THE CORRELATION BETWEEN THINKING STYLE AND ACADEMIC ACHIEVEMENT OF UNDERGRADUATE ENGLISH EDUCATION STUDY PROGRAM STUDENTS OF UIN RADEN FATAH PALEMBANG

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Submitted as a fulfillment of requirements to get
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by

EKA SRIWARSITI
NIM. 12250036

ENGLISH EDUCATION STUDY PROGRAM

TARBIYAH FACULTY

ISLAMIC STATE UNIVERSITY

RADEN FATAH PALEMBANG

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12250036

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Palembang, 2017

Pembimbing I	Pembimbing II
Hj. Lenny Marzulina, M.Pd.	**Deta Desvitasari, M. Pd.**
NIP. 19710131 2011012001	

THE CORRELATION BETWEEN THINKING STYLE AND ACADEMIC ACHIEVEMENT OF UNDERGRADUATE ENGLISH EDUCATION STUDY PROGRAM STUDENTS OF UIN RADEN FATAH PALEMBANG

This thesis was written by Eka Sriwarsiti, Student Number. 12250036
Was depended by the writer in the Final Examination and was approved
By the examination committee
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This thesis was accepted as one of the requirements to get the title of Sarjana Pendidikan (S.Pd)

Palembang, August 29, 2017
Universitas Islam Negeri Raden Fatah
Fakultas Tarbiyah dan Keguruan

Examination Committee Approval

Chairperson,	**Secretary,**
Drs. Herizal, M.A.	**Hj. Lenny Marzulina, M. Pd**
NIP. 19651021 199407 1 001	**NIP. 197101312011012001**

Member : M. Holandyah, M. Pd (……..)
NIP. 197405072011011001

Member : Winny Agustin Risnanda, M. Pd (……..……)

Certified by,
Dean of Tarbiyah faculty

Prof. Dr. H. Kasinyo Harto, M.Ag
NIP. 19710911 199703 1 004

DEDICATION

This thesis is dedicated to:

- *Allah SWT for everything that have given to me, and for His blessing, His mercies, His Messengers, His books and His great helps.*
- *The prophet Muhammad SAW who always inspires me to the best.*
- *My beloved family, Wardiyanto (Father), Surati (Mother), Demitri Dwi Lestari (Sister), and all of my family who are always support me and give me a great love, pray, motivation and help.*
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Count your blessing, not your problems.

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Palembang, August 2017

Eka Sriwarsiti

NIM. 12250036

STATEMENT PAGE

I hereby,

Name : Eka Sriwarsiti

Place and Date of Birth : Musi Banyuasin, April 25th, 1994

Study Program : English Education Study Program

Student Number : 12250036

State that

1. All the data, information, interpretation, and conclusions presented in this thesis, except for those indicated by the sources, are the results of my observation, process and thought with the guidance of my advisors.
2. The thesis that I wrote is original and has never been handed in for another academic degree, neither at UIN Raden Fatah Palembang nor other universities.

This statement is made truthfully and if one day, there is evidence of forgery in the above statement, I am willing to accept the academic sanction of the cancellation of magister degree that I have received through this thesis.

Palembang, August 2017

The Writer

Eka Sriwarsiti
NIM. 12250036

ABSTRACT

The objectives of this study were (1) to find out whether or not there is a significant correlation between each type of thinking styles and students' academic achievement, (2) to identify if thinking style significantly influence to academic achievement, and (3) to find out which thinking style is the best predictor for the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang. In this study, 460 students English Education Study Program of UIN Raden Fatah Palembang in the academic year 2016-2017 became the population of this study. By means of purposive sampling technique, 88 students became the samples of this study. The method used in this study was a correlational study. The data were collected by using a questionnaire and a documentation. Pearson Product Moment correlation coefficient and regression analysis of SPSS 21 were used to analyzed the data. The results showed that (1) among 13 types of thinking style, there were 9 types of thinking style which have positive significant correlation to the students' academic achievement (legislative p=0.00, executive p=0.01, judicial p=0.00, hierarchical p=0.00, monarchic p= 0.00, oligarchic p=0.00, anarchic p=0.00, internal p=0.00, external p=0.00) , (2) the nine types of thinking style influenced the students' academic achievement with 48.8% contribution, (3) hierarchical thinking style was the best predictor and gave contribution to students' academic achievement with 29.8% contribution.

Key words: thinking styles, academic achievement

CONTENT

LIST OF TABLES

Page

LIST OF FIGURE

Page

LIST OF APPENDICES

LIST OF DOCUMENTATION

1. Copy of Students Card
2. Copy of Diploma
3. The TOEFL Certificate
4. The Advisor Approval
5. Copy of Transcript
6. Proposal Consultation Card
7. Copy of Computer, KKN, BTA, INTENSIVE, and OSPEK certificate
8. Result of Comprehensive Exam
9. Thesis Consultation Card

CHAPTER I
INTRODUCTION

This chapter presents (1) background, (2) research problems, (3) research objectives, and (4) the significance of the study.

1.1. Background

Education is a boon and blessing to humanity (George & Visman, 2003,p. 106). All progress and prosperity of human cultures and civilization is due to education. Without education, this world would have been enveloped in an intellectual darkness. Today, education operates within the context of the dynamic social milieu and its main stay is that of transmitting and inculcating the desirable knowledge, skills and other behaviors among the members of society. UNESCO (2014) has identified that

> "Various tensions and crisis of modern society and suggested 4 pillars to be constructed for strengthening the education system. These pillars are learning to know, learning to do, learning to live together and learning to be. These pillars are to be strengthened for effectiveness of teaching and learning language and improving the quality of education in the 21st century".

Based on the explanation above, the main goal of education is the process and implication of learning in people's lives. Educational system and its effective factors must be controlled for promoting educational quality. Evaluation of the important educational aspects is a basis for valuating educational institutes (Leenaars & Laster, 2006). Educational achievement

evaluation can be considered as one of the most important educational evaluations. Continuous evaluation of the students' educational achievement during their academic period and examining its effective factors is one of the critical and inevitable bases of educational system improvement especially in the universities. The result of educational system can be identified from students performance or academic achievement.

Shamshudin, Reddy and Rao (2007, p. 26) state that academic achievement is defined as the specified level of attainment of proficiency is academic work designed by test scores. Furthermore, Lawrence and Vimala (2012, p.211) state that academic achievement is a measure of knowledge gained in formal education usually indicated by test scores, grade, grade points, average, and degrees. It can be concluded that academic achievement is the main parameter that present students' performance as the result of learning process which becomes main consideration in competing with other workers.

Moreover, academic achievement is important because it is prepares the students for future careers. Meenudev (2016, p. 70) argues academic achievement of learners has attracted attention of scholars, parents, policymakers and planners. In addition, Ali (2009) explains how is important role of academic performance below :

> "The students' performance (academic achievement) plays an important role in producing the best quality graduates who will become great leader and manpower for the country thus responsible for the country's economic and social development".

It can be concluded that having good performance in academic will produce better generation in the next era.

Therefore, this academic achievement should be obtained from younger years. Graduating from high school allows students to earn far more, and many employers only hire those who graduated. In addition, college education provides even more benefits. Employers are increasingly looking for employees with college degrees even in unrelated fields.

In terms of academic achievement, there are several factors associated with students' academic performance in higher education. One of those factors is their thinking styles. Noble (2006) argues that students' academic is affected by perceptions of their thinking and positive attributions and background characteristics. Garcia (2010, p. 6) argues that thinking style plays a role in many important aspects of wellbeing and life success. Understanding diversity of their thinking and learning styles are indicators that can help poor students can be successful from their failure (Navan, 2015, p. 1699).

The basic characteristic of human being is the ability of thinking. Everyone has different way or style in thinking. Fouladi and Sahidi (2016, p. 1728) argue that thinking styles are the mental frameworks that describe how process of information and ability to solve the problem in the special situations. In addition, accoding to Mahmood, Hossein, and Sharooz (2013, p. 5) thinking styles focus to the question of how one thinks which is different from how well one thinks. In short, everyone has different style and way of thinking.

Sternberg (1997) and Zhang (2004, p. 234) proposed that:

> "The theory of mental self-government describes 13 thinking styles that fall along 5 dimensions. There are three functions (legislative, executive, and judicial styles), four forms (hierarchical, oligarchic, monarchic, and anarchic styles), two levels (global and local styles),

two scopes (internal and external styles), and two leanings (liberal and conservative styles) of the mental self-government".

Based on the theory above, everyone must have their own thinking styles and how their thinking styles are different with others. Thinking styles are frequently studied in educational concepts since thinking is the core of education and considered as being one of the components which shape the learning environment. Zhang (2004, p. 235) argues thinking styles are in principle, value free, for the same thinking styles can result one person beautifully in one situation, but may fail the same person awfully in another situation. It shows that everybody has different thinking styles. Furthermore, thinking styles correspond to the preferred manner of utilizing one's own abilities. As a matter of fact, people select the styles that they find more agreeable to their feelings and tendencies.

Beside that, Navan (2015, p. 1700) argues understanding various thinking styles helps people to adjust their thoughts with different thinking styles and simultaneously succeed in communications. In line with this, Sharifi (2013, p. 4) one of the fundamental principles of contemporary educational psychology is the ways students' think as one of the most important predictors of perceived success in school. Negahi (2015) describes some studies that thinking styles have relationship with problem-solving, decision-making, and academic achievement. It means that if student can identify their comfortable thinking style, they have ability to solve problem and make right decision in their aspects of life. In short, thinking styles as one of important psychology area that affect students' achievement

For some students, thinking is a lazy activity, it is important for teachers or lecrurers to concern about the students' thinking styles. According to Zhang (2004, p. 256), in most of the aforementioned works on the relationships between thinking styles and academic achievement, it has been repeatedly argued that teachers' instructional styles should be diversified so that students with different thinking styles could benefit from teachers' instructions. Furthermore, for students negligence of thinking styles in different situations may lead to negligence or elimination of the most important valuable talents as well as big potential to achieve successfully (Navan, 2015, p. 1699). He indicates that teachers are not aware of diversity of the students' thinking styles. Moreover, Sharma (2011, p. 115) proposed that:

> "If teachers are fail in caring the students' thinking style, it will arise the serious consequences, because the teachers may tend to confuse styles of students mind. the students who have the same thinking style of the teachers are only benefited and rewarded, but others not".

All in all, teachersor lecturers as the main actor who care and handle students' thinking style, if teachers or lecturers has unsuitable treatment, it will arise serious problem in the process of learning for students. Meanwhile, successes and failures attributed to abilities often stem from styles. A teacher should know that the weak performance of a student is not always due to the lack of ability but because of the lack of proportion between thinking styles of students and teachers' expectations (Negahi, 2015, p. 1723). It is very important for teacher who will be one of the crucial stakeholders of the education, to be aware of their thinking style unexcept students's thinking style (Esmer, 2016, p. 161).

Thinking styles has a great effect to one's education, Fouladi (2016, p. 1731) explains various researches show that thinking style is associated to creativity process, problem solution, making-decision, education progress and etc. and the factors such as culture, sex, age, major, resume, parents' thinking style and etc effect on people's thinking style (Yousefi & Sharif 2010). Furthermore, Sternberg and Zhang (2001, p. 72) describe students with poor thinking style will suffer from learning achievement, relationship and self-management. It will lead to the failure of learners, including English language learners at UIN Raden Fatah Palembang.

Based on the informal interview with some students of English Education Study Program of Islamic State University of Raden Fatah Palembang, the writer found that some students were not satisfied with their GPA. It was caused by some factors such as lack of capability in some subjects. Most of subject had presentation which required them to have good capability in thinking and organizing knowledge. And also they did not know about the concept of thinking style (See appendix A).

There are some previous studies which explored both thinking style and academic achievement. Masarmi, Fani, and Ojinejad (2015) investigated the relationship between thinking styles and academic achievement to 248 students of Faculty of Educational Sciences and MA student of Psychology Islamic Azad University, Iran. The result showed that there was a significant relationship between thinking styles with academic performance. On the contrary, Fatemi and Heidarie (2016) conducted a study concerning the relationship between thinking

styles and academic achievement of the 230 high school students in Ahvaz, Iran. The result revealed that there was no significant correlation among global, local, external, internal, liberal, and conservative thinking styles and academic achievement. In short these previous researd should a debatable and consistent results.

Taking into consideration what has been documented above, the writer is interested in conducting a research entitled the correlation between thinking styles and academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

1.2. Research Problems

Based on the background, the research problems are formulated in the followingquestions:

1. Is there any significant correlation between each type of thinking styles and academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang?
2. Does thinking style significantly influence the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang?
3. Which thinking style is the best predictor for the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang?

1.3. Research Objectives

In accordance with the problems above, the objectives of this study are:

1. To find out whether or not there is a significant correlation between each type of thinking styles and academic achievementof undergraduate English Education Study Program students of UIN Raden Fatah Palembang
2. To identify if thinking style significantly influence to academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.
3. To find out which thinking style is the best predictor for the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

1.4. The Significance of the Study

It is expected that, this study will help for students, lecturers, course designer, writer, and other researcher.

1) For the students, this research is expected to provide some helpful information in the development of language teaching and learning process in elevating students' academic achievements. To get success in learning, students need to be conscious with their capability as a power to reach the purpose of learning.

2) For the lecturers, this study expected can be useful for lecturers still need to know and understand their students' tinking style, and push the students to aware that thinking styles as one factor that can affect the students' success or failure in their study.
3) For the writer, this research also expected can be useful to enrich the writer's knowledge in relation to the concept of thinking styles, and to identify which thinking styles she is having to.
4) For other researchers, this study is expected to be a reference for future research especially to thinking styles and academic achievement.

CHAPTER II

LITERATURE REVIEW

This chapter presents (1) correlational study, (2) the concept of thinking style, (3) dimensions of thinking style, (4) thinking style, characterizations, and implications, (5) the concept of academic achievement, (6) students academic factors, (7) previous related studies, (8) hyphotheses, and (9) criteria for testing hyphothesis.

2.1. Correlational Study

Johnson and Christensen (2012, p. 44) state that in correlational research, the researcher studies the relationship between one or more quantitative independent variables and one or more quantitative dependent variables. There is correlation coefficient, which is a numerical index that provides information about the strength and direction of the relationship between two variables. It provides information how variables are correlated. More specifically correlation coefficient is a number that can range from -1 to 1. Positive correlation means if the number is higher than zero. Negative correlation claims if the number is less than zero. No correlation happens when the number is equal to zero. When the number is equal to +1.00 or equal to -1.00, the correlation is called perfect. Positive correlation is present when scores on two variables tend to move in the same direction while negative correlation is present when score on two variables then to move in

opposite direction – as one variable goes up, the other tends to go down, and vice versa.

The meaning of a given correlation coefficient can be seen below based on Johnson and Christensen (2012, p. 340):

Table.1

Correlation Coefficient

Interval Coefficient	Level of Correlation
0.00 – 0.34	Very Weak
0.34 – 0.40	Weak
0.41 – 0.64	Fair
0.65 – 0.84	Strong
0.85 – 1.00	Very Strong

2.2.The Concept of Thinking Style

Sternberg and Zhang (2005, p. 2; 2006, p. 3) define that

> "thinking style is the path that an individual prefers on processing the information and dealing with the given task is an fundamental and deciding working area".

In short, thinking style is the way of people think, produce, and accept information as the part of individual area. Besides, they claimed the theory of thinking style was called "mental self-government (MSG) theory in analogy of government. Furthermore, Ahmadi, Gorjian, and Pazhakh (2014, p. 6) argue that the basic idea behind the theory of mental self-government is that the forms of government people have in the world are not coincidental. Thinking styles play an important role in students' cognitive (Zhang & Sternberg, 2000), affective (Zhang,

2001), and psycho-social development (Zhang, 2002). Nikoupur, Alam, and Tajbakhsh, 2012, p. 89) define thinking style as a learner variable has been considered as a determinant factor to predict learners' success or failure. In short, thinking style is the ability of individual in managing their ideas that drives persons' behavior and goals.

He defines the thinking styles as different techniques used by the people in processing the data. Thinking style does not denote the ability. Instead, it shows the way people use their abilities (Sternberg, 1997). Thinking styles are different from the intelligence; intelligence refers to the individual potentials and abilities; however, thinking styles refer to the individual preferences (Seif, 2008). Heidari and Bahrami, (2012, p. 723) define "thinking styles correspond to the preferred manner of utilizing one's own abilities. Style of thinking is unique and adaptive.

2.3. Dimensions of Thinking Style

Sternberg (1997) and Zhang (2004, p. 234) proposed a theory of thinking styles termed *the theory of mental self-government*. Using the word "government" metaphorically, contended that just as there are many ways of governing associety, there are many ways of governing or managing our activities. These different ways can be construed as our thinking styles. Sternberg (1997) proposed that

> "The theory of mental self-government describes 13 thinking styles that fall along 5 dimensions. There are three functions (legislative, executive, and judicial styles), four forms (hierarchical, oligarchic, monarchic, and anarchic styles), two levels (global and local styles), two scopes (internal and external styles), and two leanings (liberal and conservative styles) of the mental self-government."

It can be concluded that thinking styles consist of 5 dimentions in which each dimension has various style with the different characteristic of personality.

2.3.1. The Ways of Thinking in Terms of the Form

The followings are four types of government in terms of form. Those are oligarchic, monarchic, hierarchic, and anarchic. Applied to mental self-government, these four styles concern the way a person organizes information processing.

2.3.1.1. Monarchic Style

Individuals with a monarchic style prefer to focus on one goal at the time and address the next goal when the first goal is completed (Ahmadi, et. al, 2014, p. 76). Individuals are characterized by going towards a single goal all the time, they are flexible, and able to analyze and think logically is low. They prefer works that highlight their individuality (Sternberg, 1994). Moreover, Budijanto (2013, p. 28) argues "an individual with a monarchic thinking style enjoys being engaged in tasks that allow him/her to concern fully on one goal at a time". It can be claimed that this thinker consistent in one thing or idealist person.

