STUDENTS’ THINKING STYLES AND ITS RELATION TO THEIR LANGUAGE LEARNING STRATEGIES

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Abstract: The aims of this correlational study were to find out whether or not (1) there was a significant correlation between thinking styles and language learning strategies of the English Education Study Program students of FKIP Sriwijaya University, (2) there were significant correlations among each category of thinking styles to each category of language learning strategies, and (3) there were any contributions of students’ thinking styles to their language learning strategies. The sample of this study was the English Education Study Program students of FKIP Sriwijaya University in the Academic Year 2013/2014. To collect the data, Thinking Styles Inventory (TSI) and Strategy Inventory for Language Learning (SILL) were used. The data were analyzed by using correlational and regression analyses. The result showed that there was a positive correlation between students’ thinking styles and language learning strategies. Significant correlations were also shown by each category of thinking styles and language learning strategies. However, further calculation by using multiple regression analyses showed that the contribution of thinking styles to students’ language learning strategies was only 38.5%, suggesting that thinking styles did not give much contribution to students’ language learning strategies. It is implied that English teacher should pay attention to students’ different thinking styles and language learning strategies. Besides that, English teacher should care of other factors that can influence students’ learning.

Keywords: correlation, thinking styles, language learning strategies

English is considered as a lingua franca; it is used as a means of communication for people with different languages from different parts of the world. According to Lim (2013), English will continue to develop and bring people more advantages in the near future. With the emergence of today’s role of English as an International Language (EIL) and as a Global Lingua Franca (ELF), it is hardly surprising that English language education has become more important in many countries such China, Thailand and Iran (Imperiani, 2006). In other words, the teaching
and learning of English in non-English speaking countries have been considered important.

Many studies in the field of English language teaching to non-native English speakers have been done to investigate such things as how the EFL/ESL learners learn English and what factors that support their learning. Language learning strategy is one of the factors that has an important role in learning English as a foreign language.

In relation to Language Learning Strategies (LLS), a number of scholars have categorized language learning strategies differently. Rubin (1987), who pioneered much of the work in the field of learning strategies, states that learning strategies, communication strategies and social strategies are the three types of strategies used by learners. O’Malley, Chamot, and Russo (1985) classify learning strategies into three main strategies: metacognitive strategies, cognitive strategies and socioactive strategies. Similarly, Ellis (1997) also categorizes language learning strategies into three types; they are metacognitive, cognitive and compensation strategy. Furthermore, Oxford (2003) classifies learning strategies into six groups. These categories which will become the focus of this study, include cognitive, metacognitive, memory-related, compensatory, affective, and social.

Language learning strategies are very important because they can help students learn the language. Students may find that some of language learning strategies are relevant for their learning and some may not. The students’ preferences may be influenced by their own thought. In other words, students’ ways of thinking can determine their choice of

language learning strategies. In line with this, Chamot (2004) defines that language learning strategies are the thoughts and actions that students use to accomplish their language learning. When the students consciously choose strategies that fit their learning styles and foreign/second language task at hand, these strategies become a useful toolkit for active, conscious, and purposeful self regulation of learning (Oxford, 2003). Furthermore, Anderson (2005) states that perceptive second/foreign language (L2) learners are those who are aware of and use appropriate strategies for learning and communicating in second/foreign language. Referring to what the scholars state, it can be assumed that there is relationship between students’ preferences in language learning strategies and their ways of thinking, or Thinking Styles (TS).

According to Alias (2011), TS refer to the way a person’s natural predisposition in processing information. In addition, Turki (2012) states that the basic principle in the ways of thinking or thinking styles is to help students make the fullest possible use of the methods of teaching and learning, and to realize the best way to invest their true potentials, and its psychological case of the student.

There were many concepts of thinking styles proposed by the scholars. For example, Harrison and Bramson (2002), classify thinking styles into five styles that include synthesist, idealistic, pragmatist, analysis-oriented and realistic. Sternberg (1997) also proposes a concept of thinking styles that is referred to the Theory of Mental Self-Government.

