of thinking styles." is failed to reject. Similarities are found in the opinion of teachers on the basis of gender at university level.

$H_O 2$ There is statistically no significant difference in opinion of male and female teachers related to forms of thinking styles at university level.

Table 3: *Forms of thinking styles (N=160)*

Gender	No.	Mean	SD	T	df	Sig(2-tailed)
Male	74	14.63	8.9			
				-.636	158	.525
Female	86	14.86	8.9			

Table 3: presents the scores of forms of thinking styles on the basis of gender. 14.63 mean score is observed against male teachers and 14.86 of female university teachers. The value of t is (-.636). This value is not significant. Therefore null hypothesis " there is statistically no significant difference in opinion of male and female university teachers related to forms of thinking styles at university level is fail to reject.

Finding related to this hypothesis shows similarities in the opinion of male and female teachers regarding forms of thinking styles.

H_O 3   There is no significant difference in opinion of teachers on the basis of gender regarding levels of thinking styles at higher education institutions.

Table 4: *Levels of thinking styles (N=160)*

Gender	No.	Mean	SD	T	df	Sig(2-tailed
Male	74	7.20	5.1			
				.710	158	.479
Female	86	6.05	5.1			

Table 4: explains the results related to levels of thinking styles. Male university teachers mean score is 7.20 and female teachers 6.05. The value of t is (.710). This value is not significant. Therefore null hypothesis "there is no significant difference in opinion of male and female teachers regarding levels (global and local) of thinking styles at university level" is failed to reject. There is found similarities in opinion of male and female educators related to levels of thinking styles.

H_O 4   There is statistically no difference in point of view of university teachers regarding scopes of thinking styles

Table 5: *Scopes of thinking styles (N=160)*

Gender	No.	Mean	SD	t	df	Sig(2-tailed)
Male	74	7.55	4.4			
				.538	158	.592
Female	86	7.45	4.4			

Table 5: interprets the detail related to scopes of thinking styles. Where mean score of female academics is 7.45 and male score is 7.55. The t value is (.538). This value indicate that null hypothesis "there is statistically no difference in opinion of male and female teachers regarding scopes (internal and external) of thinking styles" is failed to reject. It is concluded there is no difference in opinion of university academics regarding scopes of this theory.

H_O 5   There is no significant difference in opinion of male and female instructors regarding learnings of thinking styles at university level.

Table 6: *Learnings of thinking styles*

Gender	No.	Mean	SD	T	df	Sig(2-tailed)
Male	74	7.11	4.8			
				-.051	158	.960
Female	86	7.12	4.7			

Table 6: explains the results related to learnings. The mean score of female teachers is 7.12 and male teachers 7.11. The value of t is (-.051). This value is not significant. Therefore null hypothesis "there is no significant difference in opinion of male and female teachers regarding learning (liberal and conservative) of thinking styles at university level" is not rejected. Results related to learnings presents similarities in instructors' opinion on the basis of gender.

Findings

Researcher has designed one objective and five null hypotheses. Data was analyzed by using t-test. In the light of analysis and interpretation following findings were drawn.

Teachers' View about these Thirteen Thinking Styles

This is a gender-based study. Researcher has designed one main objective. That objective is based on the opinion of male and female university academics at the private sector. Thirteen thinking styles were discussed under five dimensions. In this study, every dimension was measured separately. Five null hypotheses were based on these dimensions. Data analyses help the researcher to make a conclusion. It was concluded on the basis of results that there was no difference in the opinion of male and female private university teachers about their ways of thinking.

a. Findings showed that there is no significant difference in opinion of male and female university teachers regarding functions of thinking styles. The mean score of female teachers regarding functions of thinking styles. The mean score of male teachers was 11.43 and mean score of female teachers was 11.61. The t-value (-.656) was not significant. Therefore null hypothesis related to functions of thinking styles was failed to reject. It was concluded that there was found similarities in opinion of male and female university teachers regarding functions of thinking styles (table2).

b. Findings related to hypothesis number two revealed that the mean score of male university teachers was 14.63 and mean score of female teachers was 14.86. The t-value (-.636) was not significant at 0.05 level of significant. Therefore null hypothesis" there is found no significant difference in opinion of male and female teachers regarding forms (hierarchic, monarchic, oligarchic and anarchic) of thinking

styles at university level "was failed to reject.it was concluded that there was found similarities in the opinion of male and female university teachers regarding forms of thinking styles(table 3).

c. Analysis of data regarding levels (global and local) presented that male instructors mean score was 7.20 and female educators' scores was 6.05. The value of t was (.710). This value was statistically not significant. So the null hypothesis "there is no difference in opinion of university teachers regarding levels of thinking styles at university level" was not rejected. There was found similarities in the opinion of academics on the basis of gender at university level (table 4).

d. Data analysis related to scope of thinking styles reflected that mean score of male instructors was 7.55 and mean score of female educators was 7.45. The t-value was (.538). This value was statistically not significant. So the null hypothesis "there is no significant difference in opinion of male and female teachers regarding scope (internal, external) of thinking styles at university level" was not rejected. Results revealed similarities in the opinion of instructors on the basis of gender (table5).

e. Findings related to learning reflected that mean score of male educators was 7.11 and female instructors scores was 7.12. The value of t-was (-.051). This value was statistically not significant at the level of 0.05. Therefore null hypothesis related to learning (liberal and conservative) of thinking styles at university level was failed to reject. Results related to learning presents similarities in instructors opinion on the basis of gender (table 6)

It was found similarities in the opinion of male and female university teachers in private sector universities. Today researchers have considered thinking styles as one of the effective variables of behaviour. Nazarifar et al (2011) conducted a study to find out the differences among engineering male and female students. They found that there was a significant difference among engineering male and female students regarding the functions of thinking styles. Females were higher in executive thinking style and males were higher in judicial thinking style. These results were very significant because in different fields males are on administrative posts. These thinking styles were true predictors of their personality. Regarding gender, the research results are conflicting. Some studies found women to be more committed than men, while others found that men are more committed to the organization than their female colleagues (Lumley 2009; Martin & Roodt 2008). Similarly, Savicki et al (2003) state that because men and women experience different socio- psychological realities in the workplace, they are likely to differ significantly in their thinking styles and organizational commitment (Kanwar, Singh & Kodwani 2012).

