



The Relationship between Cognitive Styles and English Productive Skills of Vocational High School Students in Makassar

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Abstract

The objectives of this research were (1) to find out the eleventh-grade students' cognitive styles classification of SMK Telkom Makassar; (2) to find out the eleventh-grade students' productive skills achievement of SMK Telkom Makassar; (3) to find out whether there is a relationship between cognitive style and productive skills in class XI SMK Telkom in the academic year 2020/2021. The research design was correlational design. The total sample was chosen using quota sampling consisted of 30 tourism students in the eleventh grade at SMK Telkom Makassar in the academic year of 2020/2021. The instruments to collect the data were cognitive style test, speaking test and writing test. The Group Embedded Figure Test (GEFT) was used to collect cognitive style data, while speaking and writing tests were used to determine students' speaking and writing abilities. In analyzing the data, Pearson Product Moment is used to analyze the data where to find the correlation coefficient and simple linear regression where to find the significance and linearity variables. The findings indicated that (1) there were 16 Field Dependent (FD) students and 14 Field Independent (FI) students; (2) most of the students had poor achievement in speaking and writing test and there were a weak, positive correlation between students' cognitive style and productive skills; (3) it was showed that the contribution of cognitive style to students' speaking ability was 14.8%, and the contribution of cognitive style to students' writing ability was 20.5%. Therefore, the study concluded that there was significant correlation between cognitive style and English productive skills of the eleventh-grade students of SMK Telkom Makassar in the academic year of 2020/2021.

Keywords: cognitive style, productive skills, speaking ability, writing ability.

Introduction

Cognitive style is very important for many major educational issues that affect education and learning. Students can improve their skills by looking for areas of style that they are unfamiliar with and working on their development. This provides a way to promote intellectual growth (Reid, 1995). Similarly, teachers can effectively use this information by focusing on strong style patterns in their lessons and creating lesson plans that correspond to their individual learning style preferences.

To refer to the cognition that controls students in learning in general and a specific approach to dealing with problems is a cognitive style. Furthermore, the term in cognitive psychology is related to the active form of cognitive (thinking, understanding, remembering) rather than an understanding of cognitive style (Stash, 2007). He found that cognitive styles identify how individuals respond to different situations. Skill levels and patterns are due to the genetic composition of the individual, but cognitive style influences skill development. Moreover, O'Brien, Butler, and Bernold (2001) said that compared to variables such as emotional and physiological factors, cognitive style seems to be most related to what is related to academic performance such as speaking achievement. Thus, cognitive style is one way to determine individual differences.

Among the four English skills, speaking is an essential part of learning and teaching a second language. Despite its importance, speaking has been underestimated for years, and English teachers continue to teach speaking only as a repeat of practice or to memorize dialogue. Speaking has critical function as key for communication and believed as one of the most difficult skill to be learned. Brown, Gillian, Brown, and Yule (1983) stated that one of the other difficult aspects of language learning for teachers in teaching their students where to learn to speak a foreign language. It is also supported that many learners report that they have spent years learning English but are unable to speak it properly and understandably even they can write it down properly where writing is also categorized as productive skill. However, in a second language is not just writing something but also writing or learning to write. It is one of the four basic skills that is very complex and difficult to learn. Oshima and Hogue (1997) stated that a progressive activity is writing. When writing for the first time, writers have developed about what they are writing about.

Regarding the requirements needed in the future, productive skills which consist of speaking and writing tend to be the applicable skills since they are the final outcomes in English communication. As Golkova and Hubackova (2014) pointed out that its application that is attentive activities, the application of communicative activities so that many languages can increase competence in language students so that a person's ability can be said to be able to speak English when they are able to express the ideas in spoken and written form..