According to Sternberg (1997), the Theory of Mental Self-
Government is a mental style design which postulates many preferred dimensions to describe the behavior in which people think or show their mental skills. Based on this theory, Sternberg (1997) lists thirteen thinking styles which are categorized into five dimensions of functions, forms, level, scopes and leaning. First, the functions dimension includes Legislative, Executive and Judicial thinking styles. Second, the forms dimension consists of Monarchic, Hierarchic, Oligarchic and Anarchic TS. Third, the levels dimension has Global and Local TS. Fourth, the scopes dimension covers Internal and External TS. Fifth, the two styles in leaning dimension are Liberal and Conservative TS.

There were previous studies which focused on thinking styles. For example, Vianty (2007) who did a study on thinking styles and academic achievement by involving English Education Study Program students in Palembang found that there was a significant correlation between thinking styles and students’ academic achievement. In her study, Windarni (2008) who involved English Education Study Program students of Sriwijaya University also found a significant correlation between thinking styles and students’ speaking achievement. Another study done by Norapita (2008) which also involved the English Education Study Program students of Sriwijaya University shows that there was a significant correlation between thinking styles and students’ speaking achievement. Studies on thinking styles have also been conducted overseas. For instance, Turki (2012) who did a study involving students of Tafila Technical University in Jordan found that female students preferred to use Executive TS and male students preferred to use Legislative and Judicial TS (Turki, 2012).

In addition to the studies focusing on thinking styles, many studies concerning with language strategies have also been conducted. The results of Wharton’s study (2000) on learning strategies, for example, showed that male students used more strategies than female students. However, others scholars (Shmais, 2003; Rahimi, Riazi, and Seyf, 2004) found there was no significant difference in strategy use among males and females.

Furthermore, Khodae, Hashemnezhad and Javidi (2012) who investigated the relationship between language learning strategies and thinking styles found that there was a relationship between language learning strategies and thinking styles of Iranian EFL learner. A study focusing on LLS has also been done by Mayasari (2011). She investigated the correlation among language learning strategy use, strategy awareness and academic achievement of the students of English Education Study Program, Faculty of Teacher Training and Education, Sriwijaya University. She found that there was a positive and significant correlation among language learning strategy use, strategy awareness, and academic achievement. Taking into consideration the important role of thinking styles and language learning strategies, this study aimed at finding out the correlation between thinking styles and language learning strategies by involving the English Education Study Program students of FKIP Sriwijaya University.
METHODOLOGY

In this study, correlational study was chosen in order to find out the correlation between thinking styles and language learning strategies.

The population and sample of this study was 113 of the second, fourth and sixth semester of the English Education Study Program students of FKIP Sriwijaya University Palembang in academic year 2013/2014.

Two questionnaires were used in this study. They were Thinking Styles Inventory (TSI) and Strategy Inventory for Language Learning (SILL). The Thinking Style Inventory (TSI) was originally developed by Sternberg and Wagner (1992, as cited in Vianty, 2007). It aimed to gain the information about students’ Thinking Styles. The responses were rated by using Likert scales with five options: Never (1), Sometimes (2), Often (3), Usually (4), and Always (5). The students answered by choosing one of the options. The TSI included 65 items divided into 13 scales under five dimensions: functions, forms, level, scopes and leaning. First, the function dimension includes legislative, executive and judicial. Second, the form dimension consists of monarchic, hierarchic, oligarchic and anarchic. Third, the level dimension has global styles and local styles. Fourth, the scope dimension covers internal and external. Finally, the two styles in learning dimension are liberal and conservative.

The Strategy Inventory for Language Learning (SILL) version 7.0 that was designed by Oxford (1990) was used for measuring students’ language learning strategy. SILL consists of 50 statements which were answered by students by choosing one of the options: Never or almost never true of me (1), Usually not true of me (2), Somewhat true of me (3), Usually true of me (4), and Always or almost always true of me (5). The SILL contains six factor-analytically created strategy categories: memory-related, cognitive, compensatory, metacognitive, affective, and social strategies.

To get the reliability, the questionnaires were tried out to 30 non-sample students with the same characteristics as the sample students. They were students of English Education Study Program of FKIP in Inderalaya. The questionnaires in this study were ready-made questionnaires which had been used in previous studies in which the researcher checked the validity. In this study, the writer did not check the validity anymore because it was considered that they have good content validity. However, the reliability of questionnaires was checked qualitatively.