2.3.1.2. Hierarchic Style

Ahmadi, et.al (2014, p. 76) explain individuals with an oligarchic or hierarchic style like to deal with multiple goals. They describe the former individuals have difficulty in assigning priorities to the various goals, thus

creating conflict and tension. The owners of this method tend to do many things at one time. They put their goals in the form of hierarchy depending on their importance and priority. They are realistic, logical and organized in solving problems and decision-making (Sternberg & Wagner, 1991). Budijanto (2013, p. 28) describes an individual with a hierarchic thinking style prefers concerning his/her attention on tasks according to an order of importance. All in all, this style will be done activities based on the requirement.

2.3.1.3. Anarchic Style

Fouladi and Shahidi (2016, p. 1730) explain anarchic thinker has ability to apply random methods to solve problems and dislike systems, rules, guidelines and generally any restrictions.However, individuals with an anarchic thinking style tend to be motivated by a wide range of needs and goals and are flexible in their approach (Ahmadi, et.al, 2014, p. 76). Besides, Heidari and Bahrami (2012, p. 724) indicate that anarchic people prefer the tasks that can be accomplished flexibly. In short, anarchic thinker can be imply as energic style in finding solution of problem and growing motivation to achieve their goals.

In addition Sternberg and Wagner (1991, 2006) stated that

> "people with anarchic style, they have difficulty setting priorities since they have no firm set of rules, they tend to adopt a method of random and non-compliant in a particular order to solve the problems, their performance is better when the tasks and positions that are assigned to them are disorganized, and they are confused."

All in all, anarchic thinkers refers to activity or manage their actions with random list or doing something without plan order before.

2.3.1.4. Oligarchic Style

Fouladi and Shahidi (2016, p. 1730) explain individual with oligarchic style prefer to do many things at the same time but he/she has the problem to prioritize them. Furthere more, these individuals are characterized by being nerveous, confused and they have many conflicting goals, all of these goals are equally important for them. (Sternberg,2006 ;Grigorenko & Sternberg, 1995). It can be claimed that olirgarchic thinker have many planning but difficulty in doing the action.

2.3.2 The Ways of Thinking in Terms of Function

In analogy to governments, people carry out legislative, executive, and judicial functions.

2.3.2 1. Legislative Style

(Zhang, 2004). Fouladi and Shahidi (2016, p. 1730) mention that individual with this thinker tend to create, invent, design and do the things in their own way. Budijanto (2013, p. 8) however define an individual with a legislative thinking style enjoys being engaged in tasks requiring creativity. It short, this thinker can be carry out the creativity and making and implicating a new ideas in forming action.

2.3.2.2. Executive Style

The advocators of this style prefer to use the ways that already existed to solve problems, and the application and implementation of laws (Obeidat & Assameed,2007). Beside that, Ahmadi, et.al (2014, p. 76) indicate that executive style is the ability of individual to enjoy creating and formulating their own rules. Moreover, Budijanto (2013, p. 8) indicatedan individual with an executive thinking style is more concerned with performing tasks with clear instructions. It can be concluded that executive thinker just focus on the real ways in reaching the activities.

2.3.2.3. Judicial Style

Ahmadi, et.al (2014, p. 76) argued that judicial style is the ability of individual to like to judge and evaluate rules, ways, ideas, and procedures. The advocators of this method care about the assessment of the stages of the work and the results. They often ask questions such as: Why? What is the reason? What is assumed, (Bernardo, Zhang, Li, & Challueng, 2002). They analyze the main idea in the scientific stance and hate experimentation, evaluate the work of others, and hate to be evaluated by others. They prefer problems that allow them to analyze and evaluate the existing objects and ideas (Monthly,2006; Obeidat& Abu Assameed, 2007).

2.3.3. Methods of Thinking In Terms Of Level

Theory mental self-government also operate at different levels, such as the global or the local level, and are therefore more concerned with either general or specific policy making.

2.3.3.1. Global Style

In analogy, individual with a *global thinking style* prefer general, abstract reasoning, pondering in the world of ideas (Ahmadi, et. al, 2014, p. 77) They prefer to deal with broad, abstract and relatively large and high-level concepts. They prefer change and innovation, and vague positions. They often ignore the details. Sharma and Nettu (2011, p. 116) argue that global thinkers or "strategic thinkers" are more comfortable with new information if they can adapt it into context, they also tend to be impatient with linear subjects and linear-oriented instruction because they prefer access to all the information (early on) so they can relate overall goals.

2.3.3.2. Local Style

Ahmadi, et.al (2014, p. 77) describe individuals with a *local thinking style* are more down to earth and oriented towards the pragmatics of the situation. The person of this method characterized by being attracted by the practical situations. Fouladi and Shahidi (2016, p. 1730) add that the local style as the realistic ability to tend to be involved with details and objective and specific examples. It can be conclude this style can be claim as realistic person that stand on the fact.

2.3.4. The Ways of Thinking in Terms of the Trend

Finally, governments prefer liberal or conservative style and so have individuals.

2.3.4.1. Liberal Style

Those with a *liberal thinking style* give preference to tasks and projects and allow them to cover unexplored ground. They seek rather than avoid ambiguous and uncertain stimuli (Ahmadi, et. al, 2014, p. 77). The followers of this method tend to go beyond the laws and measures, and the tendency to be ambiguous and unfamiliar positions. They are seeking through the tasks under taken by them to by pass laws that imposed upon them, whether at work or in school in order to bring the biggest possible change (Sternberg, 2006 & Bernardo et al, 2002).

2.3.4.2. Conservative Style

Fouladi and Shahidi (2016, p. 1730) explain the conservative person prefer to do things in before experienced and right ways and follow the customs. (Ahmadi, et. al, 2014, p.77) expressed the contrast, individuals with a *conservative thinking style* prefer familiar, non-threatening situations. Together, these thirteen thinking styles can characterize individuals to a greater or lesser extent. they prefer situations that are familiar in life, and they are characterized by diligence and order, they follow the rules and procedures that exist, and they refuse change and would prefer the least possible change (Abu Hashim, 2007). It

can be concluded that conservative thinker is the style which like to try something unpopular for them.

2.3.5. The Ways of Thinking In Terms of Scope

Governments also differ in scope dealing primarily with internal and external issues. Likewise, individuals with an *internal thinking style* differ from individuals with an *external thinking style*, preferring to work independently from others. They are more introverted and less socially sensitive than persons with an external style.

2.3.5.1. External Style

External persons seek to work collaboratively (Heidari, & Bahrami, 2012, p. 724) followers of this method tend to work, interact and collaborate with others within the team, and they have a sense of social contact with others comfortably and easily. (Sternberg & Wagner, 1991, Zhang & Sternberg, 2002). In addition, Fouladi and Shahidi (2016, p. 1730) argue the external style person work with others, rely on outside world and are dependent on others. It can be implied that external thinker is social able person in working and making interaction with others.

2.3.5.2. Internal Style

Internal thinker perform different activities independently (Heidari & Bahrami, 2012, p. 724). It is supported by (Fouladi & Shahidi 2016, p. 1730) who argue that this style tend to work alone, rely on their own world the followers of this style prefer to work individually; they are introvert and tend to be lonely. They are directed toward work or task, and they are characterized by internal focus, and they prefer the analytical and creative problems. All in all, thus thinkers are individualism and enjoy in the lonely situation.

2.4. Thinking Style, Characterizations, and Implications

Categories and dimensions of Thinking Styles in the mental self-government theory of Thinking Styles extracted from Sternberg and Wagner (1992) in Table 1.

Table.2

Thinking Styles and their Characterizations and Implications

No	Thinking Style	Characterizations	Implications
1	Legislative	People with this style enjoy the creative task	Likes doing science projects, writing poetry ,stories, or music, and creating original art works.
2	Executive	Likes to follow directions, do what he or she is told, be given structure.	Likes to solve problems, write papers on assigned topics, do artwork from models, build from designs, and learn assigned information.
3	Judicial	Likes analyze their academic task and solve their problem	Likes to critique work of others, write critical essays, give feedback and advice
4	Monarchic	Prefer to focus on one single goal at the time	Likes to immerse self in a single project, whether art, science, history, and business.
5	Hierarchic	Prefer concerning his/her attention on tasks according to an order of importance	Likes to budget time for doing homework so that more time and energy is devoted to important assignments.
6	Oligarchic	Likes to do many things at once, but has trouble setting priorities.	Likes to devote sufficient time to reaching comprehension items,

			so may not finish standardized verbal- ability tests.
7	Anarchic	Likes to take a random approach to problems; dislike systems, guidelines, and practically all constraints.	Writes an essay in stream –of-consciousness form; in conversations, jumps from one point to another; starts things but doesn't finish them.
8	Global	Likes to deal with big picture, generalities, and abstractions.	Writes an essay on the global message and meaning of a work of art.
9	Local	Likes to deal with details, specifics, concrete examples.	Writes an essay describing the details of a work of art and how they interact.
10	Internal	Likes to work alone, focus inward, be self sufficient.	Prefers to do science or social studies project on his or her own.
11	External	Likes to work with others, focus out ward, be inter-dependent.	Prefers to do science or social studies project with other members of a group.
12	Liberal	Likes to do things in new ways, defy conventions	Prefers to figure out how to operate new equipment even if it is not the recommended way; prefers open classroom setting.
13	Conservative	Likes to do things in tried and true ways, follow conventions.	Prefers to operate new equipment in traditional way; prefers traditional classroom setting.

(Sources: Sternberg and Wagner, 1992)

2.5. The Concept of Academic Achievement

Lawrence and Vimala (2012, p.211) define "academic achievement is a measure of knowledge gained in formal education usually indicated by test scores, grade, grade points, average and degrees." It means that academic achievement is the last result based on the previous process with an indicator score. Here, the achievement level of the student is judged by the marks that the students have scored in the quarterly examinations. Meenudev (2016, p. 70) argues academic achievement of learners has attracted attention of scholars, parents, policymakers and planners. The students' performance (academic achievement) plays an important role in producing the best quality graduates who will become great leader and manpower for the country thus responsible for the country's economic

and social development (Ali Norhidayah, Kamaruzaman, Ali Syukriah, Mokhtar Najah, & Salamt , 2009). Furthermore, with Musthaq and khan (2012, p. 17) argue that

> "student academic performance measurement has received considerable attention in previous research, it is challenging aspects of academic literature, and science student performance are affected due to social, psychological, economic, environmental and personal factors."

Based on the quotation above, academic achievement was affected many factors especially elements around the students, whether it is inside or outside factors.

Galiher (2006) and Darling (2005), used GPA to measure student performance because they main focus in on the student performance for the particular semester. Students' academic achievement refers to the grades obtained by students upon accomplishing the courses in their study. In the university, the students' academic achievement in each semester is represented by Grade Point Average (GPA). The academic grade scale for each course ranges from the lowest "F" to the highest "A", with corresponding grade point ranging from the lowest "0.00" to the highest "4.00". The total of the GPA for all semesters or the last semester the students belong to is called Cumulative GPA. To sum up, Cumulative GPA is the total score obtained for all the completed courses from the first semester to the last semester.

2.6. Academic Achievement at English Education Study Program of UIN Raden Fatah Palembang

Academic achievement is represented by grade point average (GPA). It is confessed in every universities. In Indonesia, not except in State Islamic University of Raden Fatah Palembang. Especially, in English Education Study Program, GPA is achieved from the students academic performance which determined from their subjects score. In English Education Study Program at UIN Raden Fatah, there are three types of subjects, those are : univesity subjects, faculty subjects, and major subjects. In order to graduate, the students in English Study Program should complete 146 credits within 67 subjects.

The following is the table of students' academic achievement category in accordance with *Buku Pedoman Fakultas Ilmu Tarbiyah dan Keguruan dan Ilmu Pendidikan Universitas Islam Negeri Raden Fatah Palembang 2015/2016*.

Table 3
Students' Academic Achievement Category

No	Score Range	Category
1	3.51 – 4.00	Very Good/ Cum laude
2	3.01 – 3.50	Good
3	2.51 – 3.00	Average
4	2.01 – 2.50	Poor
5	0.00 – 2.00	Very Poor/ Fail

(Sources: Buku Pedoman Fakultas Ilmu Tarbiyah dan Keguruan dan Ilmu Pendidikan Universitas Islam Negeri Raden Fatah Palembang 2015/2016)

2.6. Students' Academic Factors

Musthaq and Khan (2012, p. 18-19) explored four factors which affects students' academic performance. Those are students' communication skills, learning facilities, proper guidance and family stress. The details are following:

2.6.1. Communication Skill

Many researchers has been discussed the different factors that affects the student academic performance in their research. There are two types of factors that affect the students' academic performance. These are internal and external classroom factors and these factors strongly affect the students' performance. Internal classroom factors includes students competence in English, class schedules, class size, English text books, class test results, learning facilities, homework, environment of the class, complexity of the course material, teachers role in the class, technology used in the class and exams systems. External classroom factors include extracurricular activities, family problems, work and financial, social and other problems.

Harb and El-Shaarawi (2006) found that the most important factor with positive effect on students' performance is student's competence in English. If the students have strong communication skills and have strong grip on English, it increases the performance of the students. The performance of the student is affected by communication skills.

2.6.2. Learning Facilities

Karemera (2003) found that students' performance is significantly correlated with satisfaction with academic environment and the facilities of library, computer lab and etc. in the institution. With regard to background variables, he found a positive effect of high school performance and school achievement he found no statistical evidence of significant association between family income level and academic performance of the student. Young (1999), held the view that student performances are linked with use of library and level of their parental education. The use of the library positively affected the student performance. The academic environment is the effective variable for students and has positive relationship with fathers' education and grade level (Kirmani & Siddiquah, 2008).

2.6.3. Proper Guidance

Noble (2006), students' academic accomplishments and activities, perceptions of their coping strategies and positive attributions, and background characteristics (i.e., religion, family income, parents' level of education, guidance from parents and number of negative situations in the home) were indirectly related to their composite scores, through academic achievement in high school. The students face a lot of problems in developing positive study attitudes and study habits. Guidance is of the factor through which a student can improve his study attitudes and study habits and is directly proportional to academic achievement. The students who are properly guided by their parents have

performed well in the exams. The guidance from the teacher also affects the student performance. The guidance from the parents and the teachers indirectly affect the performance of the students (Hussain, 2006).

2.6.4. Family Stress

Socio-economic factors like attendance in the class, family income, and mother's and father's education, teacher-student ratio, presence of trained teacher in school, sex of student and distance of school are also affected the performance of the students (Raychauduri et. al, 2010). Kernan, Bogart,and Wheat (2011) argue academic success of graduate student will be enhanced if the optimal health related barriers are low. There is negative relationship between college credit and stress but weak relationship between GPA (Grade Point Average) and stress.

2.7. Previous Related Studies

Navan and Shariatmadari (2015) investigated the relationship between functions of thinking styles and academic achievement motivation among master students majoring in different fields in Payame Noor University, Rasht, Iran. This was an applied descriptive study. The statistical population consisted of 7000 master students in Rasht Payame Noor University in academic year of 2013-2014. According to Morgan Table, 365 individuals were selected using stratified random sampling method. The results showed the positive relationship of legislative, executive and judicial thinking styles with academic achievement motivation among students. The similarities with the present study that have the same

dependent variable and independent variable in this study is one of dimention of thinking style, the present study covered all dimentions of thinking style and the differentiate is the population and sample.

Masarmi, Fani, and Ojinejad (2015) conducted a study aimed to describe the relationship between thinking styles, with academic performance of Islamic Azad University Students of Marvdasht, Iran. Research method was descriptive. The statistical population is all students of Azad University of Marvdasht. After determining the sample size by using multi-stage cluster sampling among faculties, faculty of Educational Sciences and MA student of Psychology was selected. 248 student were selected as sample. The result showed that their was that a significant positive relationship between thinking styles with academic performance. The similarity of this research and the study is the way measure thinking style and academic achievement and the differentiate is the population and sample, this study used student in university students and this research used MA students.

Fatemi and Heidari (2016) Academic achievement of the students and the factors affecting is one of the most important issues in psychology. This study aimed to determine relationship between the thinking styles and academic achievement of the high school students in Ahvaz, Iran. This was a descriptive and correlational study. The statistical population included all high school students of Ahvaz, of who 320 students were selected using the multistage random sampling method. The result showed that there is a significant relationship between the variables of legislative, executive, oligarchic, monachic,

anarchic, hierarchic, judiciary thinking styles and academic achievement. The similarities with the present study are having the same independent and dependent variable, thinking style inventory (TSI) questionaire. Otherways, the differentiate is the participants.

2.8. Hypotheses

The hypotheses of this study are proposed in the forms of null and research hypotheses below:

1. H_o: There is no significant correlation between students' thinking styles and academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

   H_1: There is a significant correlation between students' thinking styles and academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

2. H_o: Students' thinking styles does not significantly influence the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

   H_1: Students' thinking styles significantly influences the academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

3. H_o: There is no type of thinking style becoming the best predictor of academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

H_1: There is a type of students' thinking styles becoming the best predictor of academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang.

2.9. Criteria for Testing Hypotheses

To test the hypothesis above the researcher will use criterions:

1. If *p*-value is higher than 0,05 ($p>0.05$), H_0 is accepted and H_1 is rejected.
2. If *p*-value is less than 0,05 ($p<0.05$), H_0 is rejected and H_1 is accepted.
3. If the significant coeficient correlation is equal to 0.49, H_o is rejected and H_a is accepted.
4. if the significant coeficient correlation is not equal to 0.49, H_o is accepted and H_a is rejected

CHAPTER III

METHOD OF RESEARCH

This chapter presents (1) research design, (2) research variables, (3) operational definitions, (4) subject of the study, (5) data collection, (6) research instruments analysis, and (7) data analysis.

3.1. Research Design

In conducting this research, correlational research was used to find out the correlation between variables to explain and to interpret the appeared results. The procedure were, first; the student's thinking style was identified by using questionnaire. Second; by taking documentation, the student's academic achievement was obtained. Then, the correlation and influence between variables were analyzed through Statistical Package for Social and Science (SPSS) version 21.00 based on the results of the questionnaire and the students' GPA. Lastly, explanation and interpretation of the results were then discussed.

