The Relationship Between Student Academic Achievements and Their Thinking Style

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Abstract

This research was carried out in the Pekanbaru city, Riau Province, Indonesia. The aim of this research is to see whether there is a correlation between thought styles and student achievement in Arabic classes. A questionnaire would be used to gather answers from 150 students at Riau Islamic University's Faculty of Islam's Department of Islamic Education. This reduction in achievement is a crucial indication of the need to develop teaching and learning methods in the classroom, which cover academic, social, and behavioral elements. Student accomplishments, as well as steps to improve student engagement, inspiration, and success, must be addressed right away. This indicates that personality distinctions and student abilities are less essential. Teachers have their own thought styles without considering the correlations of student cognitive styles, where thinking styles and learning are the outcomes of teachers' and students' mental styles. The secret to thinking style and success in the classroom is each specific teacher's and student's thinking style. The Sternberg-Wagner (1997) Thought Style Inventory was used to assess the thinking types of the students in this sample. To describe the respondent's profile and to address study questions, descriptive statistical analysis was used to measure the mean and standard deviation. Monarchical, Oligarchic, Global, Local, External, and Conservative thought patterns can be shown to be the most prevalent in the study. It suggests that the prevailing thought method is the one that is seen the most in the class. The understanding is that Sternberg's thought style is also not being used optimally in the classroom because students and teachers do not completely comprehend each individual's thinking style, necessitating fertilization in order to harmonies the teaching and learning thinking styles. According to the importance of the local thinking style's reliability, the inferior correlation value is quite prevalent, indicating that the local thinking style is the most commonly utilized in the class among the prevailing thinking styles.

Keywords: Arabic Classes, Thinking Style, Teacher, Student, Achievement.

Introduction

Changes in the school system that emphasize analytical and innovative reasoning abilities have resulted in students being dismissed in recent years. Excellent academic accomplishments are not indicative of a programmed that relies on the development of critical thought skills. So, what is the current state of the country's school system?

In the school, analytical and creative thinking skills, cognitive capabilities, scientific skills, and logical principles are also emphasized. The majority of these features are related to Sternberg's (1997) thought patterns, which were designed to help students better grasp their teaching and learning processes. For e.g., proficiency in the Arabic language method, which includes a systematic examination and proper procedures, necessitates a systematic analysis. Following the thought habits of instructors and pupils, or vice versa, will help improve these skills.

The current teaching and learning process focuses more on preparing students for exams, which has a negative effect, especially on student expectations of teaching and learning (Halim et al, 2002). According to Almulla (2017), Students require note-taking and lecture-style instruction from their Arabic language instructors. Students' and teachers' thought styles would be stunted, and they would be unable to adapt in order to cope with specific circumstances.

Despite the diversity of teacher education, the study's findings revealed that most teachers continue to rely on conventional teacher-centered teaching methods, especially when it comes to managing the teaching and learning process in the classroom (Phang, 2014; Meerah, 2009). Although Arabic teachers' ingenuity in different teaching techniques and methods is their power in aiding students' comprehension of Arabic (AlKhamisi, 2019). Teachers are encouraged to motivate students to understand. This conventional approach prevents students from applying their imagination and concepts to a topic while often reducing mastery of the Arabic learning mechanism. Teachers, strictly speaking, must attempt something new or innovative in order to change the circumstances in which students are less involved in Arabic classes and to raise student motivation to learn Arabic.

Concept of Thinking Style

"Thinking for a moment is better than praying circumcision for seventy years." (Prophet's Hadith). "... look at the moon, look at the sky, look at the stars and think ..." (The Word of Allah s.w.t.). The above verses from Allah Subhanahu Wata'ala's Word and the Hadith of the Prophet Muhammad Sallahu Alaihi Wassallam demonstrate that all mankind requires thinking activities. Thinking is something that is required in Islam, and it is something that humans should do in every activity and action they take. The privilege of humans (DeBono, 2018) stems from the fact that humans can solve problems by looking at a situation from various perspectives while following their logic. This human mind is a source of intellectual knowledge that generates knowledge through the process of thought (Omar, 2006).

There are some psychologists who define thinking by relating it to the problem-solving process (Meyer, 1977; Chaffe, 1988; Philips, 1997). Thinking is a unique and complex process that involves mental operations (Bourne et al., 1971), using the mind to understand a problem, expressing ideas or creation (Fraenkel, 1980), and making reasonable judgments to make decisions or solve the problem.

Several psychologists, including Piaget (1896-1980); Vygotsky (1896-1934); Meyer (1977); Beyer (1988); Perkins (1988), discuss the concept of thinking, according to the literature review (2000).