The reliability of the questionnaire was measured by having Cronbach’s Alpha (α) statistical test. The results of reliability test showed that the Alpha (α) values of TSI and SILL questionnaires are 0.967 and 0.961, respectively, which are considered reliable.

Finally, Pearson Product Moment Correlation Analysis and Multiple Regression Analysis were used to find out the correlation the correlation between Thinking Styles and Language Learning Strategies and the contribution of each of Thinking Styles (TS) category, and each of Language Learning Strategies (LLS) category.
FINDINGS AND DISCUSSION

The Results of Thinking Styles Inventory (TSI)

The Thinking Styles Inventory (TSI) consists of 65 items, that Sternberg (1992) divides into 13 scales that are grouped into five dimensions: Functions, Forms, Level, Scopes, and Leaning. First, Function includes Legislative TS, Executive TS, and Judicial TS. Second, Form consists of Monarchic TS, Hierarchic TS, Oligarchic TS, and Anarchic TS. Third, Level consists of Global TS and Local TS. Fourth, Scope covers Internal TS and External TS. Fifth, Leaning includes Liberal TS and Conservative TS. The following Figure shows the results of the mean score of each category of TSI.

As shown in Figure 1, the mean scores of the categories of TS were varied. The mean score of External TS had the highest score (3.62), while Global TS (3.18) and Local TS (3.18) had the lowest mean scores.

The Results of Strategy Inventory for Language Learning (SILL)

The Strategy Inventory for Language Learning (SILL) contains six factor-analytically created strategy categories: Memory LS, Cognitive LS, Compensatory LS, Affective LS, Metacognitive LS, and Social strategies LS.

Figure 2 presents the mean scores of the students’ LLS. As shown in Figure 2, the mean scores of the categories of LLS were varied. The mean score of Metacognitive LS had the highest score (3.941) and the lowest mean score belonged to Affective LS (3.267).

Correlation Analysis between TS and LLS

The results of the correlation analysis showed that there was a significant correlation between TS and LLS.

Table 1
Thinking Styles and Language Learning strategies

<table>
<thead>
<tr>
<th>Variables</th>
<th>R</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>.621</td>
<td>.000</td>
</tr>
<tr>
<td>LLS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Correlations among Each Category of TS and Each Category of LLS

In order to see the correlations among each category of TS and each category of LLS, the correlational analyses were applied.

As shown in Table 2, the correlations between each category of TS and each category of LLS were varied. The result showed that most of
the categories of TS had statistically significant correlations with each category of LLS. Some of the correlation coefficients were above 0.5, for example, the correlation between Monarchic TS and Metacognitive TS. However, there was a correlation that was not significant; it was between Monarchic TS and Compensation LS.

### Table 2
The Summary of the Correlations among Each Category of TS and Each Category of LLS

<table>
<thead>
<tr>
<th></th>
<th>Memory</th>
<th>Cognitive</th>
<th>Compensation</th>
<th>Metacognitive</th>
<th>Affective</th>
<th>Social</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislative</td>
<td>0.35</td>
<td>0.39</td>
<td>0.37</td>
<td>0.24</td>
<td>0.34</td>
<td>0.09</td>
</tr>
<tr>
<td>Executive</td>
<td>0.61</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Judicial</td>
<td>0.33</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Monarchic</td>
<td>0.70</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Hierarchical</td>
<td>0.31</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Oligarchic</td>
<td>0.47</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Anarchic</td>
<td>0.42</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Global</td>
<td>0.39</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Local</td>
<td>0.35</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Internal</td>
<td>0.34</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>External</td>
<td>0.57</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Liberal</td>
<td>0.35</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
<tr>
<td>Conservative</td>
<td>0.49</td>
<td>0.00</td>
<td>0.37</td>
<td>0.24</td>
<td>0.00</td>
<td>0.42</td>
</tr>
</tbody>
</table>

### The Contributions of TS to Students’ LLS
In order to determine the contribution of students’ TS to their LLS, the linear regression analysis was conducted. Table 4 presents the result of the analysis.