Cognitive style is one of the factors to influence students' language speaking. Cognitive demands support the speaking ability of people who are not dependent on the field to speak more easily or accurately regardless of second language ability. In addition, they are at a disadvantage when speaking, because they are not likely to use strategies that help to overcome speech problems (Stansfield & Hansen, 1983). However, there is apparent a methodological and knowledge gap in the prior research concerning research design on its instrument. It has found that the researcher only used a questionnaire to measure students' cognitive style that can lead a bias in determining each students' cognitive style accurately especially when they randomly chose the answer. As well as that it is not suggested to identify students' cognitive style using a questionnaire, on the other hand using a cognitive style test is proposed. As Woolfolk (1993) mentioned that a test as an instrument is needed to measure and determine cognitive style of students. In addition, the prior research did not address the subject of English as a focused language meanwhile students who learned Spanish as second language were observed. From several previous research above, there is none of them conduct research to correlate cognitive style on vocational high school students with students' English speaking and writing skills using recommended cognitive style test as the measurement to identify students' cognitive style.

Cognitive style is not only affecting students' English skill but also their learning achievement for example in Mathematics. Jantan (2014) who studied about the relationship between cognitive style and Mathematics achievement in Malaysian

primary school found that among the sample in the study more girls tend to have dependent style means these students need more teacher guidance and coaching in learning especially in Mathematics. Teachers must give them a lot of exercise and need to monitor their work every day.

By discovering the relation between students' cognitive style type and their productive skills, teachers can prepare teaching activity, lesson and teaching method that match with students' cognitive style and students' preferences then the students' speaking and writing skill will be enhanced especially in Vocational High School. Therefore, the study conducted about the relationship between cognitive styles and English productive skills of Vocational High School students in Makassar. Regarding this research problem, the researchers formulated 3 (three) research questions as follow:

1. What are cognitive styles of the eleventh grade students majoring Tourism of SMK Telkom Makassar?
2. What are productive (speaking and writing) skills achievement of the eleventh grade students majoring Tourism of SMK Telkom Makassar?
3. Is there any significant correlation between cognitive style and English productive skills of Tourism students at SMK Telkom Makassar?

Cognitive Style

Cognitive style is a pattern formed by the way they process information, tends to be stable, though not necessarily immutable. Meanwhile Riding and Rayner (2013) explained that cognitive style is a consistently preferred approach of the individual in organizing and describe information. Entwistle and Ramsden (2015) shared a similar opinion that cognitive style is an individual's habit of processing information. It is similar stated by Mortomore (2008) cognitive style is a habit or way of individuals prefer to process information. Furthermore, Keefe (1987) explained a broader understanding, that style cognitive is part of learning style that describes habitual behavior remain in one's self in receiving, thinking about, solving problems and recalling information. Similar messages were conveyed by Anastasi and Urbina (1997) stated that the cognitive style basically shows the distinctive way one chooses to understand, remember, think, and solve the problem.

The cognitive style itself can be divided into two, namely first based on

differences in psychological aspects consisting of field dependent and independent field, both based on the time of understanding the concept which consists over impulsive and reflective forces. However, in this study used as one of the variables is the independent and field cognitive style dependent (Woolfolk, 1993).

Students with field independent cognitive style are more effective in their learning step by step or in order who begins with analyzing facts and process to get. According to Altun and Cakan (2006) students who have Cognitive field independent style characterized: understanding objects that are separate from environment, separating from irrelevant parts, creating structure even though that structure is not inherent in the existing information, reorganizing information to provide context for previous information, tend to be more efficient at remembering old pieces of information. Furthermore, Lin and Davidson-Shivers (1996) stated that individuals are stylish independent cognitive field tends to participate actively in learning.

The second type is field dependent cognitive style. Wooldridge and Bartolf (2006) describe students who are field dependent cognitive style depending on the structure of the environment, the learning process depends on experience, has short attention span that is volatile, loves to learn environment, chooses learning situations according to feelings and experiences, socially oriented and less achievement oriented, and less competitive. Following are the differences between the independent and field cognitive styles field dependent.