This was a correlational study to find out the relationships between thinking style and academic achievement of the undergraduate EFL learners. Johnson and Christensen (2012) state that in correlational research, the researcher studies the relationship between one or more quantitative independent variables and one or more quantitative dependent variables. There is correlation coefficient, which is a numerical index that provides information about the strength and direction of the relationship between two variables. It provides information how variables are associated. More specifically correlation coefficient is a number that

can range from -1 to 1, with zero standing for no correlation at all. If the number is greater than zero, there is a positive correlation. If the number is less than zero, there is a negative correlation. If the number is equal to zero, there is no correlation between the two variables. If the number is equal to +1.00 or equal to -1.00, the correlation is called perfect. Positive correlation is present when scores on two variables tend to move in the same direction while negative correlation is present when score on two variables then to move in opposite direction – as one variable goes up, the other tends to go down, and vice versa. The research design can be seen in the following figure as follows:

Figure 1

Correlation Research Design

X = Thinking Style

Y = Academic Achievement

3.2. Research Variables

According to Fraenkel and Wallen (2012, p. 80), a common and useful way to think about variables is to classify them as *independent* or *dependent.* The independent variable is a stimulus variable or input, it is that factor which is measured, manipulated, or selected by the researcher to determine its relationship to an observed phenomena. Meanwhile, the dependent variable is response

variable or output, it is that factor which is observed and measured to determine the effect of the independent variables. In this research, the students' thinking style is the independent variable and symbolized by X, and the students' academic achievement is the dependent variable and symbolized by Y.

3.3. Operational Definitions

To avoid the possibility of misunderstanding about some terms in this research, especially those used in the title, the definitions are provided. *Correlation* is the study to measure one or more independent and dependent variable in identifying whether or not the variables related each other. In this research, there are two variables that was correlated which are students' thinking styles and academic achievement.

Thinking style means the ways of people in managing, discribe, identify to solve the problem and make right decisions. Sternberg's theory of mental self-government, that is different ways of using the abilities that an individual has to solve problems, carry out tasks or projects, and make decisions. It was identified by using questionnaire. Theory of thinking style was called "the theory of mental self-government which build 5 dimension and consist of 13 thinking styles (Sternberg, 1997). The 13 thinking styles can be seen as follows.

Table 4

The 13 Types of Thinking Styles

No	Thinking Styles
1	Legislative Style
2	Executive Style

3	Judicial Style
4	Hierarchical Style
5	Monarchic Style
6	Oligarchic Style
7	Anarchic Style
8	Global Style
9	Local Style
10	Liberal Style
11	Conservative Style
12	Internal Style
13	External Style

(Source: Sternberg, 1997).

Academic achievement refers to the students' Cumulative Grade Point Average (GPA). It is the results of the students' achievement from all the courses they have taken starting from the first semester to their current semester. It was taken from English Education Study Programs' documentation. The category of the students' academic achievement can be seen as follows.

Table 5

Grade Point Average Category

No	Score Range	Category
1	3.51 – 4.00	Very Good/ Cum laude
2	3.01 – 3.50	Good
3	2.51 – 3.00	Average
4	2.01 – 2.50	Poor
5	0.00 – 2.00	Very Poor/ Fail

(Sources : English Education Study Program of UIN, 2016)

3.4. Subject of the Study

3.4.1. Population

According to Creswell (2005, p. 145), population is a group of individuals who have the same characteristic. Fraenkel et. al (2012, p. 91) argued the larger group to which one hopes to apply the results is called the population. The population of this study was all the active students of English Education Study Program at UIN Raden Fatah in academic year of 2016-2017. The distribution of population of the study can be seen below.

Table 6

Distribution of Population

No	Semester	Number of Students
1	II	140
2	IV	128
3	VI	103
4	VIII	97
Total		**460**

(Sources : English Education Study Program of UIN, 2016)

3.4.2. Sample

A sample in a research study is the group on which information is obtained (Fraenkel et.al,2012, p. 91).The sample of this study was taken by using purposive sampling method. Purposive sampling (judgmental sampling) was used in both qualitative and quantitative research (Johnson & Christensen, 2012, p. 235). Based on Creswell (2005, p. 204), in this method, the researchers

selected individuals and sites to learn and understand about the topic whether they are "information rich". Moreover, Johnson and Christensen (2012, p. 231) add that in purposive sampling, the researcher specifies the characteristics of a population of interest and then tries to locate individuals who have those characteristics.

The sample of this research are 103 students from the sixth semester that were spread into four classes. The writer chose them class because all of the classes in the sixth semester had the characteristic which writer needed to study. Those characteristics were; students had a lot of experience in academic learning, the results of the academic achievement varied and they had variety of thinking styles.The distribution of the sample is as follows:

Table 7

Distribution of Sample

Class	Semester	Number of Students
PBI A	VI	26
PBI B	VI	22
PBI C	VI	26
PBI D	VI	29
Total		103

(Sources : English Education Study Program of UIN, 2016)

3.5. Data Collection

In collecting data, there were two kinds of instrument which were used to get the data. The student's thinking style was identified by using questionnaire

and their academic achievement was obtained by collecting the academic documentation

3.5.1. Thinking-Styles' Questionnaire

Data about students' thinking style were collected by using Thinking Style Inventory (TSI) from Sternberg, Wagner,and Zhang (2007). Items on the scales were anchored as:

0 : Strongly disagree

1 : Disagree

2 : Undecided

3 : Agree

4 : Strongly agree

There were 65 items in the questionnaire which correspond to the 13 types of Thinking Style. Questions were done and responded by students in 30 minutes. The time was taken based on the requirement from Sternberg, Zhang, and Wagner (2007) (see appendix B)

Table 8

Thinking Style Questionnaire Specification

No	Thinking Style	Items in the Questionnaire
1	Legislative Style	5,10,14,32 and 49
2	Executive Style	8,11,12,31 and 39
3	Judicial Style	20,23,42,51 and 57
4	Hierarchical Style	4,19,33,25, and 56
5	Monarchic Style	2,43,50,54 and 60
6	Oligarchic Style	27,29,30,52, and 59
7	Anarchic Style	16,21,35,40 and 47

8	Global Style	7,18,38,48, and 61
9	Local Style	1,6,24,44, and 62
10	Liberal Style	45,53,58,64,and 65
11	Conservative Style	13,22,26,28, and 36
12	Internal Style	9,15,37,55, and 63
13	External Style	3,17,34,41, and 46

(Source: Sternberg, Zhang, and Wagner, 2007)

3.5.2. Academic Documentation

Documentation is defined as the data which obtained by collecting the written archives such as books, documents, journals, and so on (Hartono, 2008, p. 128).In this research, the data of the students' academic achievement was collected by taking their GPA which was documented by English Education Study Program of UIN Raden Fatah Palembang.

3.6. Research Instruments Analysis

Before the questionnaire and real test were conducted, the writer checked their validity and reliability. Johnson and Christensen (2012, p. 137) explain that validity and reliability are the two most essential psychometric properties to consider in using a test or assessment procedure. Validity refers to the accuracy of the inferences or interpretations made from the test scores, while reliability refers to the consistency or stability of the test scores.

3.6.1. Validity Test

Fraenkel, et. al. (2012, p. 147) argue that validity is the most important idea to consider when preparing or selecting an instrument for use. It is supported

by Creswell (2012, p. 146) validity is the development of sound evidence to demonstrate that the test interpretation (of scores about the concept or construct that the test is assumed to measure) matches its proposed use. In this research, content validity was used. Thinking Style Inventory (TSI) from Sternberg, Wagner, and Zhang (2007) was a readymade questionaire. Mathers, Hunn, and Fox (2007, p. 9) indicate that questionnaire can be designed by the researcher or they can be taken based on some readymade index including the fact of these have been validated and tested for reliability. To ensure that instrument had a good content validity the writer asked three validators (expert' judgement). The experts' from English lecturers of UIN Raden Fatah Palembang. Those people were selected based on the folowing criteria: have got master's degree of English Education Study Program and have more than three years teaching experiences.

3.6.2. Reliability Test

In accordance withCreswell (2012, p. 146) reliability means that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. Beside that, scores need to be consistent. Johnson and Christensen (2012, p. 340) state that when used to check reliability of scores, the coefficient should be at least 0.70, preferably higher. Therefore, the questionnaire was reliable if the coefficient is 0.70 or higher. Thinking Style Inventory (TSI) from Sternberg, Wagner and Zhang (2007 has been tried out to 579 Chinese University Students and 129 teachers, and the result is ready made and reliable.

Data Analysis

In order to analyze the data which function was to answer the problems, there will be some procedures. First, normality and linearity test were conducted prior to data analysis through SPSS. As parametric statistics, in terms of correlation and regression, it was necessary to examine if the distribution of data was normal and linear for each variable. Second, after all the data were found normal and linear, the analysis of the collected data was conducted by using Pearson Product Moment correlation coefficient and regression analysis. The first technique was to find out whether there were significant correlation between students' thinking styles and their academic achievement. Then, if there is a correlation between the variables, the analysis will be continued to establish whether or not there is a significant influence between the variables using enter regression analysis. The last, stepwise regression anlysis was used to examine whether or not the students' thinking styles influenced their academic achievement. If there was an influence, further analysis would reveal the best predictor of thinking style related to academic achievement.

3.7.1. Questionnaire Analysis

Firstly, the data from questionnaire was analyzed and calculated to decide the students' thinking style by identifying heir answer and count the score of students' thinking style. The scoring system used likert scale (strongly disagree, disagree, undecided, agree, strongly agree). The score is from 0 to 4. The

results scoreswere classified into category of thinking styles. Thinking styles for each student werethen determined.

3.7.2. Academic Achievement Analysis

Secondly, the students' academic achievement was determined and was categorized. There were 5 categories which were based on the range of their GPA.

3.7.3. Pre-requisite Analyses

To do pre-requisite test there are two normality and linearity test. Thus, before analyzing the data, the writertried to find out whether the data distribution between the variables was normal and linear or not.

3.7.3.1. Normality Test

Normality test was used to determine whether sample data draw from a normally distributed population or not. It was conducted due to many parametric statistical methods, including Pearson correlation test and Regression test. Therefore, the writerapplied Kolmogorov-Smirnov test by using SPSS 21. The data is normal if the p-value is greater than 0.05 ($p > 0.5$).

3.7.3.2. Linearity Test

The linearity test was conducted in order to recognize whether the data between the variables were linear or not. Test for linearity by using SPSS 21was conducted.If the p- value (linearity) is less than 0.05 (p-value < 0.05), the data

correlation is linear. Then, after the writer conducted those test, and if the data were found normal and linear, the further analysis was able to be administered.

3.7.4. Correlation Analysis

Correlational analysis was applied after analyzing the data from questionnaire and student's academic achievement.In order to find out the correlation between each type of students' thinking styles and their academic achievement, Pearson – Product Moment Correlation was used. Specifically, correlation coefficient is a number that can range from -1 to 1, with zero standing for no correlation at all. If the number is greater than zero, there is a positive correlation. If the number is less than zero, there is a negative correlation. If the number is equal to zero, there is no correlation between the two variables. If the number is equal to +1.00 or equal to -1.00, the correlation is called perfect.

3.7.5. Regression Analysis

Regressions' analysis was applied after analyzing the data from thinking style questionnaire, and student's academic achievement. If there was a correlation between thinking style and academic achievement, it was continued to find out the influence between two variables. Regression analysis was applied by using the Statistical Package for Social and Science (SPSS) 21st version computer program.

3.7.6. Stepwise Regression Analysis

Stepwise analysis was used to examine if there was an influence, further analysis would reveal the best predictor of thinking styles related to academic achievement. Afterwards, to answer the reasons why the correlation and influence among variables might occur, the result were subsequently interpreted.

CHAPTER IV
FINDINGS AND INTERPRETATIONS

This chapter presents (1) researh findings, (2) statistical analyses, and (3) interpretations.

4.1. Research Findings

There were two kinds of researh findings in this study: (1) the result of students' thinking style and (2) the result of students' academic achievement.

4.1.1. Descriptive Analysis

4.1.1.1. The Result of Students' Thinking Style

The total active students in the sixth semester of English Education Study Program were 103 students, 88 students participated in this study, and the rest did not attend when this study was conducted. The 65 items of Thinking Style Inventory (TSI) from Sternberg, Wagner and Zhang (2007) were used to investigate the participants' thinking style. The TSI was rated by using likert scale ranging from 0-4.

As shown in table 9, for *legislative,* the maximum score is 20, and the minimum score is 8. The mean of the legislative thinking style score for the participants is 13.94 and the standard deviation is 2.68 . For *executive,* the maximum score is 20, and the minimum score is 5 . The mean of the executive thinking style score for the participants is 12.45 and the standard deviation is 2.82. For *judicial*, the maximum score is 18, and the minimum score is 7 . The mean of the judicial thinking style score for the participants is 12.80 and the standard deviation is 2.56. For *hierarchical*, the maximum score is 20, and the minimum

score is 8 . The mean of the hierarchical thinking style score for the participants is 12.78 and the standard deviation is 2.32.

For *monarchic,* the maximum score is 20, and the minimum score is 3 . The mean of the monarchic thinking style score for the participants is 12.82 and the standard deviation is 3.09. For *oligarchic,* the maximum score is 18, and the minimum score is 7 . The mean of the oligarchic thinking style score for the participants is 12.49 and the standard deviation is 2.37. For *anarchic,* the maximum score is 18, and the minimum score is 8 . The mean of the anarchic thinking style score for the participants is 13.06 and the standard deviation is 2.21.

For *global,* the maximum score is 20, and the minimum score is 9 . The mean of the global thinking style score for the participants is 12.69 and the standard deviation is 2.26. For *local,* the maximum score is 20, and the minimum score is 7 . The mean of the local thinking style score for the participants is 13.14 and the standard deviation is 2.80.

For *liberal,* the maximum score is 20, and the minimum score is 9 . The mean of the liberal thinking style score for the participants is 13.99 and the standard deviation is 2.48. For *conservative,* the maximum score is 19, and the minimum score is 8 . The mean of the conservative thinking style score for the participants is 12.58 and the standard deviation is 2.43.

For *internal,* the maximum score is 19, and the minimum score is 6 . The mean of the internal thinking style score for the participants is 12.22 and the standard deviation is 3.18. For *external,* the maximum score is 20, and the

minimum score is 8 . The mean of the external thinking style score for the participants is 13.32 and the standard deviation is 2.58. The descriptive statistical of TSI for the participants in shown in Table 9.

Table 9

Descriptive statistics of thinking-style

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
legislative	88	12	8	20	1227	13,94	,286	2,680
executive	88	15	5	20	1096	12,45	,301	2,820
judicial	88	11	7	18	1126	12,80	,273	2,560
hierarchical	88	12	8	20	1125	12,78	,248	2,327
monarchic	88	17	3	20	1128	12,82	,330	3,098
oligarchic	88	11	7	18	1099	12,49	,253	2,373
anarchic	88	10	8	18	1149	13,06	,236	2,215
global	88	11	9	20	1117	12,69	,241	2,261
local	88	13	7	20	1156	13,14	,299	2,801
liberal	88	11	9	20	1231	13,99	,264	2,480
conservative	88	11	8	19	1107	12,58	,260	2,439
internal	88	13	6	19	1075	12,22	,339	3,182
external	88	12	8	20	1172	13,32	,276	2,589
Valid N (listwise)	88							

Next, it was revealed that from the questionaire, the 13 types of thinking style were all perceived by the students with different numbers. The details are as following:

The result of students' thinking style found that frequency of legislative style was 13 students and the percentage was 13.94%. The frequency of executive style was 6 students and the percentage was 12.45%. The frequency of judicial style was 5 students and the percentage was 12.79%. The frequency of hierarchical style was 5 students and the percentage was 12.78%. The frequency of monarchic style was 9 students and the percentage was 12.81%. The frequency of oligarchic style was 7 students and the percentage was 12.48%. The frequency of anarchic style was 7 students and the percentage was 13.05%. The frequency of global style was 7 students and the percentage was 12.69%. The frequency of local style was 5 students and the percentage was 13.13%. The frequency of liberal style was 17 students and the percentage was 13.98%. The frequency of conservative style was 3 students and the percentage was 12.57%. The frequency of internal style was 2 students and the percentage was 12.21%. And the last for external style, the frequency of external style was 9 students and the percentage was 13.31% . The details are as following (See Appendix C)

Table 10

Distribution of Students' Thinking-Style

No	Thinking styles	Frequency	Percentage
1	Legislative Style	13	13.943%
2	Executive Style	6	12.454%
3	Judicial Style	5	12.795%
4	Hierarchical Style	5	12.784%
5	Monarchic Style	9	12.818%
6	Oligarchic Style	7	12.488%
7	Anarchic Style	7	13.058%
8	Global Style	7	12.693%
9	Local Style	5	13.136%
10	Liberal Style	17	13.988%

11	Conservative Style	3	12.579%
12	Internal Style	2	12.215%
13	External Style	9	13.318%
Total		**95**	**168,27%**

It can be seen from the table that the total number of thinking styles appeared was not the same as the total number of samples. Besides, the total percentage also showed more than 100%. This was due to the fact that there was a probability that one student had more than one thinking styles.

4.1.1.2. The Result of Students' Academic Achievement

The descriptive statistics analysis of academic for the participants is shown in Table 11. The maximum GPA is 3.86, and the lowest GPA is 2.80. The mean of the academic scores for the participants is 3.37. The standard deviation is 0.21. This mean score indicates that the level of academic achievement of participants is *good*. The details are following (See Appendix D).

Table 11

Descriptive Statistics of Students' Academic Achievement

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GPA	88	2,07	3,86	3,3606	,25292
Valid N (listwise)	88				

For each category, 19 students had very good academic achievement or cumlaude,63 students had good academic achievement,5 students had

average academicachievement,1 students had poor and none of them had very poor academic achievement. The distribution were presented in the following table (See Appendix E).