Conclusion

This research work was based on male and female teachers' opinion about thinking styles. Sternberg's (2007) introduced thirteen different thinking styles in his theory of mental self-government. In this theory, he has designed five dimensions. Thirteen thinking styles were discussed under these dimensions. The researcher has designed one objective that was based on teachers' opinion about their thinking styles on the basis of gender. Five null hypotheses were designed to measure the research objectives these hypotheses were made on five dimensions of thinking styles. All null hypotheses were tested using t-test. The result of all hypotheses was presented in separate tables. Analysis of data revealed that there was no significant difference regarding the thinking styles of university teachers on the bases of gender. Results of the study showed similarities in the opinion of male and female university teachers.

Recommendations

i.   Higher education commission acknowledge conferences at higher educational institutions. So administrators of universities should encourage these types of innovative ideas. When different scholars will share their research findings and highlight the importance of different thinking styles. Teachers will get awareness about different thinking styles and will be able to acknowledge their students on the bases of their thinking styles. It will help to increase the instructional qualities at university level

ii. Thinking styles play very significant role in teaching learning process. It was recommended that higher educational institutions should arrange seminars and workshops on the theme of thinking styles. As there are many theories of thinking styles are available on internet but most recommended theory is mental self-government theory of thinking styles. Administration of private universities should provide proper trainings about different thinking styles through collaboration with higher education commission.

iii. The current study was conducted to analyze the thinking styles of academics at university level. It is suggested that similar study may be conducted on clerical staff, supporting staff, security staff and official administrators of public and private sectors organizations.

iv. Further investigation is required to replicate this study and confirm the relationship between these dimensions in a larger sample. That study may be extended to universities of different provinces for getting a comprehensive picture of the problem in national context.

References

Armstrong, S. J., & Cools, E. (2009). Cognitive styles and their relevance for business and management: A review of development over the past two decades. *Perspectives on the nature of intellectual styles*, 253-290.

Armstrong, S. J., Cools, E., & Sadler-Smith, E. (2012). Role of cognitive styles in business and management: Reviewing 40 years of research. *International Journal of Management Reviews,* 14(3), 238-262.

Aubin, E. D. S., Blahnik, J. R., & Lucas, V. (2007). *Ways of Thinking about Thinking Styles.* Psyccritiques, 52(8).

Bawaneh, A. K. A., Abdullah, A. G. K., Saleh, S., & Yin, K. Y. (2011). Jordanian students' thinking styles based on Herrmann whole brain model. *International Journal of Humanities and social science*, 1(9), 89-97.

João, T. F., & Coetzee, M. (2012). Job retention factors, perceived career mobility and Organisational commitment in the South African financial sector. *Journal of Psychology in Africa*, *22*(1), 69-76.

Kagan, J. (1966). Reflection-impulsivity: The generality and dynamics of conceptual tempo. *Journal of abnormal psychology*, *71*(1), 17.

Ko, S. (2008). Do thinking styles of entrepreneurs matter in innovation? *Journal of Global Business and Technology*, *4*(2), 24.

Maati, J. (2005). Le petit monde du CAC 40. *La revue du financier,* 153, 45-62.

Sofo, F. (2008). Differences of degree or differences in kind? A comparative analysis of thinking styles. *The International Journal of Interdisciplinary Social Sciences*, *3*(1), 293-301.

Sternberg, R. J., & Grigorenko, E. L. (1997). Are cognitive styles still in style? *American Psychologist*, *52*(7), 700.

Sternberg, R. J., Grigorenko, E. L., & Zhang, L. F. (2008). Styles of learning and thinking matter in instruction and assessment. *Perspectives on Psychological Science*, *3*(6), 486-506.

Sternberg, R. J., & Grigorenko, E. L. (1995). Styles of thinking in the school. *European journal for high ability*, 6(2), 201-219.

Sternberg, R. J., & Grigorenko, E. L. (1997). Are cognitive styles still in style? *American psychologist,* 52(7), 700.

Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *America psychologist,* 51(7), 677.

Sternberg, R. J., & Wagner, R. K. (1991). MSG thinking styles inventory: Manual. Star Mountain Projects.

Sternberg, R. J., & Zhang, L. F. (2014). Perspectives on thinking, learning, and cognitive styles. *Routledge.*

Sternberg, R. J., Grigorenko, E. L., & Zhang, L. F. (2008). Styles of learning and thinking matter styles. *The International Journal of Interdisciplinary Social Sciences*, *3*(1), 293-301.tempo. *Journal of abnormal psychology*, *71*(1), 17.

Xie, Q., Gao, X., & King, R. B. (2013). Thinking styles in implicit and explicit learning. *Learning and Individual Differences*, *23*, 267-271.

Zhang, L. F. (2002). Contributions of thinking styles to critical thinking dispositions. *The Journal of Psychology*, *137*(6), 517-544.

Zhang, L. F. (2008). Thinking styles and emotions. *The Journal of Psychology*, *142*(5), 497-516.

Zhang, L. F., & Chen, C. (2018). Thinking styles: Distinct from personality?. *Personality and Individual Differences*, *125*, 50-55.