Table 1. Field Dependent vs Field Independent

FIELD INDEPENDENT	FIELD DEPENDENT
Impersonal oriented (individual).	Socially or environmentally oriented
Problem solving skills	Need guidance on how to solve the problem
Prioritizing internal motivation in activities or learning	Prioritizing external motivation in activities or learning
Selective in establishing emotional	Easy to build emotional relationships

relationships with others	with other people
Students prefer to work alone and prefer to try new things without the help of the teacher	Students tend to receive opinions or considerations from friends or teachers

Method

Quantitative method is the method used for this research which uses correlational research design. Therefore, to predict scores and explain the relationship between variables that is a correlation research design (Creswell, 2012). The population is class XI students at SMK Telkom Makassar in the 2020/2021 academic year. Part 1 class is 24 students and part 2 is 22 students. Quota sampling is a sampling technique in this study. For this study, the researcher distributed the zoom link to the group class and when the number was met, the zoom meeting was closed.

The study used the following instruments to achieve the purpose of the research: (1) Speaking test, speaking test designed and developed by the researchers based on students' activity book at school. The test consisted of two questions which first was describing a photo and second was a role play. (2) Writing test, students instructed to write a procedural text. (3) Group Embedded Figure Test (GEFT), it uses to determine students' cognitive styles adapted from (Witkin, Moore, Goodenough, & Cox, 1977). It was consisted of 25 complex images.

In the early stages of data collection, to ensure participants' understanding, the GEFT test was translated into Indonesian. This stage, GEFT and speaking and writing tests are all given to students of SMK Telkom Makassar majoring in Tourism during lectures in the 2020/2021 academic year. To ensure the structures survived the speaking and writing tests, they were tested by researchers and in experienced EFL.

Findings and Discussion

The data of the students' cognitive style, speaking and writing ability collected by conducting tests to 30 students from 2 classes (Tourism-1, Tourism-2) chosen by quota sampling. Results of data displayed in the form of mean, standard deviation, highest and lowest scores and ranges with tables and histograms.

1.1 Data of Cognitive Style

From 30 samples, 16 students (54%) had a Field Dependent cognitive style while 14 students had a Field Independent cognitive style (46%). The average score of all samples was 8.83, categorized as Field Dependent. The minimum score was 1 and the maximum score was 18. Table 2 presents the data for overall sample.

Table 2. Cognitive style result by overall sample

n	M	SD	Min	Max
30	1	5.25	1	18

1.2 Data of Speaking

The data of the English speaking ability were collected by using a test taken from students' English book that they were using. The high score of the test was 90 and the low score was 24 so the range was 66. The mean was 51.83 and standard deviation was 23.6 respectively

Table 3. Frequency distribution of speaking ability

Score	X	F	Percentage (%)
21-35	28	10	33
36-50	43	5	17
51-65	58	2	7
66-80	73	9	30
81-95	88	4	13
Sum		30	100

1.3 Data of Writing

The data of writing skill were collected by using a test taken from their

English book that they were using. The high score of the test was 90 and the low score was 34, so the range was 56. The mean was 63.67 and standard deviation was 24.1 respectively.

Table 4. Frequency distribution of writing

Score	X	f	Percentage (%)
31-40	35	11	37
41-50	45	1	3
51-60	55	1	3
61-70	65	1	3
71-80	75	4	13
81-90	85	12	40
Sum		30	100

The research data from two variables was summarized below:

Table 5. Summary of result

Variable	Mean	SD	Min.	Max.	Range
Cognitive Style (X1)	8.83	5.25	1	18	17
Speaking Ability (Y1)	51.83	23.59	24	90	66
Writing Ability (Y2)	63.67	24.10	34	90	56

1.4 Correlative Result

This research aimed to discover if there is a statistically significant relationship between cognitive style and productive skills achievement. Therefore, the Pearson Product Moment Correlation applied. The null hypothesis of this research was that there is relationship between cognitive style and productive skills achievement. A two-tailed test was performed with the level of significance set at $p < 0,05$.

Table 6. Correlation between type of cognitive style and productive skill achievement

English Skills	Sig. Speaking	Sig. Writing
Field Independent	0.030	0.012
Field Dependent	0.035	0.037

From the table above, it was shown that cognitive style for both Field Independent and Field Dependent were correlated with students' scores of speaking and writing English which seen by the speaking significance of Field Independent was 0.030 and writing result was 0.012. Meanwhile, speaking significance of Field Dependent students was 0.035 and writing result was 0.037.