Table 12

Distribution of Students' Academic Achievement

No	Score Range	Category	Total	Percentage
1	3.51 – 4.00	Very Good/ Cum laude	19	21.59%
2	3.01 – 3.50	Good	63	71.59%
3	2.51 – 3.00	Average	5	7.35%
4	2.01 – 2.50	Poor	1	1.13%
5	0.00 – 2.00	Very Poor/ Fail	-	-
Total			88	100%

4.2 Statistical Analyses

There were four statistical analyses that the writer applied in this study:

1. The statistical analysis of normality and linearity
2. The statistical analysis of correlation analysis between each type of students' thinking style and their academic achievement.
3. The statistical analysis of enter regression analysis between students' thinking style and their academic achievement.
4. The statistical analysis of stepwise regression analysis between students' thinking-style and their academic achievement.

4.2.1. Normality Test and Linearity Test

Normality test and linearity test were conducted prior to data analysis through SPSS 21th version for windows.

4.2.1.1 The Result of Normality Test

The data are interpreted normal if p> 0.05 it means the data are normal. If p< 0.05, it means the data are not normal. Kolmogorov-smirnov was used to see the normality. The results of normality test shown in table 13 indicated that the data from each variable were all normal and appropriate for data analysis with coeficients. Table 13 described the results of normality test for all 13 thinking styles (see appendix F for details).

Table 13
Normality Test

Normality of Thinking Styles	Asymp. Sig. (2-tailed)
Legislative	0,156
Executive	0,101
Judicial	0,071
Hierarchical	0,152
Monarchic	0,78
Oligarchic	0,278
Anarchic	0,104
Global	0,131
Local	0,63
Liberal	0,69
Conservative	0,52
Internal	0,091
External	0,328

4.2.1.2 The Result of Linearity Test

For linearity test, deviation of linearity was obtained. If probability is more than 0.05 (p>0.05), the two variables are linear. The results showed that, the deviation from linearity between each type of thinking-style and academic achievement was found linear. Table 14 below showed the results of linearity test (see appendix G for the details).

Table 14

Linearity Test

Linearity of thinking styles	Sig.
Legislative	0,943
Executive	0,903
Judicial	0,253
Hierarchical	0.516
Monarchic	0,716
Oligarchic	0,759
Anarchic	0.197
Global	0,157
Local	0,587
Liberal	0,128
Conservative	0,919
Internal	0,594
External	0,999

4.2.2 Correlation between Students' Thinking-Style and Their Academic Achievement

After the data were all found normal and linear, further analysis to answer the first research problem, Pearson Product Moment Correlation Coeficient was applied. The first research problem was whether there is significant correlation between each type of thinking styles and academic achievement of undergraduate English Education Study Program students of UIN Raden Fatah Palembang. The

result showed that from 13 types of thinking style, there were 9 types of thinking style which had significant and possitive correlation to the students' academic achievement. Meanwhile, the other 4 thinking styles showed no significant correlation to the students' academic achievement.

First, the correlation coefficient or the *r*-obtained (.405) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .000. It means that *p* (.000) was lower than .05. Thus, there was a significant correlation between the students' *legislative thinking-style* and their academic achievement. Second, the correlation coefficient or the *r*-obtained (.254) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .017. It means that *p* (.017) was lower than .05. Therefore, there was a significant correlation between the students' *executive thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.280) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .008. It means that *p* (.008) was lower than .05. it means that, there was a significant correlation between the students' *judicial thinking-style* and their academic achievement.

Next, The correlation coefficient or the *r*-obtained (.546) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .000. It means that *p* (.000) was lower than .05. Thus, there was a significant correlation between the students' *hierarchical thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.301) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .004. It

means that *p* (.004) was lower than .05. which means, there was a significant correlation between the students' *monarchic thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.399) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .000. It means that *p* (.000) was lower than .05. Therefore, there was a significant correlation between the students' *oligarchic thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.505) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .000. It means that *p* (.000) was lower than .05. Thus, there was a significant correlation between the students' *anarchic thinking-style* and their academic achievement.

Next, the correlation coefficient or the *r*-obtained (.298) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .005. It means that *p* (.005) was lower than .05. It means that, there was a significant correlation between the students' *internal thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.353) was higher than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .001. It means that *p* (.001) was lower than .05. Therefore, there was a significant correlation between the students' *external thinking-style* and their academic achievement.

Next, the correlation coefficient or the *r*-obtained (.140) was less than *r*-table (.207). then the level of probability (*p)* significance (sig.2-tailed) was .194. It means that *p* (.194) was higher than .05. Thus, there was no significant correlation

between the students' *global thinking style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.206) was less than *r*-table (.209). and, the level of probability (*p)* significance (sig.2-tailed) was .054. It means that *p* (.054) was higher than .05. Therefore, there was no significant correlation between the students' *local thinking-style* and their academic achievement. Next, the correlation coefficient or the *r*-obtained (.165) was less than *r*-table (.209). and, the level of probability (*p)* significance (sig.2-tailed) was .124. It means that *p* (.124) was higher than .05. It means that, there was no significant correlation between the students' liberal thinking-style and their academic achievement. The last, the correlation coefficient or the *r*-obtained (.108) was less than *r*-table (.209). then the level of probability (*p)* significance (sig.2-tailed) was .316. It means that *p* (.316) was higher than .05. It can be concluded, there was no significant correlation between the students' *conservative thinking-style* and their academic achievement. (See Appendix H for details).

Table 15

The Correlation of Each Types of Thinking Styles with Academic Achievement

		Academic Achievement
Legislative Styles	Pearson Correlation	,405**
	Sig (2-tailed)	,000
	N	88
Excutive Styles	Pearson Correlation	,254**
	Sig (2-tailed)	,017
	N	88
Judicial Styles	Pearson Correlation	,280**
	Sig (2-tailed)	,008
	N	88
Hierarchical Styles	Pearson Correlation	,546**
	Sig (2-tailed)	,000
	N	88
Monarchic Styles	Pearson Correlation	,301**
	Sig (2-tailed)	,004
	N	88
Oligarchic Styles	Pearson Correlation	399**

	Sig (2-tailed)	,000
	N	88
Anarchic Styles	Pearson Correlation	,505**
	Sig (2-tailed)	,000
	N	88
Global Styles	Pearson Correlation	,140
	Sig (2-tailed)	,192
	N	88
Local Styles	Pearson Correlation	,206
	Sig (2-tailed)	,054
	N	88
Liberal Styles	Pearson Correlation	,165
	Sig (2-tailed)	,124
	N	88
Conservative Styles	Pearson Correlation	,108
	Sig (2-tailed)	,316
	N	88
Internal Styles	Pearson Correlation	,298**
	Sig (2-tailed)	,005
	N	88
External Styles	Pearson Correlation	,353**
	Sig (2-tailed)	,001
	N	88

4.2.3 Influence of Students Thinking-Style on Their Academic Achievement

This section answered the second research problemof the study. The second research problem was whether thinking style significantly influences the students' academic achievement. Based on Pearson Product Moment Correlation Coefficient, there wasa significant correlation between legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal, external students' thinking styles and the students'academic achievement. It means that H_0 is rejected and H_1 is accepted.

In addition, since there was a significant correlation between legislative, executive, hierarchical, judicial, monarchic, oligarchic, anarchic, internal, and external style with academic achievement, it was important to find out the influence of the nine thinking styles having significant correlation to the academic achievement. Therefore, enter regression analysis was still used to find out if the

nine thinking-style significantly influenced the students' academic achievement. (see Appendix I for the details)

Table 16
Regression Analysis of Thinking Styles and Academic Achievement

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,696[a]	,484	,424	,192

a. Predictors: (Constant), external, monarchic, anarchic, executive, internal, judicial, hierarchical, oligarchic, legislative

b. Dependent Variable: GPA

The result showed that R square (R^2) of nine thinking styles was (.484). It means that the nine thinking styles (legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal and external thinking styles) contributed to the students' academic achievement with 48.4% contribution.

4.2.4 Best Predictor of Thinking Styles on Their Academic Achievement

This section answered the third research problem of the study. The third research problem as to find out which thinking style was the best predictor for the academic achievement. The stepwise regression analysis was used to gain better understanding about contribution of legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal and external thinking styles to the students' academic achievement. The result showed that hierarchical thinking style become the best predictor among other types of thinking style with 29.8% contribution (see Appendix J for details).

Table 17

The Thinking Style becoming The Best Predictor among All Types

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,546[a]	,298	,290	,213
2	,629[b]	,396	,381	,199
3	,662[c]	,438	,418	,193

a. Predictors: (Constant), hierarchical

b. Predictors: (Constant), hierarchical, anarchic

c. Predictors: (Constant), hierarchical, anarchic, monarchic

d. Dependent Variable: GPA

4.3 Interpretation

This section presents the result of the data analysis. According to the findings, there was a significant correlation between 9 types of thinking style to students' academic achievement, namely: legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal, external thinking style and their academic achievement. Therefore, it means Ho is rejected and H_1 is accepted.

According to Table 15, the correlation coefficient between *legislative* thinking style and academic achievement was 0,405 and it was significant at 0,00l level. This result was consistent with Fatemi and Heidarie (2016) they states that there was positive and significant correlation between legislative thinking and academic achievement. According to Sternberg's theory of mental autonomy (1988, 1996, quoted by Zhang, 2004) people with legislative thinking enjoy the creative tasks. These learners prefer unorganized tasks in order to

organize them. Other tasks include writing short stories and innovative articles, composing poems, create the mathematical problems, and scientific projects (Seif, 2008). The students can solve the problem and this is useful for academic achievement.

As shown in Table 15, the correlation coefficient between *executive* thinking style and academic achievement was 0,254 it was significant at 0,017 level. This was consistent with findings of a study conducted by Bernardo (2002) Showed that there was a significant positive relationship between executive thinking style and academic achievement. People with this thinking style are pragmatics and can easily do their academic task. Moreover, the implementation of educational rules and regulations help students to improve their academic achievement. Since most of the academic tasks are teacher-oriented therefore, these students can obey the teacher and this results in their academic achievement.

As shown in Table 15, the correlation coefficient between *judicial* thinking style and academic achievement was 0,280 and it was significant at 0,008 level. This is consistent with findings of Bernardo et al. (2002). They believe that executive and judicial thinking styles positively correlated with academic achievement. Since these students are interested in analysis and evaluation, they can analyze their academic tasks and solve their problems. These students can pass the difficult tests relying on their deep understanding and analytical power. According to Ahmadi, et al (2014, p.76) judicial style is

the ability of the individual to like, to judge, and evaluate rules, ways, idea, and procedures.

As show in Table 15, the correlation coefficient between *hierarchical* thinking style and academic achievement was 0,546 and it was significant at 0,00 level. Fatemi and Heidarie (2016, p.1359) he found that there was significant relationship between hierarchical and academic achievement. The students with this thinking style prefer to concentrate on some prioritized tasks. Tendency for prioritization of the tasks shows the discipline in doing tasks and this is one of the reasons for success. Budijanto (2013,p. 28) discribes an individual with a hierarchical thinking styles prefers concerning his/her attention on tasks according of importance.

As show in Table 15, the correlation coefficient between *monarchic* thinking style and academic achievement 0,301 and it was significant at 0,004. This is consistent with the findings of Shokri (2006). He found there was weak sifgnificant relationship between the monarchic thinking and academic achievement, and based on Sternberg (1994, as cited in Seif, 2008), these students need to process the simple data. They cannot easily solve the problem but because they devide the data into smaller segments, can overcome their problems and take the acceptable marks. Students with this style like to do one thing at a time, and this thinker consistent in one thing or idealist person. Budijanto (2013, p.28) argues an individual with a monarchic thinking style enjoy being engaged in tasks that allow him/her to concern fully on one goal at time.

As shown in Table 15 the correlation coefficient between *oligarchic* thinking style and academic achievement was 0,399 and it was significant at 0,00 level. This is consistent with the findings of Fatemi and Heidarie (2016, p.1359) states there is a significant relationship between oligarchic and academic achievement and he claimed these students may be classified into simple or complex thinking styles. These student can do several simulteneous tasks without prioritizing them. They enjoy teamwork with potent people by which acquire new useful experiences and can obtain better marks and this is leads to their academic achievement. (Sternberg, 2006 ; Grigorenko & Sternberg, 1995). It can be conclude that oligarchic thinker likes to do many things at once, but has trouble setting priorities, and they enjoy teamwork with potent people by which they acquire new useful experiences and can obtain better marks and this lead to their academic achievement.

As show in Table 15, the correlation coefficient between *anarchic* thinking style and academic achievement was 0,50 and it was significant at 0,00 level. Fatemi and Heidarie (2016, p.1359) found that there was significant positive relationship between anarchic thinking style and academic achievement. Students with this style has ability to apply random method like write an essay in stream of consciousness form in conversations (Stephan, 2008). The students adapt themselves with the difficult task. They analyze the task and then solve it properly. Heidari and Bahrami (2012, p. 724) indicate that anarchic people prefer the tasks that can be accomplished flexibly. In short, anarchic thinker can be

imply as energic style in finding solution of problem and growing motivation to achieve their goals.

As shown in Table 15, there was relationship between *internal* style and academic achievement. The correlation coefficient betweeen internal thinking style and academic achievement was 0,29 and it was significant 0,005 level. The students with this thinking style prefer to do science studies on his or her own. (Fouladi&Shahidi2016, p. 1730) argue that this style tend to work alone, rely on their own world the followers of this style prefer to work individually; they are introvert and tend to be lonely.

As shown in Table 15, that there was relationship between *external* thinking style and academic achievement. The correlation coefficient betweeen external thinking style and academic achievement was 0,35 and it was significant at 0,001 level. The students with this thinking style prefers to do science, project, task with others members of a group. (Heidari, &Bahrami, 2012, p. 724) argue, followers of this method tend to work, interact and collaborate with others within the team, and they have a sense of social contact with others comfortably and easily

Beside that, it was found that there was no correlation between global thinking style and academic achievement. It was cause that person with global style likes deal with big picture, generalization, and abstraction (Ahmadi, 2014, p. 77). While academic performance needs spesific process, especially college subject. Furthermore, the process of college learning did not include having visual alot. That is cause students with global style hardly match with their thinking

style. This study was consistent with Fatemi and Heidarie (2016) who found no correlation between global thinking style and academic achievement.

In addition, there was no correlation between local thinking style and academic achievement. The explanation to support this finding that local thinking style like to deal with detail, spesific, and concrete example (Ahmadi, 2014, p. 77). Otherways, in academic especially the participants as language learner were not concrete with the style. Local style should be supported with the concrete thing like science and history. While language was about theory not about real things. That why local style cannot straight with academic performance with language learners. This finding was in line with Fatemi and Heidarie (2016) who found no correlation between local thinking style and academic achievement.

Further, liberal thinking style and academic achievement were not in relationship. It was caused that person with liberal thinking style like to do thing with new ways. This person prefers to figure out how to operate new equipment even if it is not the recommended way prefers open classroom setting (Ahmadi, 2014, p. 77). It means that this style show creativity, like something new, and easy to get bored when faced with the old thing. It was in contrast with the academic performance whereas the process of learning was not variative, the model of class setting did not support liberal style and this style easy to get bored in the class when everything walked not in his/her mind. This result was in line with Fatemi and Heidarie (2016) who found no correlation between liberal thinking style and academic achievement.

Last, conservative style and academic achievement were not straight. The explanation to support this finding that conservative style likes to do things in tried and true ways, follow conventions prefers to operate new equipment in traditional way; prefers traditional classroom setting (Ahmadi, 2014, p. 77). In fact, the learning system in university had walked with the modern system where technology included. Other ways this person with conservative style like doing something in traditional ways. In short this person did not match with the modern track such as the class model, the learning system, and hold in the traditional ways. This research had same finding with Fatemi and Heidarie (2016) who found no correlation between global thinking style and academic achievement.

Secondly, it was also found out that those nine types (legislative, executive, judicial, oligarchic, monarchic, anarchic, hierarchical, internal, external thinking style) gives 48.4% contibution to the students' academic achievement. At last, hierarchical was proven to be the best predictor among all thinking styles having significant correlation by giving 29.8% contribution to the students' academic achievement. Meanwhile, the other 18.6% were affected by the other 8 types of thinking style. It means that H_0 is rejected and H_1 is accepted.

Furtheremore, it might be because EFL students of English Education Study Program of UIN are aware of their thinking-style performance. They tried to push themselves to be social person, good motivation, believe on their capability brave in taking risk, positive attitude, obey rules, creative, having a new task, able to solve problem in their academic and work in a team or personally. Those activities involve in thinking style. Whereas, each of thinking style

contribute differently in students academic achievement. In line with Navan (2015, p. 1700), understanding various thinking styles helps people to adjust their thoughts with different thinking styles and simultaneously succeed in communications. Furthermore, Garcia (2010, p. 6) argues that thinking style plays a role in many important aspects of wellbeing and life success. It means that each activity in the academic achievement involve in students' thinking style.

The result of this present study is in agreement with the study conducted by Fatemi, and Heidarie (2016). It was found that there was significant correlation between thinking style and academic achievement. Meanwhile, when it measures each styles, not all of styles had correlation with academic achievement. Results showed that there is a significant relationship between the variables of legislative, executive, oligarchic, monarchic, anarchic, hierarchic, judiciary thinking styles and academic achievement. It was cause each styles of thinking has different contibution to academic achievement. Especially the seven styles above had suitable activities that support the academic achievement. Meanwhile the rest styles the contribution was not suited in academic performance.

In addition, Navan and shahitmadarie (2015) found the significant relationship between the dimension of fuction thinking style (legislative, executive, and judical) and academic achievement. The explanation to support this finding are people have different attributes, which are manifested in their abilities, talents, preferences and eventually their thinking styles. The people are led to the rights paths in their career and education by taking into account these differences. Different individual thinking styles should be identified earlier.It is supported by

Ojinejad, Masarmi, and Fani (2015, p. 319) explain that people with legislative style like do things with their way, executive thinking style such people tend to follow the rules and procedures in the execution of their tasks, and people with Judicial thinking style like role in the evaluation and judgment about things. As a result, many students can take advantage of their maximum potential and obtain high grades in their courses.

In short, there are nine (legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal, external) students' thinking styles to academic achievement showed significant correlation and gave contribution. The findings of the study may have some pedagogical implications for foreign language teachers, next researchers, students, and the writer herself.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

This chapter presents (1) conclusions, and (2) recommendations.