Piaget established three levels in human development theory, according to Slavin (2006), namely motor sensory level (0-2 years), pre-operation level (2-7 years), concrete operation level (7-12 years), and formal operation level. (12 years old and up). Piaget claims that learning occurs as a result of these rankings based on maturity, discovery, and social communication, which occurs as a result of the assimilation and accommodation processes. In other words, through the interaction of the processes of assimilation, adaptation, accommodation, and equilibrium, as well as schema development, each individual constructs his own meaning. Human thinking develops in tandem with human development, which is linked to the processes mentioned above, according to his research.

According to Maree & De Boer (2003), who believes that social and cultural influences shape one's cognition, I believe that learning is formed by social and cultural influences. This means that when children learn through their own social and cultural interactions, socio-cultural influence is the most important factor in their development of intelligence. He has also presented the Socio-cultural Theory of Cognitive Development, which emphasizes the role of adults in providing assistance and guidance (scaffolding) to children in order to help them progress in their thinking stages. The process of assisting and guiding students follows a hierarchy that he refers to as the zone of proximal development, which refers to the gap between a student's abilities and the stages he or she can complete.

Figures like Piaget, Vygotsky, and Meyer have discussed the ranks of human development in conjunction with the development of their thinking in their explanations. In this study, the term "thinking" refers to the cognitive processes that occur in the minds of third-semester Arabic students. The goal of this study is to determine which thinking style is most prevalent among students and how it relates to student achievement in Arabic classes.

Thinking styles, according to Spearman (1927), are distinguished from the tendency of mental processes to apply continuously during long activities. These styles, he claims, can be understood at any time and in any situation. Then, through the activities carried out, that style can be nurtured and developed, as evidenced by its frequent application to solve problems.

A thinking style, according to Albrecht (1983), is a particular way of processing information, gaining knowledge, forming ideas, suggesting values, solving problems, and expressing oneself. The thinking style he recommends is based on mental processes from the concrete left brain, abstract left brain, concrete right brain, and abstract right brain, which are the four dimensions of cognitive tendencies.

Meyer, Berliner, and Calfee describe this statement by Spearman (1927) and Albrecht (1983) as a consistent action that will eventually be put forward as behavior.

Sternberg (1997) proposes a thinking style theory in which humans are viewed as creatures who have the ability to choose and organize their lives. Human thought exerts control, in the same way that the government regulates the way of life of individuals in an organization. The five dimensions of function, form, stage, scope, and tendency are used to classify 13 different types of thinking styles. Each person will act in accordance with his or her preferred mode of thought.

When learning, making and receiving things, responding, completing tasks, and making decisions, this behavior is displayed.

Individual thinking styles can be formed and strengthened through socialization, according to Sternberg (1997). Environmental factors have an impact on this look. The development of thinking styles is influenced by five variables.

a. Culture; a culture that promotes and appreciates a style will encourage it to be relatively developed in the eyes of the community's experts. Traditional values are valued in Japan, for example. Thus, executive and conservative styles have emerged.

b. Gender; it was customary for men to be the regulators and women to follow them. This usually encourages men to think legislatively and women to think executively. At times, however, this pattern may shift.

c. Age; as people get older, their thinking styles change. Children of a young age have a legislative style. When they are in middle school, however, they have a tendency toward an executive thinking style. This is because their environment is more structured, and they must follow the instructor's rules and directions. However, university rankings indicate a proclivity for legislative, judicial, and liberal thinking styles. Individuals' interactions with their environment can then influence their personal style.

d. Parents and teachers; children are more likely to imitate what they see rather than hear. Intentionally or unintentionally, parents and teachers use their style to influence their children. As a result, children's thinking styles are heavily influenced by the parenting and teaching styles.

e. Religion; a person's thinking style is also influenced by their religion or beliefs. Judaism, for example, promotes question and answer. Owned trust has an impact on how a person's style develops.

Sternberg's statement is similar to Piaget and Vygotsky's Theory of Cognitive Development and Theory of Socio-Cultural Cognitive Development, which state that biological and environmental factors influence the development of human thought. They can cultivate or discriminate certain styles based on the activities or socialization process they go through. However, each style has its own set of strengths and weaknesses that determine whether it is appropriate for a given situation.

According to the preceding statement, thinking styles are conceptualized in various ways. There are some who believe it is linked to mental processes and information processing in order to promote the formation of ideas or actions. This study looks at the gender differences in thinking styles among third-semester Arabic students.