Table 7. Contribution Cognitive Style to Productive Skills

Correlation	Robtained	Contribution (y)
Cognitive style- Speaking Ability	0.385	14.8%
Cognitive style- Writing Ability	0.453	20.5%

The above calculation results showed that the correlation coefficient (r_{xy}) between cognitive style and speaking ability was 0.385. The contribution of cognitive style to speech ability was $y = R^2 \times 100\% = 0.148 \times 100\% = 14.8\%$. This is because 14.8% of the variations in speaking skills are influenced by cognitive style, 85.20% are influenced by other factors, and the contribution of cognitive style to writing ability $y = R^2 \times 100\% = 0.205 \times 100\% = 20.5\%$. It means that it is 20.5%. This means that 20.5% of language skills were influenced by cognitive style and the remaining 79.5% were influenced by other factors. Based on the simple interpretation above, the study found a correlation between vocabulary and speaking, whether cognitive style, speaking, or writing is moderate.

Discussion

The results of the study showed that there was a significant relationship between cognitive style and productive skills. The description of the data shows that each variable has mean and standard deviation values. The average total score for the cognitive style data description was 8.83 and the standard deviation score was 5.25. The average descriptive score for speaking skill data was 51.83 and the standard deviation was 23.6. This meant a high average level of speaking ability and a low standard deviation. This meant that the average total cognitive style score was high and the standard deviation was low. Second, the average total score for the write data description was 63.67 and the standard deviation score was 24.10. This meant that the average total writing score was high and the standard deviation was low.

The students 'cognitive style had weak contribution toward the speaking ability that was 14.8% and the students 'cognitive style had weak contribution toward the writing ability that was 20.5% It proved that cognitive style can influence the productive skills of the students, while the 85.20% speaking factors were influenced by others and 79.5% writing factors were influenced by others.

The result of the current study showed a similar finding from (Padmi, 2018), it found that there was a positive and significant correlation between cognitive style and verbal ability. As can be seen from the resulting data, cognitive ability requires the ability of field-independent people to speak more easily or more accurately, regardless of second language. On the other hand, people who depend on the field can be at a disadvantage when speaking. Based O'Brien et al. (2001) said cognitive style appears to be most relevant to academic performance, such as speaking performance, when compared to variables such as emotional and physiological factors.

In addition, the same finding from the experiments on the writing ability of EFL students (Andheska, Suparno, Dawud, & Suyitno, 2020), the study found that the ability in writing in the Field Independent group was higher than students in the Field Dependent group, it proved that the writing ability of Field Independent students showed extraordinary results compared to Field Dependent students. Muttaqin (2020) found that Students in the discipline-dependent cognitive style

category will only perform better in controversial writing when treated in a process-oriented pedagogy. Based on Stansfield and Hansen (1983) said that cognitive style has a positive and significant correlation with linguistic, communicative, and integrated skills in the second learning process.

As explained above, it can be concluded that cognitive style was significantly correlated with the student's productive English skills. Teachers need to maintain this in the classroom process in order to develop student productive skills and understand their cognitive style. As a result, they can contribute to students' English speaking and writing performance.

Conclusion

From the discussion on the previous chapter, the researcher drew the conclusion as follows:

1. From 30 samples, 16 students had a Field Dependent cognitive style while 14 students had a Field Independent cognitive style and most of the students have poor achievement in speaking and writing skill.
2. The finding showed that the value of correlation between cognitive style and English Speaking skills was 0.385 while the value of correlation between cognitive style and English writing skills was 0.012. The values indicated that there was a moderate, positive and significant correlation between cognitive style and productive skill of the eleventh-grade students majoring Tourism of SMK Telkom Makassar in academic year 2020/2021. The contribution of cognitive style toward speaking ability was 14.8%, and 85.2% were from others factor. The contribution of cognitive style toward writing ability was 20.5%, and 79.5% were from other factors. It means that speaking and writing ability will follow the increase or the decrease of the cognitive style.
3. There is still a chance for the students to improve their speaking and writing ability because both teacher and students already know the students' areas in

which they feel less comfortable, work on the development of these, thus provide avenues to foster their intellectual ability.

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