5.1. Conclusions

From the findings and interpretations in the previous chapter, some conclusions could be presented. First, all in all the nine (legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal, and external thinking style of the students had significant correlation to their academic achievement. Second, it can be concluded that the nine (legislative, executive, judicial, hierarchical, oligarchic, monarchic, anarchic, internal, external) thinking styles gave significant influence on students performance in academic. It was shown that student's thinking-style gave 48.4% contribution to their academic performance. Third, it also indicated that one type of those nine thinking styles became the best predictor which had essential contribution in determining the success of students' academic achievement, which was hierarchical thinking style with 29.8% contribution.

5.2. Recommendation

Based upon the result of this research, there are some recommendations given to some parties. First, it is recommended that the students are aware of their thinking styles, it is recommended especially for students. Since, they know thinking-style is important for themselves, they explore themselves in the certain

learning so that they can gain achievement from learning effectively. Second, these findings can imply that lecturers still need to know and understand their students' thinking-style. Due to this fact, since thinking-style contributed to the students achievement at English Education Study Program of UIN Raden Fatah Palembang, it is suggested that lecturer also should focus on their thinking style as a non-linguistic factor. Lecturers need to conduct material which relevant to students' thinking style. More importantly, realizing the advantages of thinking style theory and approaches lecture should still consider their existence in improving students' academic achievements. Besides, these findings can also have implications for material developer and guide them to create more suitable materials that covers with students' thinking style in designing course.

Finally, it is recommended that further research be conducted to consider whether teaching approach, teaching method, teaching strategy or teaching technique related to thinking style for students' academic achievement. Additionally, for future researchers who have interest in this subject, there are possibilities to correlate them with other variables since there are still many unexplained factors that can give contribution for students' academic achievement. Besides, since the writer's current study only involved small number of sample, it is recommended that future researchers also conduct a study with bigger number of sample.

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Appendix A

Informal Interview

Student 1

Writer	: I wanna ask you baout my informal interview, please answer honestly. What do you feel after pass the sixth semester?
Student 1	: i'm so happy.
Writer	: Do you satisfy with your GPA/IPK?
Student 1	: No.
Writer	: Why?
Student 1	: Because I got C.
Writer	: Do you think high GPA is important ?
Student 1	: Yes, of course very important for me to continue my study and to get better job.
Writer	: What is the factors that influence the Academic Achievement?
Student 1	: a .... (think hard)
Writer	: Do you know the concept of thinking style?
Student 1	: No

Student 2

Writer	: I wanna ask you baout my informal interview, please answer honestly
Student 2	: yes, sure.
Writer	: What do you feel after pass the sixth semester?
Student 2	: I feeling enjoying in my study program and I will improve my ability in this program.
Writer	: Do you satisfy with your academic achievement?
Student 2	: Yes, sure I feeling satisfy on my study program because the lecturer is professional and I like it.
Writer	: What is the factors that influence the Academic Achievement?
Student 2	: Probably our materials, our achievement from four skills like reading, speaking, writing, and than listening.
Writer	: Do you know the concept of thinking style?
Student 2	: It is just like learning style, aaa

Writer : Up to you

Student 2 : No, I don’t know

Student 3

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do you feel after pass the sixth semester?

Student 3 : I’m enjoy.

Writer : And than, do you satisfy with your academic achievement?

Student 3 : Not really good

Writer : Why?

Student 3 : Because, there are two or three subjects that I got C.

Writer : Do you think high GPA is really important to you?

Student 3 : No, because thats not/cannot measure, maybe they got high GPA but, dont understand the subject.

Writer : Do you know the concept of thinking style ?

Student 3 : No.

Writer : Thankyou

Student 4

Writer : I wanna ask you about my informal interview, and please answer honestly.

Student 4 : Ok.

Writer : The first question is, what do you feel after pass the sixth semester?

Student 4 : I’m very satisfy, because I also understand what my lecturer explain about their materials.

Writer : Do you satisfy with your academic achievement?

Student 4 : Not really.

Writer : Why?

Student 4 : Because I got C in some subject.

Writer : Do you think high GPA is really important to you?

Student 4 : Yes, of course it is really important to get the better job

Writer : Do you know the concept of thinking style?

Student 4 : Intelligence maybe, intelligence factor maybe.

Writer : Thankyou.

Student 5

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do yoe feel after pass the fifth semester?

Student 5 : I'm so very happy and I should prepare my seminar proposal.

Writer : Do you satisfy with your GPA ?

Student 5 : I got D in one subject.

Writer : So, you unsatisfy ?

Student 5 : Yes.

Writer : and then, do you think high IPK/GPA is really important?

Student 5 : yes.

Writer : What is the factors that influence the academic achievement?

Student 5 : There are many factors thinking style, learning style, emmotional and etc.

Writer : do you know about the concept of thinking style?

Student 5 : No.

Student 6

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do yoe feel after pass the fifth semester?

Student 6 : My feeling after pass the fifth semestter is great, excellent, and scary but, I happy.

Writer : Do you satisfy with your GPA ?

Student 6 : Really no

Writer : Do you know the concept of thinking style?

Student 6 : Exactly I don't know.

Writer : Thankyou.

Student 7

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do yoe feel after pass the fifth semester?

Student 7 : I'm feel so very happy.

Writer : Do you satisfy with your GPA ?

Student 7 : No.

Writer : Why?

Student 7 : It is, maybe, a..., sometime

Writer : you get low score in some subject?.

Student 7 : Yes,, (shy)

Writer : C or D?

Student 7 : C and D (laugh)

Writer : Do you think the high GPA is really important to you ?

Student 7 : Yes, that is very important to get better job

Writer : Do you know the concepr of thinking style?

Student 7 : No.

Student 8

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do yoe feel after pass the fifth semester?

Student 8 : I think I'm enjoy and I feel dizzy because some subject more difficult.

Writer : Do you satisfy with your GPA ?

Student 8 : No, because I got C in some subject

Writer : Why you get C?

Student 8 : In some subject I feel confuse, and I shy to ask the lecturer.

Writer : Do you know the concept of thinking style?

Student 8 : No.

Writer : thankyou.

Student 9

Writer : I wanna ask you about my informal interview, and please answer honestly. The first question is, what do yoe feel after pass the fifth semester?

Student 9 : I'm enjoy.

Writer : Do you satisfy with your GPA ?

Student 9 : No.

Writer : Why?

Student 9 : I got C and D in one subject.

Writer : What is the factors that influence the academic achievement?

Student 9 : There are a lot of part of factor such as: learning style, intelligence and etc.

Writer : Do you know the concept of thinking style?

Student 9 : No.

Appendix B
Questionnaire

Name:
NIM :
Class :

Thinking Styles Inventory—Revised II (TSI-R2)
Sternberg, R. J., Wagner, R. K., & Zhang, L. F., 2007

Instruction : To respond to this questionnaire, read each statement carefully and decide how well the statement fits the way that you typically do things at school, at home, or on a job. Give a cross (X) for scales that relevant to you. There are, of course, no right or wrong answers. Please read each statement and cross (X) one on the scale next to the statement that best indicates how well the statement describes you.

No	Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I prefer to deal with problems that require me to attend to a lot of details					
2	When talking or writing about ideas, I prefer to focus on one idea at a time.					
3	When starting a task, I like to brainstorm ideas with friends or peers.					
4	I like to set priorities for the things I need to do before I start doing them.					
5	When faced with a problem, I use my own ideas and strategies to solve it.					
6	In discussing or writing on a topic, I think that the details and facts are more important than the overall picture.					
7	I tend to pay little attention to details.					
8	I like to figure out how to solve a problem following certain rules.					
9	I like to control all phases of a project, without having to consult with others.					
10	I like to play with my ideas and see how far they go.					
11	I am careful to use the proper method to solve any problem.					
12	I enjoy working on things that I can do by following directions.					
13	I stick to standard rules or ways of doing things.					

14	I like problems where I can try my own way of solving them.					
15	When trying to make a decision, I rely on my own judgment of the situation.					
16	I can switch from one task to another easily, because all tasks seem to me to be equally important.					
17	In a discussion or report, I like to combine my own ideas with those of others.					
18	I care more about the general effect than about the details of a task I have to do.					
19	When working on a task, I can see how the parts relate to the overall goal of the task.					
20	I like situations where I can compare and rate different ways of doing things.					
21	When working on a project, I tend to do all sorts of tasks regardless of their degree of relevance to the project undertaken.					
22	When I'm in charge of something, I like to follow methods and ideas used in the past.					
23	I like to check and rate opposing points of view or conflicting ideas.					
24	I prefer to work on projects that allow me to put in a lot of detailed facts.					
25	In dealing with difficulties, I have a good sense of how important each of them is and in what order to tackle them.					
26	I like situations where I can follow a set routine.					
27	When discussing or writing about a topic, I stick to the points of view accepted by my colleagues.					
28	I like tasks and problems that have fixed rules to follow in order to complete them.					
29	I prefer to work on a project or task that is acceptable to and approved by my peers.					
30	When there are several important things to do, I do those most important to me and to my colleagues.					
31	I like projects that have a clear structure and a set plan and goal.					
32	When working on a task, I like to start with my own ideas.					

33	When there are many things to do, I have a clear sense of the order in which to do them.					
34	I like to participate in activities where I can interact with others as a part of a team.					
35	I tend to tackle several problems at the same time because they are often equally urgent.					
36	When faced with a problem, I like to solve it in a traditional way.					
37	I like to work alone on a task or a problem.					
38	I tend to emphasize the general aspect of issues or the overall effect of a project.					
39	I like to follow definite rules or directions when solving a problem or doing a task.					
40	I tend to give equal attention to all of the tasks I am involved in.					
41	When working on a project, I like to share ideas and get input from other people.					
42	I like projects where I can study and rate different views or ideas.					
43	I tend to give full attention to one thing at a time.					
44	I like problems where I need to pay attention to details.					
45	I like to challenge old ideas or ways of doing things and to seek better ones.					
46	I like situations where I interact with others and everyone works together.					
47	I find that when I am engaged in one problem, another comes along that is just as important.					
48	I like working on projects that deal with general issues and not with nitty-gritty details.					
49	I like situations where I can use my own ideas and ways of doing things.					
50	If there are several important things to do, I focus on the one most important to me and disregard the rest.					
51	I prefer tasks or problems where I can grade the designs or methods of others.					

52	When there are several important things to do, I pick the ones most important to my friends and colleagues.					
53	When faced with a problem, I prefer to try new strategies or methods to solve it.					
54	I like to concentrate on one task at a time.					
55	I like projects that I can complete independently.					
56	When starting something, I like to make a list of things to do and to order the things by importance.					
57	I enjoy work that involves analyzing, grading, or comparing things.					
58	I like to do things in new ways not used by others in the past.					
59	When I start a task or project, I focus on the parts most relevant to my peer group.					
60	I have to finish one project before starting another one.					
61	In talking or writing down ideas, I like to show the scope and context of my ideas, that is, the general picture.					
62	I pay more attention to parts of a task than to its overall effect or significance.					
63	I prefer situations where I can carry out my own ideas, without relying on others.					
64	I like to change routines in order to improve the way tasks are done.					
65	I like to take old problems and find new methods to solve them.					

Thinking Styles Inventory—Revised II (TSI-R2)
Sternberg, R. J., Wagner, R. K., & Zhang, L. F., 2007

Petunjuk :Untuk menjawab Angket / pertanyaan ini, bacalah setiap pernyataan dengan hati-hati dan Isilah pernyataan sesuai dengan kebiasaan anda, baik yang biasa anda lakukan di sekolah, di rumah, atau pada saat melaksanakan tugas. Berilah tanda silang (X) untuk pernyataan yang sesuai dengan Anda. Disana ,terdapat jawaban Tentu, tidak ada benar atau salah. Bacalah setiap pernyataan dan lingkarilah setiap nomor pada skala sebelah pernyataan yang paling menunjukkan seberapa baik pernyataan tersebut menggambarkan Anda.

No	Pernyataan	Sangat tidak setuju	Tidak setuju	Biasa saja	Setuju	Sangat setuju
1	Saya memilih untuk menyelesaikan masalah yang mengharuskan saya secara terperinci					
2	Ketika berbicara atau menulis ide-ide, saya lebih memilih untuk fokus pada satu ide saja					
3	Ketika memulai tugas, saya suka mengungkapkan pendapat dengan teman-teman saya atau rekan sebaya					
4	Saya suka memprioritaskan hal-hal yang harus saya lakukan sebelum saya mulai melakukannya.					
5	Ketika dihadapkan dengan masalah, saya menggunakan ide-ide dan strategi saya sendiri untuk menyelesaikannya.					
6	Dalam diskusi atau menulis sebuah topik, saya berpikir jika d rincihan dan fakta lebih penting dari keseluruhannya.					
7	Saya kurang perhatian dengan hal hal kecil					
8	Saya suka mengetahui bagaimana cara menyelesaikan sebuah masalah dengan mengikuti peraturan yang sebenarnya					
9	Saya suka mengambil alih penuh suatu pekerjaan, tanpa berkonsultasi dengan orang lain					
10	Saya suka bermain dengan ide saya dan melihat sejauh mana hasilnya.					
11	Saya berhati hati dalam menggunakan metode yang tepat untuk memecahkan masalah lainnya.					
12	Saya menikmati suatu pekerjaaan yang bisa saya					

	lakukan dengan arahan langsung					
13	Saya bepegang teguh kepada standar peraturan atau cara melakukan sesuatu					
14	Saya suka masalah dimana saya bisa mencoba cara saya sendiri dalam menyelesaikannya					
15	Ketika mencoba membuat suatu keputusan tertentu, saya lebih percaya pada penilaian saya sendiri					
16	Saya bisa beralih dari satu tugas ke tugas yang lebih mudah lainnya, karena semua tugas terlihat sama pentingnya bagi saya					
17	Di dalam berdiskusi atau laporan, saya suka menggabungkan ide saya dengan yang lainnya					
18	Saya lebih perduli terhadap dampak yang lebih besar dari pada hal hal kecil dari tugas yang harus saya lakukan					
19	Ketika mengerjakan tugas, saya dapat melihat bagian mana yang berfungsi secara relevan dalam tugas					
20	Saya suka situasi dimana saya bisa membandingkan dan menilai dengan cara yang berbeda dalam melakukan sesuatu					
21	Ketika melakukan suatu pekerjaan saya cenderung melakukan segala macam tugas, terlepas dari tingkatan relevansi yg saya ambil					
22	Ketika saya melakukan sesuatu, saya suka mengikuti metode dan ide ide yang biasa saya lakukan sebelumnya					
23	Saya suka memeriksa dan menentang suatu sudut pandang atau ide yang berlawanan dengan saya.					
24	Saya lebih memilih melakukan hal hal yang mengharuskan saya masuk ke dalam fakta yang sesungguhnya.					
25	Dalam mengatasi kesulitan saya punya ide cemerlang yaitubagaimana masalah tersebut bisa diatasi					
26	Saya suka situasi dimana saya bisa mengikuti beberapa rangkaian.					
27	Ketika berdiskusi atau menulis tentang sebuah topik, saya konsisten pada suatu sudut pandang yang diterima oleh teman saya.					
28	Saya suka tugas dan masalah yang megharuskan					

	diselesaiakn dengan cara mengikuti aturan yang ada.					
29	Saya lebih memilih melakukan hal hal tertentu atau tugas yang dapat diterima dan disukai oleh rekan rekan saya					
30	Ketika ada beberapa pekerjaan penting yang harus dilakukan, saya melakukan hal yang paling penting terlebih dahulu untuk saya dan teman teman saya.					
31	Saya suka pekerjaan yang memiliki struktur yang jelas dan sebuah rencana dan tujuan.					
32	Ketika mengerjakan sebuah tugas, saya suka memulainya dengan ide ide saya.					
33	Ketika banyak hal yang harus dilakukan, say melakukannya dari urutan yang paling jelas.					
34	Saya suka berpartisipasi di dalam sebuah aktifitas dimana saya dapat berinteraksi dengan rekan lain sebagai tim.					
35	Saya cenderung menyelesaikan masalah yang mendesak secara bersamaan.					
36	Ketika behadapan dengan masalah, saya suka menyelesaikannya dengan cara yang alami/ cara tradisional/cara lama.					
37	Saya suka bekerja sendiri dlm sebuah tugas/masalah					
38	Saya tertekan terhadap banyak masalah yang ada atau terlalu banyak pekerjaan					
39	Saya suka mengikuti peraturan yang ada atau petunjuk ketika menyelesaikan masalah atau melakukan sebuah tugas					
40	saya cenderung memberikan perhatian yang sama kepada semua tugas yang saya kerjakan.					
41	Ketika bekerja pada suatu pekerjaan, saya suka berbagi ide dan menerima masukan dari org lain					
42	Saya suka hal yang bisa saya pelajari dan melihat perbedaan atau rencana.					
43	Saya cenderung memberi perhatian penuh pada suatu hal					
44	Saya suka masalah yang mengharuskan saya memberikan perhatian yang lebih					
45	Saya suka ide ide lama yang menantang atau cara untuk melakukan sesuatu dan mencari satu yang lebih baik.					