Method

Gay and Diehl (1992) believe that the more samples taken, the more representative the results become and the results can be generalized. The adjusted sample number based on a population of 240 people is 148 people, according to the sample size determined by Krejcie & Morgan (1970). The sample size can be as large as 150 people to allow for an even distribution of calculations across each class.

Descriptive analysis is a technique for analyzing and explaining quantitative data (Gaur, 2009). The frequency, mean, standard deviation, and percentage of each item carried out, as well as the respondents' backgrounds, were determined using descriptive analysis.

Correlations are used to look at how two variables are related in a linear way. A high "r" value indicates a strong relationship between the two variables being studied, and vice versa.

Result and Discussion

Dominant thinking style and thought style profiles of students

To determine the profile of the student's dominant thinking style and thinking style, descriptive analysis is used, which is expressed in the form of mean and standard deviation. The five dimensions of thinking styles, such as function, shape, stage, scope, and tendency, are used to describe the student's thinking style profile.

Table 4.1 shows the mean and standard deviation of the dimensions of function, shape, stage, scope, and tendency of thinking styles by gender.

Dimension	Types of Thinking Styles	Gender		Higher mean
		Male	Female	
Function	Executive	3.77 0.674	3.70 0.661	Male
	Legislative	3.61 0.670	3.55 0.671	Male
	Judiciary	3.53 0.702	3.60 0.650	Female
Shape	Monarchy	3.37 0.635	3.35 0.592	Male
	Hierarchy	3.54 0.661	3.57 0.641	Female
	Oligarchy	3.51 0.686	3.40 0.616	Male
	Anarchy	3.55 0.711	3.57 0.646	Female
Stage	Global	3.37 0.683	3.67 0.539	Female
	Local	3.46 0.629	3.51 0.637	Female
Scope	Internal	3.56 0.592	3.31 0.548	Male
	External	3.80 0.594	3.85 0.644	Female
Tendency	Liberal	3.75 0.776	3.63 0.684	Male
	Conservative	3.52 0.682	3.81 0.626	Female

Table 4.1 shows that female students have the highest mean profile in the judicial thinking style (mean: 3.60 & sd: 0.650), hierarchy (mean: 3.57 & sd: 0.641), anarchy (mean: 3.57 & sd: 0.646), global (mean: 3.67 & sd: 0.539), local (mean: 3.51 & sd: 0.637), external (mean: 3.85 &

(mean: 3.81 & sd: 0.626). Meanwhile, executive thinking style (mean: 3.77 & sd: 0.674), legislative thinking style (mean: 3.61 & sd: 0.670), monarchy (mean: 3.37 & sd: 0.635), oligarchy (mean: 3.51), internal (mean: 3.56 & sd: 0.592), and liberal thinking style (mean: 3.56 & sd: 0.592) have the highest mean profiles for (mean: 3.75 & sd: 0.776).

Male students had the lowest mean profiles for judicial thinking style (mean: 3.53 & sd: 0.702), hierarchy (mean: 3.54 & sd: 0.661), anarchy (mean: 3.55 & sd: 0.711), global (mean: 3.37 & sd: 0.683), local (mean: 3.46 & sd: 0.629), external (mean: 3.80 & sd: 0.5 (mean: 3.52 & sd: 0.682). Meanwhile, executive thinking (mean: 3.70 & sd: 0.661), legislative (mean: 3.55 & sd: 0.671), monarchy (mean: 3.35 & sd: 0.592), oligarchy (mean: 3.40 & sd: 0.616), internal (mean: 3.31 & sd: 0.548), and liberal are the lowest mean profiles for female students (mean: 3.63 & sd: 0.684).

Table 4.2 shows the mean of students' thinking styles as well as the mean of Sternberg's (1997).

Thinking Style	N	Mean	Mean Dominant	Decision
Executive	150	3.49	3.57	-
Legislative	150	3.51	4.00	-
Judiciary	150	3.58	3.71	-
Monarchy	150	3.39	3.14	Dominant
hierarchy	150	3.53	3.64	-
Oligarchy	150	3.42	2.86	Dominant
Anarchy	150	3.36	3.57	-
Global	150	3.51	3.21	Dominant
Local	150	3.69	3.14	Dominant
Internal	150	3.39	4.00	-
External	150	3.56	3.22	Dominant
Liberal	150	3.67	4.07	-
Conservative	150	3.43	3.07	Dominant

The mean thinking style of students and the mean of Sternberg's (1997) dominant thinking style are compared in Table 4.2. The mean of students' thinking styles is derived from their responses to items in the Thinking Style Inventory, and the mean of Sternberg's (1997) Dominant Thinking Styles is derived from the inventory manual. If a student's thinking style has a mean value that is higher than the defined mean of Dominance, that style is considered dominant. Monarchy, Oligarchy, Global, Local, External, and Conservative thinking styles are the most prevalent. Meanwhile, the average of Executive, Legislative, Judicial, Hierarchical, Anarchic, Internal, and Liberal thinking styles is not dominant. The Sternberg scale is used to make decisions in this Dominant style (1997).