### Table 3
The Contributions of TS to Students’ LLS

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R²</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.621</td>
<td>.385</td>
<td>69.560</td>
<td>.000</td>
</tr>
</tbody>
</table>

Predictor: TS

Table 3 shows that in general TS contributed 38.5% to LLS.

### The Contributions of Each Category of TS to LLS.
Based on the result of the correlation analyses, there were significant correlations among each category of TS and LLS (total). Therefore, multiple regression analysis (stepwise method) was used to find out the contribution of each of the category of TS to LLS. Table 4 presents the result of the analysis.

### Table 4
The Contribution among Each Category of TS to LLS

<table>
<thead>
<tr>
<th>Model</th>
<th>TS</th>
<th>R</th>
<th>R²</th>
<th>Sig. value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anarchic</td>
<td>.593</td>
<td>.35</td>
<td>.000</td>
</tr>
<tr>
<td>2</td>
<td>Anarchic, Global</td>
<td>.561</td>
<td>.43</td>
<td>.000</td>
</tr>
<tr>
<td>3</td>
<td>Anarchic, Global, External</td>
<td>.683</td>
<td>.46</td>
<td>.000</td>
</tr>
</tbody>
</table>

Dependent: LLS

As shown in Table 4, there were only three categories of TS gave that contribution to LLS. Anarchic TS
gave contribution 35.2% to LLS, Global TS gave contribution 8.5% to LLS, and External TS gave contribution 3.0% to LLS. Figure 3 shows the chart of the contributions of the three TS categories.

![Figure 3 The Contribution among Each Category of TS to LLS](image)

**The Contribution of Each Category of TS to Each Category of LLS**

Previous section presented the results of the multiple regression analysis that was conducted to find out the contribution of each category of TS to LLS as a whole. This section presents the results of the multiple regression of each categoryof TS to each category of LLS. The results are presented in Table 5.

As shown in Table 5, the contributions of each category of TS to each category of LLS are varied. The results showed that Anarchic gave more contribution to Memory, Cognitive, Compensation, and Metacognitive LLS, while External TS gave contribution to both Affective LLS and Social LLS.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>The Contribution of Each Category of TS to Each Category of LLS</th>
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<tbody>
<tr>
<td>I</td>
<td>Model</td>
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<tr>
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<td></td>
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<td></td>
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<tr>
<td>II</td>
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<td></td>
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</tbody>
</table>
DISCUSSION

Based on the result of the analyses of the questionnaires, the External TS and Metacognitive LLS are the preferred and most often used by students. It means that learning processes are more likely to be influenced by External TS rather than by other TS and by Metacognitive LLS rather than by other aspects of LLS. This implies that when students do the task, they try to organize and evaluate their learning. Since the External TS are the preferred TS used by the students, this means they prefer to work with others, organizing and evaluate their learning together. Because they prefer to work with others, it might be the reason why they did not cite that they used Affective LLS, which helps students to regulate their motivation. This is likely the reason why the Affective LLS is the least used LLS and why the External Styles is the most preferred one.

The result of the correlational analysis showed that there were positive and significant correlation between TS and LLS in general. It is in line with Khodae et. al (2012) who found that there was a relationship between LLS and TS in their study. It implies that students’ TS can determine their choice of LLS. As Chamot (2004) notes that LLS are the thoughts and actions that the students use to accomplish their language learning.

Furthermore, the result showed that most of the categories of TS had positive and statistically significant correlations with each category of LLS. Some of the correlation coefficients are above 0.5, it means that there are strong correlations. In addition, the probability values higher than the alpha level .05 suggested that significant correlation between each of category of students’ TS and their language learning category existed. It was found that there were strong correlation between Monarchic styles and Metacognitive strategies, Global styles and Metacognitive strategies, and External and Metacognitive strategies. It implies that Monarchic TS students who like to do one thing at a time, Global TS students who like to deal with generalities, and External TS students who like to work with others prefer to use Metacognitive LLS. Since Metacognitive LLS involved exercising over one’s language learning through planning, monitoring, and evaluating, the ability to focuses on one thing, deals with generalities, and works with other is important.