46	Saya suka situasi dimana saya bisa berinteraksi dengan yang lain dan bekerja sama dengan mereka.					
47	Saya merasa ketika saya terlibat pada suatu masalah , yang lainnya datang dengan kepentingan lainnya					
48	Saya suka dlm pekerjaan yang berkaitan dengan isu' umum dan bukan hal' yang dasar.					
49	Saya menyukai situasi dimana saya bisa menggunakan ide ide saya dan menerapkannya					
50	Jika ada beberapa hal penting yang harus dilakukan, saya akan berfokus pada satu orang yang penting bagi saya dan mengabaikan yang lainnya					
51	Saya lebih memilih tugas atau masalah yang bisa meningkatkan desain atau metode lainnya					
52	Ketika ada beberapa hal penting yang harus dilakukan, saya memilih orang orang penting untuk menjadi teman dan rekan rekan saya					
53	Ketika berhadapan dengan masalah, saya mencoba melakukan beberapa strategi dan metode untuk menyelesaikannya					
54	Saya suka berkonsentrasi untuk mengerjakan tugas					
55	Saya menyukai pekerjaan yang bisa saya kerjakan sendiri					
56	Ketika memulai sesuatu, saya mencoba membuat sebuah daftar yang harus saya lakukan dan melakukannya dari hal yang terpenting					
57	Saya menikmati pekerjaan yang melibatkan analisis, penilaian atau perbandingan di dalamnya (membandingkan suatu hal)					
58	Saya suka melakukan sesuatu dengan cara yang baru yang tidak dilakukan orang lain sebelumnya					
59	Ketika saya memulai tugas atau pekerjaan, saya fokus pada bagian yang sejalan dengan kelompok saya					
60	Saya harus menyelesaikan suatu pekerjaan sebelum memulai pekerjaan lainnya					
61	Dalam berbicara atau menulis sebuah ide, saya suka menunjukan bidang dan kontekx dari ide					

	saya dengan gamabaran secra umum					
62	Saya lebih memperhatikan bagian bagian dari tugas di bandingkan dengan dampak keseluruhannya atau maknanya					
63	Saya lebih suka keadaan dimana saya bisa mengeluarkan ide saya sendiri tanpa harus mempercayai orang lain					
64	Saya ingin mengubah kebiaaan saya untuk meningkatkan cara menyelesaikan tugas yang telah dilakukan.					
65	Saya suka membahas masalah yang lalu dan menemukan cara baru untuk menyelesaikannya					

APPENDIX C

Thinking Style Questionnaires' score

No	Name	Thinking styles													Dominant style	Total Score
		1 Legislative	2 Executive	3 Judicial	4 Hierarchical	5 Monarchic	6 Oligarchic	7 Anarchic	8 Global	9 Local	10 Liberal	11 Conservative	12 Internal	13 External		
1	Ahmad Syaifin Nuha	18	14	10	15	15	15	14	13	15	11	15	15	14	Legislative	184
2	Dedi Irawan	14	14	14	15	20	13	13	16	14	12	13	12	15	Monarchic	185
3	Agy Augiono	14	14	14	15	20	13	13	16	14	12	13	12	15	Legislative	139
4	Achmad Renaldi	11	7	10	11	13	11	10	10	8	11	10	9	9	Monarchic	130
5	Abu Madian	12	11	14	12	11	9	8	12	7	11	8	7	11	Judicial	133
6	Desi Ayuria	10	13	13	15	10	15	12	12	11	12	10	7	11	Hierarchical, oligarchic	151
7	Desi Anggreni	10	13	14	13	6	7	12	13	11	13	12	10	11	Judicial	145
8	Dhenok Suryati	14	10	13	12	12	10	16	13	10	14	11	11	11	Anarchic	157
9	Dhifa Whitarza	14	14	12	12	15	15	12	12	12	15	17	12	14	Conservative	176
10	Aulia Almira	12	11	12	14	12	11	12	15	7	15	10	10	10	Global, liberal	151
11	Andini	10	7	9	10	10	12	14	10	13	14	9	9	10	Anarchic	136
12	Bella Agustina	10	5	9	10	9	10	13	15	10	12	10	13	8	Global	134
13	Disty Putri Utami	12	14	15	14	7	8	16	15	14	18	12	10	9	Liberal	164
14	Arnilawati	9	9	8	12	9	8	10	11	10	13	10	7	10	Liberal	126
15	Anggi Mada Leka	12	12	13	12	12	11	13	12	12	14	10	6	14	Libral, external	153

16	Desmy Logsi	13	12	13	13	7	11	10	11	11	14	10	9	10	Liberal, external	148
17	Devi Mira Mareta	12	11	12	12	9	11	13	12	11	12	12	9	12	Anarchic	148
18	Al-Musadad	10	19	16	14	8	17	12	11	12	10	11	8	20	External	168
19	Dede Kuniawan	9	13	9	8	11	13	12	9	9	9	16	6	11	Conservative	135
20	Almirah	14	16	14	16	13	11	11	10	11	10	8	7	17	External	148
21	Abdul Aziz	19	20	15	15	13	11	13	13	10	10	17	15	14	Executive	185
22	Bayu	15	12	15	20	12	10	14	14	14	15	11	10	15	Hierarchical	171
23	Aren Dwi Yolanda	18	15	9	12	13	9	10	13	14	14	12	7	15	Legislative	161
24	Atikah Asrul M	10	8	8	12	13	9	14	11	10	15	10	8	10	Liberal	138
25	Fania Elma Zakianisa	16	9	11	10	12	13	12	20	10	11	12	18	12	Global	166
26	Eka Barahma Putri	19	15	17	16	12	14	14	13	18	15	13	17	11	Legislative	194
27	Luluk Alfia Syahara	14	12	14	14	8	12	13	13	15	18	17	14	17	Liberal	181
28	Windi Sufia	18	12	15	15	12	13	14	13	14	17	17	14	19	Extrnal	190
29	Iski Vitaloka	14	8	11	13	13	15	14	12	13	15	15	14	14	Oligarchic	171
30	Feni Harianti	8	9	9	10	11	14	13	11	10	13	14	12	16	External	150
31	Emilia Permatasari	13	12	13	10	14	15	14	12	12	10	11	11	12	Oligarchic	160
32	Indra Jaya Purnama	14	14	14	12	20	13	14	15	14	12	12	11	15	Monarchic	180
33	Fawwaz Taqy	17	14	16	15	20	16	16	14	17	18	15	16	13	Monarchic	207
34	m. Maghfur Akbar	13	16	15	10	16	15	16	15	15	15	13	13	10	Executive, monarchic, anarchic	182

35	Jaya Sriyana	15	10	13	9	14	15	14	11	14	16	13	11	14	Liberal	169
36	Indah Marwiyah	12	14	12	13	14	15	14	10	13	13	12	8	14	Oligarchic	164
37	Erisa Eriani	18	15	14	12	14	15	13	11	17	13	9	14	10	Legislative	175
38	Indah Sari Ramadhani	17	14	13	15	12	13	14	14	13	16	15	14	18	Legislative	175
39	Ikrar Hesa D	15	12	13	15	12	13	14	13	13	13	11	14	13	External	184
40	Haniah Maharani	5	10	10	16	10	12	14	10	13	11	12	14	14	Hierarchical	161
41	Indah Deyana Lestari	18	15	15	15	16	15	15	14	18	17	15	10	15	Legislative, local	199
42	Fitria Rahma Dona	13	10	11	12	11	11	14	11	10	13	12	15	10	Anarchic	153
43	Pegi Melati	12	17	11	12	12	12	14	14	10	11	11	12	13	Executive	161
44	Riana Amalia	13	14	12	12	15	12	10	14	12	13	13	13	10	Monarchic	165
45	Rendo Alesta Pratama	17	13	17	15	12	16	18	15	16	19	13	17	15	Liberal	203
46	Rizki	16	17	10	12	20	13	10	13	9	10	11	19	10	Monarchic	160
47	Putri Erwani	11	10	10	10	13	10	11	10	10	13	11	9	13	Monarchic, liberal	141
48	Nur Habibah	15	13	15	13	14	14	14	12	18	13	14	13	10	Local	178
49	Rani Septi Saprianti	16	17	17	16	16	18	16	18	19	20	19	15	17	Libral	224
50	Mida Masita	12	12	16	15	11	10	14	11	10	13	15	10	10	Judicial	159
51	Rinda Ismadela	14	13	16	14	14	14	13	14	14	15	15	10	14	Judicial	180
52	Nurul Atifah	15	14	14	13	14	15	13	13	20	14	13	15	15	Local	188
53	Nurjannah	13	9	15	12	12	13	10	11	15	14	10	6	14	Judicial	154
54	Ni'matul Ajriah	14	11	13	10	9	12	18	9	17	18	12	13	15	Anarchic, liberal	171
55	Mira Oktasari	12	17	14	14	14	14	13	10	14	17	15	15	18	External	187
56	Rizki Apriani	14	14	15	16	14	14	18	13	15	15	13	14	20	External	195

57	Rika Damayanti	18	12	17	16	17	16	17	12	19	19	14	15	15	Local, liberal	207
58	Rizki Indriyani	16	10	12	8	10	8	8	14	12	15	14	12	13	Legislative	152
59	Morli Fitriyani	18	7	14	12	15	13	14	16	16	17	19	14	15	Conservative	190
60	Rana Tania Putri	12	14	10	15	14	13	14	9	12	14	12	14	14	Hierarchical	167
61	Novarida	17	17	15	15	14	15	12	11	16	13	15	12	12	Legislative, executive	184
62	Restu Amaliah	14	11	14	13	15	17	12	13	14	15	14	7	19	External	178
63	Miratul Qori'ah	17	14	13	13	20	11	11	10	18	9	8	17	14	Monarchic	175
64	Nisa Nurjam	12	8	10	9	11	10	10	10	14	13	13	9	10	Local	139
65	Tasiana	16	10	11	14	12	10	10	12	14	12	9	14	14	Legislative	158
66	Roy Mardiansyah	14	10	15	15	13	12	14	13	11	16	12	13	14	Liberal	172
67	Widiyah Napikasari	16	15	10	10	15	15	12	17	16	16	13	13	14	Global	182
68	Sheila Marliani	15	15	13	12	14	14	13	13	14	15	14	12	14	Legislative, executive	178
69	Siti Fatimah	15	16	15	15	11	10	13	18	12	13	17	16	13	Global	184
70	Utami Cahyani	8	10	10	8	13	13	10	10	11	15	12	10	12	Liberal	142
71	Rizki Minar	15	15	18	15	13	12	15	17	17	16	15	12	15	Hierarchical	195
72	Yuli Melantika	11	17	13	14	14	14	14	12	12	15	14	15	14	Excecutive	179
73	Resi Cilia Riana	13	12	7	11	12	11	16	12	14	12	13	10	12	Anarchic	155
74	Tria Septi Damayanti	16	11	12	15	16	15	13	14	16	17	11	13	13	Liberal	182

75	Septa Rosalina	14	12	15	10	15	13	12	16	12	14	13	16	12	Global	174
76	Silvi Yani	13	13	12	10	13	12	12	13	12	16	13	13	12	Liberal	164
77	Uci Fitriyani	11	13	11	12	14	15	15	11	12	11	10	10	14	Oligarchic, anarchic	159
78	Yeyen Andesta	16	12	12	13	15	9	16	13	16	17	12	18	15	Liberal	184
79	Santi	12	15	11	12	10	13	15	12	13	15	14	12	17	External	171
80	Silvizah	15	12	12	12	11	11	11	11	13	16	15	14	12	Liberal	165
81	Sari Diantini	20	13	18	18	13	14	16	18	13	18	18	17	17	Legislative	213
82	Rizkie Nauly Audina	12	13	11	10	13	9	13	14	11	12	10	14	13	Global	155
83	Wulan Mayangsari	16	15	15	14	14	13	16	15	14	17	14	19	14	Internal	196
84	Selvi Yanti	10	10	13	10	12	9	8	11	16	14	11	12	11	Local	147
85	Sausan	15	14	16	13	18	14	13	10	14	11	11	13	12	Oligarchic	174
86	Syafiq Muntashir	14	12	9	9	8	10	10	13	10	13	11	12	10	Legislative	141
87	Syarifatul Aini	16	12	12	13	17	13	13	13	16	14	10	17	14	Oligarchic, internal	180
88	Suci Ulin	14	12	14	12	13	10	12	13	12	16	13	12	14	Liberal	167

PERCENTAGE

No	Thinking Style	Number of students	Percentage
1	Legislative Style	13	14.77%
2	Executive Style	6	6.81%
3	Judicial Style	5	5.68%
4	Hierarchical Style	5	5.68%
5	Monarchic Style	9	10.22%
6	Oligarchic Style	7	7.95%
7	Anarchic Style	7	7.95%
8	Global Style	7	7.95%
9	Local Style	5	5.68%
10	Liberal Style	17	19.31%
11	Conservative Style	3	3.40%
12	Internal Style	2	2.27%
13	External Style	9	10.22%
Total		**95**	**168,27%**

Appendix D

Descriptive Statistic of Thinking Style and Academic Achievement

1. Descriptive statistic ofthinking style

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
legislative	88	8	20	13,94	2,680
executive	88	5	20	12,45	2,820
judicial	88	7	18	12,80	2,560
hierarchical	88	8	20	12,78	2,327
monarchic	88	3	20	12,82	3,098
oligarchic	88	7	18	12,49	2,373
anarchic	88	8	18	13,06	2,215
global	88	9	20	12,69	2,261
local	88	7	20	13,14	2,801
liberal	88	9	20	13,99	2,480
conservative	88	8	19	12,58	2,439
internal	88	6	19	12,22	3,182
external	88	8	20	13,32	2,589
Valid N (listwise)	88				

2. Descriptive statistic of GPA

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
GPA	88	2	4	3,36	,253
Valid N (listwise)	88				

Appendix E

GPA Categorization

No	Name	GPA	Category
1	Ahmad Syaifin Nuha	3.55	Cumlaude
2	Dedi Irawan	3.59	Cumlaude
3	Agy Augiano	3.45	Good
4	Achmad Renaldi	3.17	Good
5	Abu Madian	3.48	Good
6	Desi Ayuria	3.41	Good
7	Desi Anggreni	3.31	Good
8	Dhenok Suryati	3.43	Good
9	Dhifa Whitarza	3.53	Cumlaude
10	Aulia Almira	3.42	Good
11	Andini	3.07	Good
12	Bella Agustina	3.31	Good
13	Disty Putri Utami	3.28	Good
14	Arnilawati	3.00	Good
15	Anggi Mada Leka	3.29	Good
16	Desmy Logsi	3.48	Good
17	Devi Mira Mareta	3.28	Good
18	Al-Musadad	3.40	Good
19	Dede Kuniawan	3.02	Good
20	Almirah	3.36	Good
21	Abdul Aziz	3.35	Good
22	Bayu	3.45	Good
23	Aren Dwi Yolanda	3.27	Good
24	Atikah Asrul M	3.34	Good
25	Fania Elma Zakianisa	3.33	Good
26	Eka Barahma Putri	3.69	Cumlaude
27	Luluk Alfia Syahara	3.33	Good

28	Windi Sufia	3.51	Cumlaude
29	Iski Vitaloka	3.32	Good
30	Feni Harianti	3.43	Good
31	Emilia Permatasari	3.42	Good

32	Indra Jaya Purnama	3.43	Good
33	Fawwaz Taqy	3.73	Cumlaude
34	m. Maghfur Akbar	3.50	Good
35	Jaya Sriyana	3.38	Good
36	Indah Marwiyah	3.42	Good
37	Erisa Eriani	3.53	Cumlaude
38	Indah Sari Ramadhani	3.35	Good
39	Ikrar Hesa D	3.67	Cumlaude
40	Haniah Maharani	3.58	Cumlaude
41	Indah Deyana Lestari	3.70	Cumlaude
42	Fitria Rahma Dona	3.40	Good
43	Pegi Melati	3.50	Good
44	Riana Amalia	3.42	Good
45	Rendo Alesta Pratama	3.72	Cumlaude
46	Rizki	3.41	Good
47	Putri Erwani	3.42	Good
48	Nur Habibah	3.36	Good
49	Rani Septi Saprianti	3.69	Cumlaude
50	Mida Masita	2.80	Average
51	Rinda Ismadela	3.22	Good
52	Nurul Atifah	3.31	Good
53	Nurjannah	3.29	Good
54	Ni'matul Ajriah	3.11	Good
55	Mira Oktasari	3.42	Good
56	Rizki Apriani	3.73	Cumlaude

57	Rika Damayanti	3.86	Cumlaude
58	Rizki Indriyani	2.86	Average
59	Morli Fitriyani	3.32	Good
60	Rana Tania Putri	3.56	Cumlaude
61	Novarida	3.50	Good
62	Restu Amaliah	3.40	Good
63	Miratul Qori'ah	3.40	Good
64	Nisa Nurjam	3.15	Good
65	Tasiana	3.39	Good
66	Roy Mardiansyah	3.47	Good
67	Widiyah Napikasari	2.81	Average

68	Sheila Marliani	3.14	Good
69	Siti Fatimah	3.32	Good
70	Utami Cahyani	2.96	Average
71	Rizki Minar	3.14	Good
72	Yuli Melantika	3.37	Good
73	Resi Cilia Riana	3.45	Good
74	Tria Septi Damayanti	3.47	Good
75	Septa Rosalina	3.05	Good
76	Silvi Yani	3.05	Good
77	Uci Fitriyani	3.30	Good
78	Yeyen Andesta	3.54	Cumlaude
79	Santi	3.47	Good
80	Silvizah	3.26	Good
81	Sari Diantini	3.62	Cumlaude
82	Rizkie Nauly Audina	3.41	Good
83	Wulan Mayangsari	3.60	Cumlaude
84	Selvi Yanti	2.07	Poor
85	Sausan	3.48	Good

86	Syafiq Muntashir	2.86	Average
87	Syarifatul Aini	3.60	Cumlaude
88	Suci Ulin	3.48	Good

Percentage

No	Score Range	Category	Number of students	Percentage
1	3.51 – 4.00	Very Good/ Cum laude	1,2,9,26,28,33,37,40,41,42,46,50,57,58,61, 79,82,84,88	21.59
2	3.01 – 3.50	Good	3,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20 ,21,22,23,24,25,27,29,30,31,32,34,35,36 ,38,42,43,44,46,47,48,51,52,53,54,55 ,59,61,62,63,64,65,66,68,69,71 72,73,74,75,76,77,79,80,82,85,88	71.59
3	2.51 – 3.00	Average	50,58,67,70,86	5.68
4	2.01 – 2.50	Poor	84	1.13
5	0.00 – 2.00	Very Poor/ Fail	-	-

Appendix F

Normality Test and QQ plots

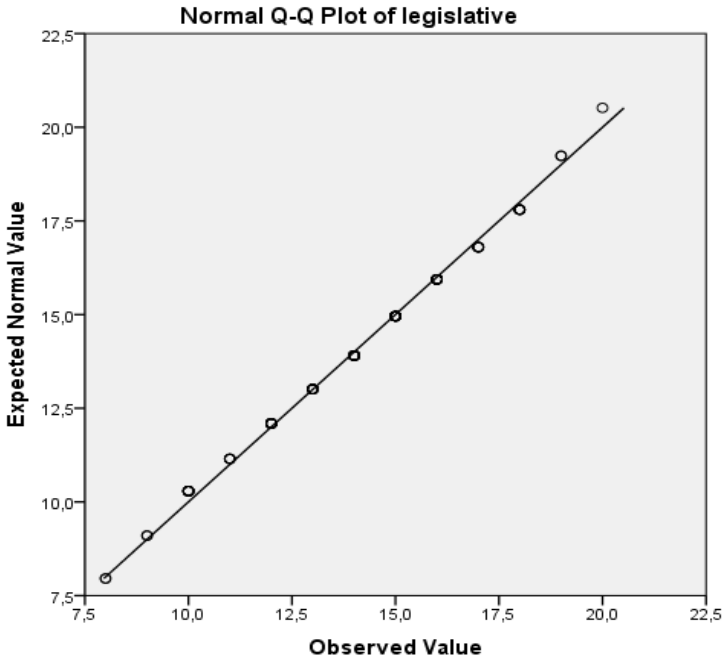
1. Legislative

One-Sample Kolmogorov-Smirnov Test

		Legislative
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,23128728
Most Extreme Differences	Absolute	,120
	Positive	,084
	Negative	-,120
Kolmogorov-Smirnov Z		1,130
Asymp. Sig. (2-tailed)		,156

a. Test distribution is Normal.

b. Calculated from data.