Different ways of thinking Is there a gender divide among students?

Based on gender, there is a significant difference in Global Dominant Thinking Style (F = 8.661, sig = 0.016), External (F = 5.220, sig = 0.029), and Conservative (F = 4.189, sig = 0.044) students (p0.05). In each dominant thinking style, female students have a higher mean than male

students: Global (mean = 3.57, sd = 0.531), External (mean = 3.84, sd = 0.634), and Conservative (mean = 3.76, sd = 0.620). As a result, the null hypothesis that there is no significant gender difference in students' global, external, and conservative thinking styles is rejected. Between male and female students, there is a significant difference in the mean of Global, External, and Conservative thinking styles.

There was no significant difference in the mean thinking style of students based on gender (F = 0.109, sig = 0.722), Oligarchy (F = 0.422, sig = 0.616), and Local (F = 0.942, sig = 0.342). In Oligarchy (mean = 3.42, sd = 0.610) and local (mean = 3.56, sd = 0.638), female students have a higher mean than male students. The null hypothesis, that there is no significant difference in gender between students' oligarchic and local thinking styles, is then accepted. The result is that there is no significant difference between male and female students' mean oligarchic and local thinking styles.

Table 4.3: Gender-based differences in dominant thinking styles

Dominant Thinking Style	Gender	N	Mean	SD	df	F	Sig.
Monarchy	Male	71	3.42	0.621	1	0.109	0.722
	Female	79	3.36	0.572			
Oligarchy	Male	71	3.37	0.656	1	0.422	0.616
	Female	79	3.42	0.610			
Global	Male	71	3.47	0.683	1	8.661	0.016
	Female	79	3.57	0.531			
Local	Male	71	3.42	0.625	1	0.942	0.342
	Female	79	3.56	0.638			
External	Male	71	3.77	0.681	1	5.220	0.029
	Female	79	3.84	0.634			
Conservative	Male	71	3.65	0.660	1	4.189	0.044
	Female	79	3.76	0.620			

significant $p < 0.05$

4.3 Is there a correlation between students' Arabic performance and their dominant thinking style?

The relationship between the Dominant thinking style and students' Arabic achievement was investigated using correlation analysis. According to Table 4.4, the Monarchical Thinking Style (r = 0.170, sig = 0.002), the Oligarchy Thinking Style (r = 0.227, sig = 0.000), the Global Thinking Style (r = 0.179, sig = 0.001), Local Thinking Style (r = 0.228, sig = 0.000), External Thinking Style (r = 0.142, sig = 0.016), and Conservative Thinking Style (r = 0.129, sig = 0.016) have the null hypothesis, that there is no link between dominant thinking styles and student achievement, is then dismissed.

Table 4.4 Correlation between dominant thinking styles and student achievement

Dominant Thinking Style	r	Sig.	Interpretation
Monarchy	0.170^{**}	0.002	Low
Oligarchy	0.227^{**}	0.000	Low
Global	0.179^{**}	0.001	Low
Local	0.228^{**}	0.000	Low
External	0.142^{**}	0.016	Low
Conservative	0.129^{**}	0.011	Low

Conclusion

The mean value obtained shows that each student has a tendency to use this style differently. Students performed all styles at various stages, according to the study. Students use Monarchy, Oligarchy, Global, Local, External, and Conservative thought styles, according to this report. Individuals with a high focus and commitment to one task are identified by monarchical dominant thinking style analysis. It means that these students are more likely to finish a task in a set amount of time in order to meet the teacher's expectations.

The learning world has an effect on the lives of various thought types. The practices used to incorporate this teaching and learning process will guide and affect student thought styles, such as cooperative learning activities in which the learning atmosphere offers room for students to socialize. It not only encourages students to communicate with one another, but it also allows them to produce thoughts, share their views, and develop something different.

Since Sternberg's thought style has not been applied in the classroom, the findings of this study show that a direct association is important and leads significantly to student success with a poor connection. It is necessary to work on implementing this thinking style in the classroom such that cohesion between students and teachers exists in the learning phase and teaching. As a result, lecturers participating in the teaching and learning phase, as well as the evaluation of student success, must use a variety of teaching methods and follow a convergent trend in order to assist students in developing more memorable learning types.

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