However, among thirteen categories of TS, there is one category which did not have significant correlation to one of the LLS categories: Monarchic TS and Compensation LLS. It may happen because Monarchic styles’ person tends to be single-minded driven. Therefore, this person prefers to be engaged in tasks that allow a complete focus on one thing at time. This person prefers not to do things at once. However, the Compensation LLS need the open-minded person who can be able to think of some alternatives for problem solving.

Even though some statistical significant correlations were found among each category of TS and each category of LLS, a further analysis using stepwise procedure for the multiple regression analysis revealed that TS (general) gave contribution 38.5% to LLS (general). It means that there must be other factors in addition to TS that can explain 61.5% of variation in the students’ LLS.
In addition, the multiple regression analysis to find the contribution of each category of TS to LLS showed the results were varied. Among thirteen TS categories, there were three categories of TS which contributed significantly to LLS; they were Anarchic TS, Global TS, and External TS. It means that LLS in general influenced by Anarchic TS, Global TS and External TS. The reason for this might be the choice of using LLS is influence by the open-minded thinker who is like Anarchic person (likes to take a random approach to problems), Global TS person (likes to deal with generalities) and External TS person (likes to work with others).

Among thirteen categories of TS, there were three TS which contributed significantly to Memory LLS; they were Anarchic and Oligarchic. Anarchic TS is related to the person who likes to take a random approach to problems; dislike systems, guidelines, and practically all constraints. Oligarchic TS is linked with the person who likes to do many things at once, but has trouble setting priorities.

There were also a few TS that contributes to Cognitive LLS; they were Anarchic, Global, and Local. As it mentioned above, Anarchic TS person tend to be free to do anything, that is the person suits in some strategies. Global and Local came from the same dimension (Levels). Global TS person likes to deal with big picture, generalities, abstractions. On the other hand, Local TS person likes to deal with details, specifics, and concrete examples.

In Compensation LLS, there was only Anarchic TS that contributed to Compensation LLS. Compensation LLS which allow students to use the language despite their often large gaps in knowledge such as using mime or gesture, selecting the topic, using synonyms may be suit for Anarchic styles person.

Among thirteen TSs, there were Anarchic, External and Local that contributed to Metacognitive LLS, but the contributions were small (18.1%). It suggests that there are other unknown factors contributing to Metacognitive LLS.

There were also two TS that contributes to Affective LLS; they were External and Oligarchic. External TS person who likes to work with others, focus outward, be interdependent supports the Affective LLS which help students to regulate emotions, motivations, and attitudes such as encouraging themselves, writing a language diary, and discussing the feeling with someone else.

The result of stepwise multiple regression to find out the contribution of TS to Social strategies showed that there were four TS contribute to Social LLS; they were Global, Internal, External, and Legislative. It suggested that Social LLS which helps students to learn through interaction with others such as asking for correction, and developing cultural understanding influenced by the person who has Global TS (likes to deal with generalities), Internal TS (likes to focus inward), External TS (likes to focus outward) and Legislative TS (likes to do things his or her own way).

The implications of this study adresses the issues about teaching and learning in the classroom. As Turki (2012) notes that the basic principle in the ways of thinking or TS is to help students make the fullest possible use of the methods of teaching and
learning, and to realize the best way to invest their true potentials. The variety of TS allow students to determine what strategies that suit for them. Students may find that some of LLS are relevant for their learning and some may not. When the students consciously choose strategies that fit their learning styles and foreign/second language task at hand, these strategies become a useful toolkit for active, conscious, and purposeful self regulation of learning (Oxford, 2003).

The finding that TS were related to LLS has implications for teacher training. It would be beneficial for students of teacher training and education to exposed to different kinds of materials and activities to cover the various strategies and be given attention to their different TS.

CONCLUSION

There were three conclusions which are drawn. First, there was significant correlation between TS and LLS. Secondly, findings of correlation analysis showed that most of the category of TS had significant correlation with each category of LLS. Among thirteen categories of TS, there is Monarchic TS and Compensation LLS which did not have significant correlation to Compensation TS. Finally, a further analysis using stepwise procedure for the multiple regression analysis revealed that TS gave contribution 38.5% to LLS. It means that there must be other factors besides TS that can explain a lot of variations in the students’ LLS.

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