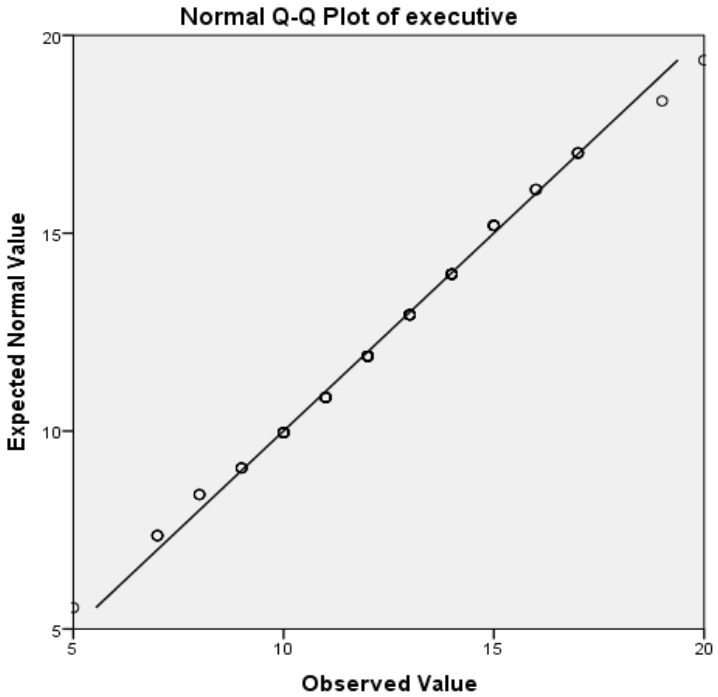
2. Executive

One-Sample Kolmogorov-Smirnov Test

		Executive
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24462307
Most Extreme Differences	Absolute	,130
	Positive	,089
	Negative	-,130
Kolmogorov-Smirnov Z		1,223
Asymp. Sig. (2-tailed)		,101

a. Test distribution is Normal.

b. Calculated from data.



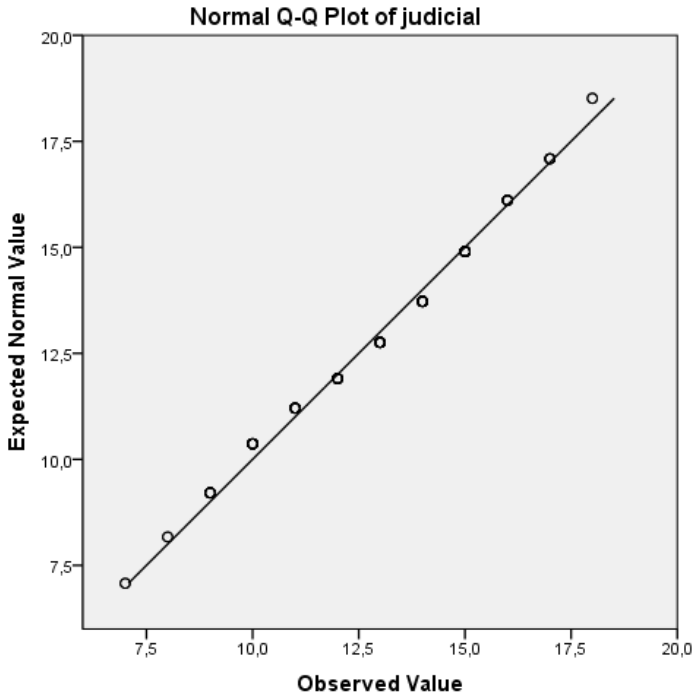
3. Judicial

One-Sample Kolmogorov-Smirnov Test

		Judicial
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24284010
Most Extreme Differences	Absolute	,138
	Positive	,091
	Negative	-,138
Kolmogorov-Smirnov Z		1,292
Asymp. Sig. (2-tailed)		,071

a. Test distribution is Normal.

b. Calculated from data.



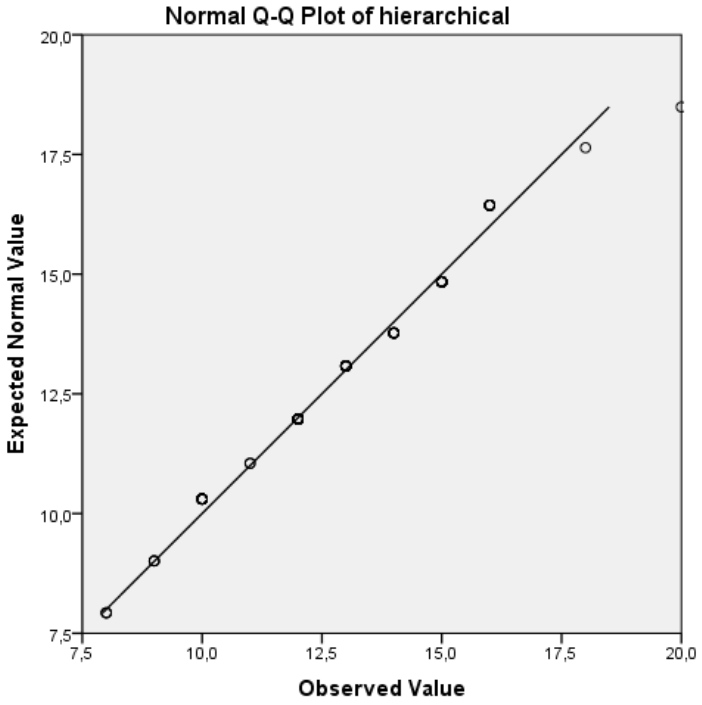
4. Hierarchical

One-Sample Kolmogorov-Smirnov Test

		Hierarchical
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,21189926
Most Extreme Differences	Absolute	,121
	Positive	,102
	Negative	-,121
Kolmogorov-Smirnov Z		1,136
Asymp. Sig. (2-tailed)		,152

a. Test distribution is Normal.

b. Calculated from data.



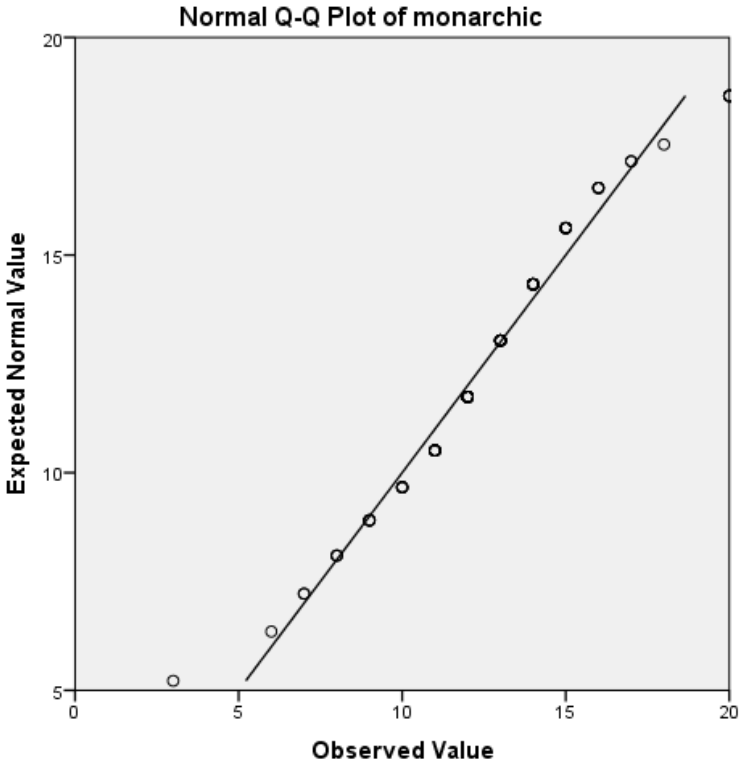
5. Monarchic

One-Sample Kolmogorov-Smirnov Test

		Monarchic
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24118490
Most Extreme Differences	Absolute	,136
	Positive	,082
	Negative	-,136
Kolmogorov-Smirnov Z		1,273
Asymp. Sig. (2-tailed)		,078

a. Test distribution is Normal.

b. Calculated from data.



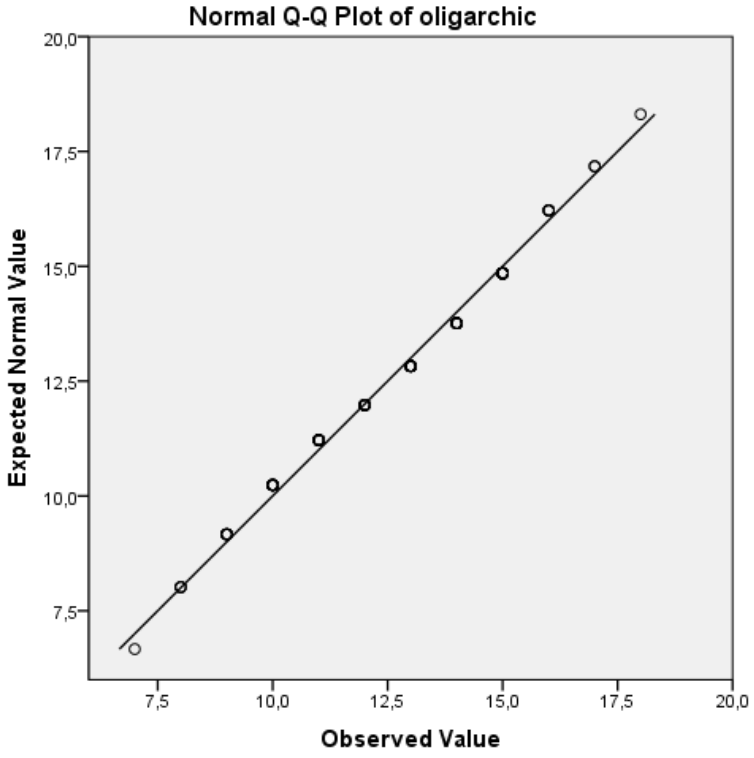
6. Oligarchic

One-Sample Kolmogorov-Smirnov Test

		Oligarchic
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,23192077
Most Extreme Differences	Absolute	,106
	Positive	,082
	Negative	-,106
Kolmogorov-Smirnov Z		,993
Asymp. Sig. (2-tailed)		,278

a. Test distribution is Normal.

b. Calculated from data.



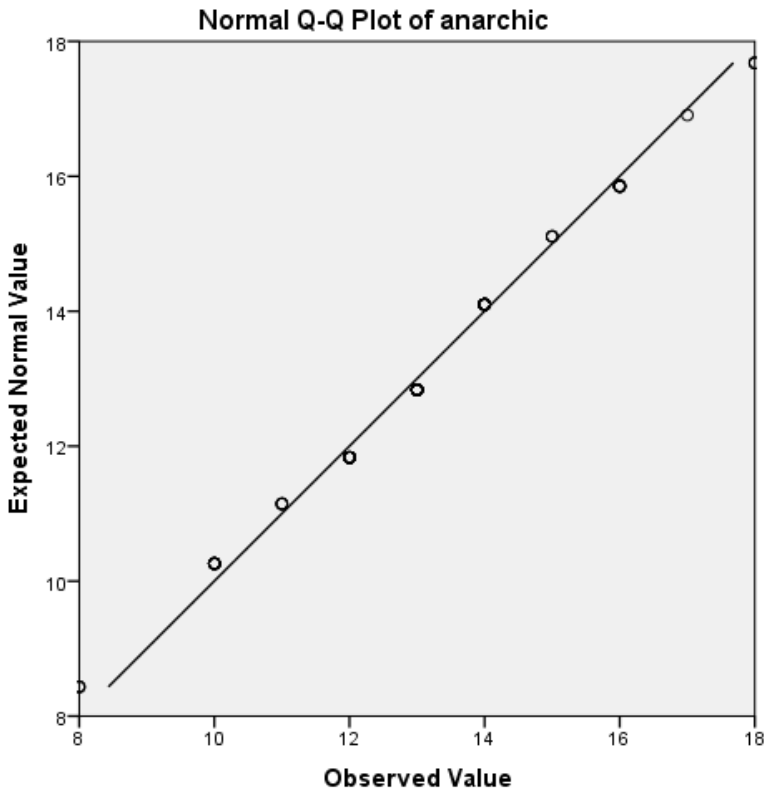
7. Anarchic

One-Sample Kolmogorov-Smirnov Test

		Anarchic
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,21825216
Most Extreme Differences	Absolute	,130
	Positive	,081
	Negative	-,130
Kolmogorov-Smirnov Z		1,215
Asymp. Sig. (2-tailed)		,104

a. Test distribution is Normal.

b. Calculated from data.



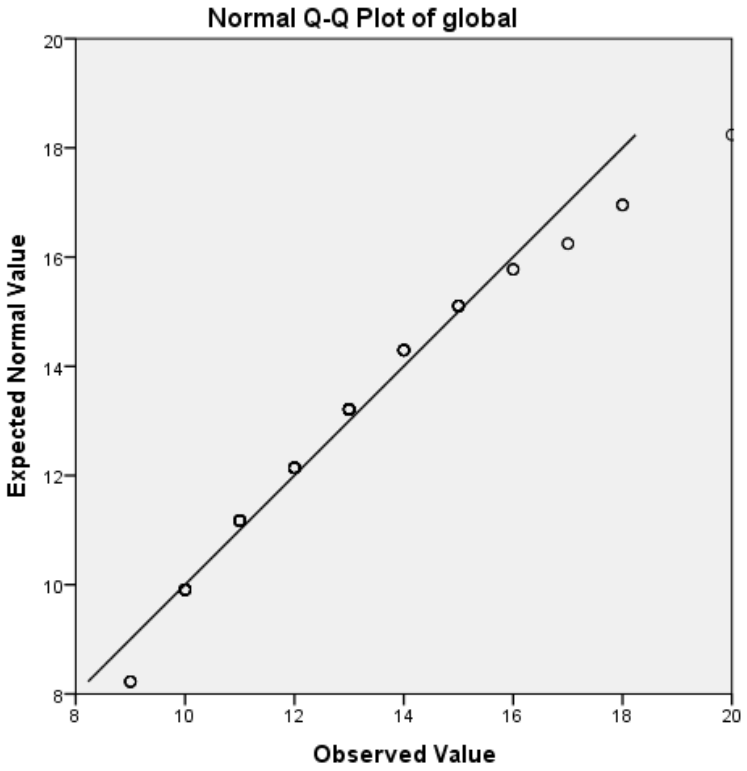
8. Global

One-Sample Kolmogorov-Smirnov Test

		Global
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,25044077
Most Extreme Differences	Absolute	,124
	Positive	,083
	Negative	-,124
Kolmogorov-Smirnov Z		1,167
Asymp. Sig. (2-tailed)		,131

a. Test distribution is Normal.

b. Calculated from data.



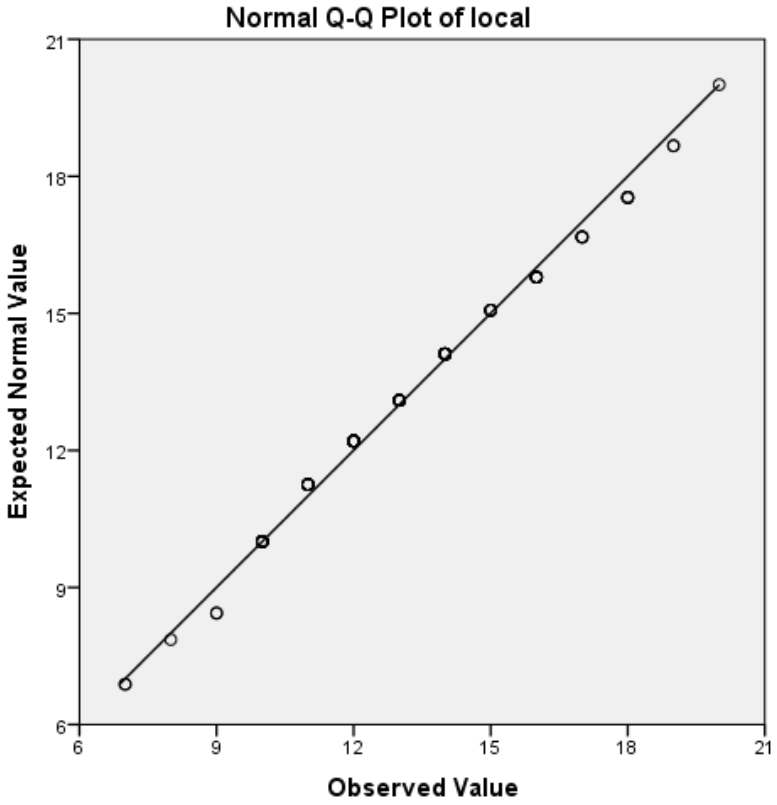
9. Local

One-Sample Kolmogorov-Smirnov Test

		Local
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24748415
Most Extreme Differences	Absolute	,140
	Positive	,089
	Negative	-,140
Kolmogorov-Smirnov Z		1,314
Asymp. Sig. (2-tailed)		,063

a. Test distribution is Normal.

b. Calculated from data.



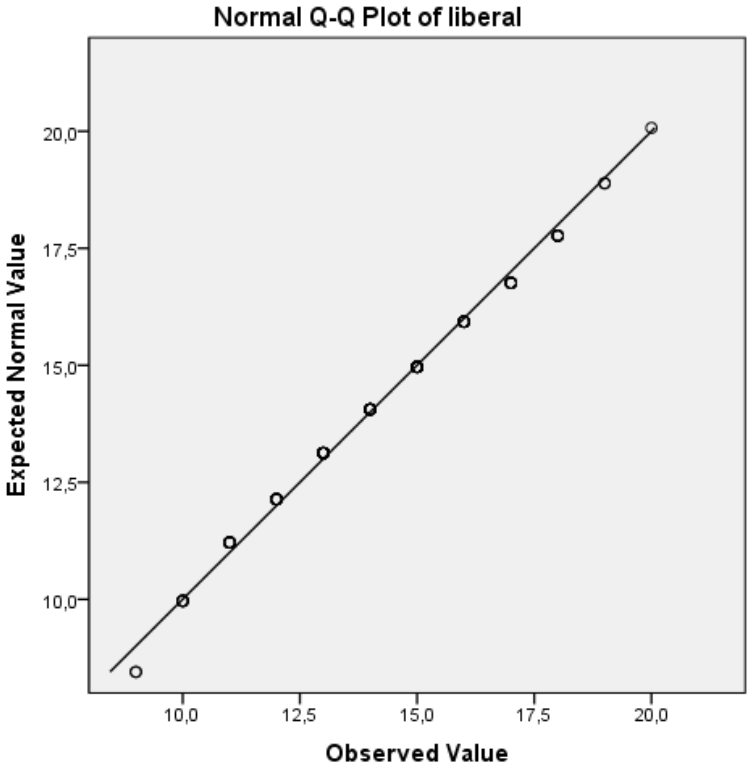
10. Liberal

One-Sample Kolmogorov-Smirnov Test

		Liberal
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24945252
Most Extreme Differences	Absolute	,138
	Positive	,082
	Negative	-,138
Kolmogorov-Smirnov Z		1,298
Asymp. Sig. (2-tailed)		,069

a. Test distribution is Normal.

b. Calculated from data.



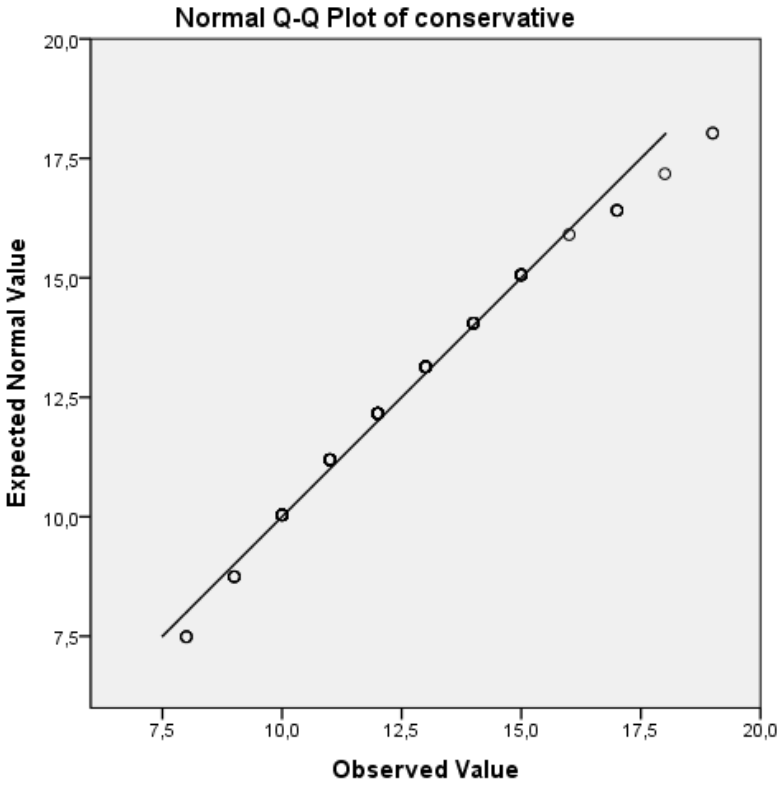
11. Conservative

One-Sample Kolmogorov-Smirnov Test

		Conservative
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,25144266
Most Extreme Differences	Absolute	,144
	Positive	,082
	Negative	-,144
Kolmogorov-Smirnov Z		1,352
Asymp. Sig. (2-tailed)		,052

a. Test distribution is Normal.

b. Calculated from data.



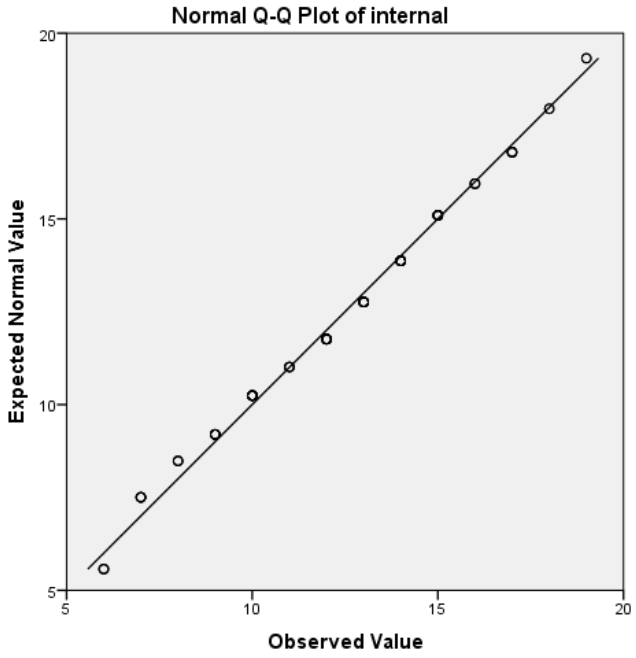
12. Internal

One-Sample Kolmogorov-Smirnov Test

		Internal
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,24148556
Most Extreme Differences	Absolute	,133
	Positive	,106
	Negative	-,133
Kolmogorov-Smirnov Z		1,244
Asymp. Sig. (2-tailed)		,091

a. Test distribution is Normal.

b. Calculated from data.



13. External

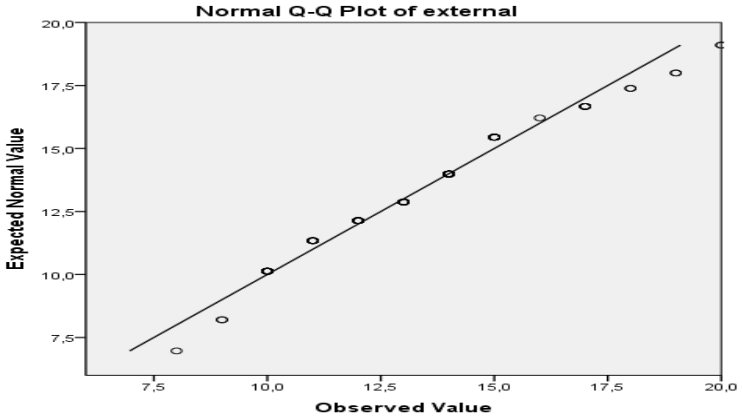
One-Sample Kolmogorov-Smirnov Test

		External
N		88
Normal Parameters[a,b]	Mean	,0000000
	Std. Deviation	,23661728
Most Extreme Differences	Absolute	,101
	Positive	,101
	Negative	-,096
Kolmogorov-Smirnov Z		,950
Asymp. Sig. (2-tailed)		,328

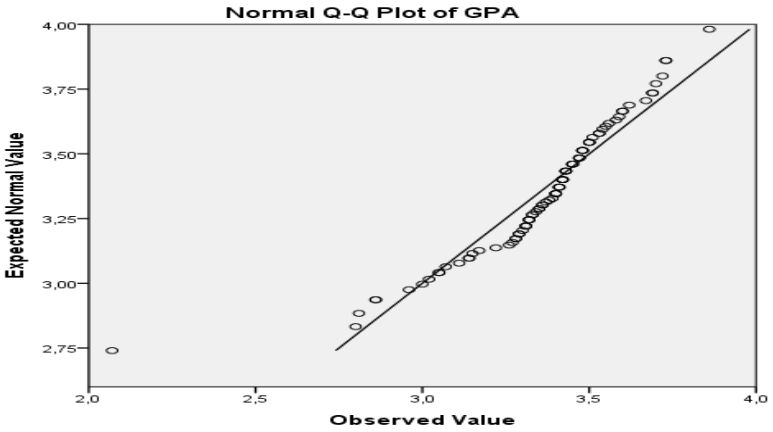
a. Test distribution is Normal.

b. Calculated from data.

QQ Plot



QQ plot GPA



Appendix G

Linearity Test

1. Legislative

ANOVA Table

			Sum of Squares	Df	Mean Square	F	Sig.
GPA legislative *	Between Groups	(Combined)	1,181	12	,098	1,684	,088
		Linearity	,912	1	,912	15,593	,000
		Deviation from Linearity	,270	11	,025	,419	,943
	Within Groups		4,384	75	,058		
	Total		5,565	87			

2. Executive

ANOVA Table

			Sum of Squares	Df	Mean Square	F	Sig.
GPA executive *	Between Groups	(Combined)	,756	13	,058	,894	,563
		Linearity	,359	1	,359	5,529	,021
		Deviation from Linearity	,396	12	,033	,508	,903
	Within Groups		4,810	74	,065		
	Total		5,565	87			

3. Judicial

ANOVA Table

			Sum of Squares	Df	Mean Square	F	Sig.
GPA * judicial	Between Groups	(Combined)	1,178	11	,107	1,855	,059
		Linearity	,435	1	,435	7,534	,008
		Deviation from Linearity	,743	10	,074	1,287	,253
	Within Groups		4,388	76	,058		
	Total		5,565	87			

4. Hierarchical

ANOVA Table

			Sum of Squares	Df	Mean Square	F	Sig.
GPA hierarchical	Between Groups	(Combined)	2,037	10	,204	4,445	,000
		Linearity	1,659	1	1,659	36,205	,000
		Deviation from Linearity	,378	9	,042	,916	,516
	Within Groups		3,528	77	,046		
	Total		5,565	87			

5. Monarchic

ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
GPA monarchic	Between Groups	(Combined)	1,095	14	,078	1,278	,242
		Linearity	,505	1	,505	8,242	,005
		Deviation from Linearity	,591	13	,045	,742	,716
	Within Groups		4,470	73	,061		
	Total		5,565	87			

6. Oligarchic

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA oligarchic	*	Between Groups	(Combined)	1,259	11	,114	2,020	,038
			Linearity	,886	1	,886	15,636	,000
			Deviation from Linearity	,373	10	,037	,658	,759
		Within Groups		4,306	76	,057		
		Total		5,565	87			

7. Anarchic

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA anarchic	*	Between Groups	(Combined)	1,952	9	,217	4,680	,000
			Linearity	1,421	1	1,421	30,677	,000
			Deviation from Linearity	,530	8	,066	1,431	,197
		Within Groups		3,614	78	,046		
		Total		5,565	87			

8. Global

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA global	*	Between Groups	(Combined)	,931	10	,093	1,546	,140
			Linearity	,109	1	,109	1,807	,183
			Deviation from Linearity	,822	9	,091	1,517	,157
		Within Groups		4,635	77	,060		
		Total		5,565	87			

9. Local

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA local *	Between Groups	(Combined)		,891	13	,069	1,085	,385
		Linearity		,237	1	,237	3,750	,057
		Deviation from Linearity		,654	12	,055	,863	,587
	Within Groups			4,674	74	,063		
	Total			5,565	87			

10. Liberal

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA liberal *	Between Groups	(Combined)		1,084	11	,099	1,672	,096
		Linearity		,152	1	,152	2,574	,113
		Deviation from Linearity		,932	10	,093	1,581	,128
	Within Groups			4,481	76	,059		
	Total			5,565	87			

11. Conservative

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA conservative *	Between Groups	(Combined)		,369	11	,034	,491	,904
		Linearity		,065	1	,065	,951	,333
		Deviation from Linearity		,304	10	,030	,445	,919
	Within Groups			5,196	76	,068		
	Total			5,565	87			

12. Internal

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA internal *	Between Groups	(Combined)		1,110	13	,085	1,419	,171
		Linearity		,492	1	,492	8,173	,006
		Deviation from Linearity		,618	12	,052	,856	,594
	Within Groups			4,455	74	,060		
	Total			5,565	87			

13. external

ANOVA Table

				Sum of Squares	Df	Mean Square	F	Sig.
GPA external *	Between Groups	(Combined)		,810	12	,067	1,064	,402
		Linearity		,695	1	,695	10,953	,001
		Deviation from Linearity		,115	11	,010	,165	,999
	Within Groups			4,756	75	,063		
	Total			5,565	87			

Appendix H

The Correlation between Each Types of Thinking Style with Academic Achievement

1. legislative and academic achievement

Correlations

		legislative	GPA
legislative	Pearson Correlation	1	,405**
	Sig. (2-tailed)		,000
	N	88	88
GPA	Pearson Correlation	,405**	1
	Sig. (2-tailed)	,000	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

2. Executive and Academic Achievement

Correlations

		executive	GPA
executive	Pearson Correlation	1	,254*
	Sig. (2-tailed)		,017
	N	88	88
GPA	Pearson Correlation	,254*	1
	Sig. (2-tailed)	,017	
	N	88	88

*. Correlation is significant at the 0.05 level (2-tailed).

3. Judicial and Academic Achievement

Correlations

		judicial	GPA
Judicial	Pearson Correlation	1	,280**
	Sig. (2-tailed)		,008
	N	88	88
GPA	Pearson Correlation	,280**	1
	Sig. (2-tailed)	,008	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

4. Hierarchical and Academic Achievement

Correlations

		Hierarchical	GPA
hierarchical	Pearson Correlation	1	,546**
	Sig. (2-tailed)		,000
	N	88	88
GPA	Pearson Correlation	,546**	1
	Sig. (2-tailed)	,000	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

5. Monarchic and Academic Achievement

Correlations

		monarchic	GPA
monarchic	Pearson Correlation	1	,301**
	Sig. (2-tailed)		,004
	N	88	88
GPA	Pearson Correlation	,301**	1
	Sig. (2-tailed)	,004	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

6. Oligarchic and Academic Achievement

Correlations

		oligarchic	GPA
oligarchic	Pearson Correlation	1	,399**
	Sig. (2-tailed)		,000
	N	88	88
GPA	Pearson Correlation	,399**	1
	Sig. (2-tailed)	,000	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

7. Anarchic and Academic Achievement

Correlations

		anarchic	GPA
anarchic	Pearson Correlation	1	,505**
	Sig. (2-tailed)		,000
	N	88	88
GPA	Pearson Correlation	,505**	1
	Sig. (2-tailed)	,000	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

8. Global and Academic Achievement

Correlations

		Global	GPA
Global	Pearson Correlation	1	,140
	Sig. (2-tailed)		,194
	N	88	88
GPA	Pearson Correlation	,140	1
	Sig. (2-tailed)	,194	
	N	88	88

9. Local and Academic Achievement

Correlations

		Local	GPA
Local	Pearson Correlation	1	,206
	Sig. (2-tailed)		,054
	N	88	88
GPA	Pearson Correlation	,206	1
	Sig. (2-tailed)	,054	
	N	88	88

10. Liberal and Academic Achievement

Correlations

		liberal	GPA
Liberal	Pearson Correlation	1	,165
	Sig. (2-tailed)		,124
	N	88	88
GPA	Pearson Correlation	,165	1
	Sig. (2-tailed)	,124	
	N	88	88

11. Conservative and Academic Achievement

Correlations

		conservative	GPA
conservative	Pearson Correlation	1	,108
	Sig. (2-tailed)		,316
	N	88	88
GPA	Pearson Correlation	,108	1
	Sig. (2-tailed)	,316	
	N	88	88

12. Internal and Academic Achiement

Correlations

		Internal	GPA
Internal	Pearson Correlation	1	,298**
	Sig. (2-tailed)		,005
	N	88	88
GPA	Pearson Correlation	,298**	1
	Sig. (2-tailed)	,005	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

13. External and Academic Achievement

Correlations

		External	GPA
External	Pearson Correlation	1	,353**
	Sig. (2-tailed)		,001
	N	88	88
GPA	Pearson Correlation	,353**	1
	Sig. (2-tailed)	,001	
	N	88	88

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix I

Regression Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,696[a]	,484	,424	,192

a. Predictors: (Constant), external, monarchic, anarchic, executive, internal, judicial, hierarchical, oligarchic, legislative

b. Dependent Variable: GPA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,693	9	,299	8,128	,000[b]
	Residual	2,872	78	,037		
	Total	5,565	87			

a. Dependent Variable: GPA

b. Predictors: (Constant), external, monarchic, anarchic, executive, internal, judicial, hierarchical, oligarchic, legislative

Appendix J

Stepwise Analysis

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,546[a]	,298	,290	,213
2	,629[b]	,396	,381	,199
3	,662[c]	,438	,418	,193

a. Predictors: (Constant), hierarchical

b. Predictors: (Constant), hierarchical, anarchic

c. Predictors: (Constant), hierarchical, anarchic, monarchic

d. Dependent Variable: GPA

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1,659	1	1,659	36,524	,000[b]
	Residual	3,906	86	,045		
	Total	5,565	87			
2	Regression	2,202	2	1,101	27,823	,000[c]
	Residual	3,364	85	,040		
	Total	5,565	87			
3	Regression	2,439	3	,813	21,841	,000[d]
	Residual	3,127	84	,037		
	Total	5,565	87			

a. Dependent Variable: GPA

b. Predictors: (Constant), hierarchical

c. Predictors: (Constant), hierarchical, anarchic

d. Predictors: (Constant), hierarchical, anarchic, monarchic

Appendix K

Research Gallery