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FI-FD COGNITIVE LEARNING STYLES OF NEW STUDENTS IN THE GEOGRAPHY EDUCATION DEPARTMENT

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Abstract. *Student's learning style is one of the most important things that must be known by the teacher so that he can give a treatment to learn that according to the conditions and needs of students. The purpose of this study was to determine and classify new students' cognitive learning styles in geography education department, Faculty of Social Sciences and Law, State University of Surabaya. The method used in this research was experiment and data was collected by cognitive tests using Witkin model, observation, and interviews. The subjects were 95 students of 2016 class. Furthermore, the data were analyzed using descriptive statistics. The results showed that 78 students or 17.9% have cognitive learning styles of Field Independence, and the other 17 students or 82.1% have cognitive learning style of Field Dependence. Therefore, it can be concluded that the learning styles of field independence is possessed by students who mostly come from the social sciences in high school, while the field dependence type is possessed by students who came from natural science class.*

Keyword : *education, learning style, cognifitive style.*

INTRODUCTION

Based on preliminary studies, it was obtained that a study conducted by lecturers in the department of geography education had never been based on cognitive learning styles of students. As a result, students did not get treatment in accordance with the conditions and needs because the determination of learning model fully authorized lecturers. It certainly cannot be left because the lecturer must provide the best learning to students. Thus, lecturers should be able to create active, creative and fun learning condition. This condition, of course, could be done when all the lecturers in the department of geography education understood their students' cognitive learning styles.

On the other hand, it was important for students to know their cognitive learning styles either field independent or dependent, which could affect their knowledge to solve a problem. They would be aware of his knowledge to solve the problem in completing the course materials. According to Ausubel, Theo van Els, and Brown (cited in Mukhid, 2009) stated that a person's cognitive style might explain the individual's different achievement in learning. Cognitive style is one of the characteristics of individuals that can help to explain individual differences in learning achievement, including the ability of metacognition. Understanding this shown that when people do learning activities, learning outcomes will be determined on

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how to think of the individual concern, how to manage, process, organize and recall information obtained from teachers or other sources.

Relating to cognitive style, Acharya (2002) states that if the students' cognitive styles can be accommodated in learning, it will improve their learning attitudes and thinking skills, academic achievement, and creativity. Information about cognitive style helps teachers in the school to be more sensitive to the differences of the students in the classroom. Therefore, by knowing the cognitive styles of students, teacher can know the right way to do when teaching mathematics, especially trigonometry concept in individuals who have cognitive style, primarily in teaching mathematics using problem-solving approach

According to Witkin and Goodenough (cited in Mancy and Reid, 2004) individuals' field dependent is difficult to separate the items of an object from its original form. Furthermore, Witkin, et al. (In Oh and Lem, 2005) states that the field dependent people tend to see things in a relatively global is easily influenced by the prevailing environment or context. Still according to Witkin and Goodenought (cited in Altun and Mehtap, 2006) states that individuals who have cognitive style of field independent are capable of abstracting elements of its context or background of context more analytical and tend to use a problem-solving approach more analytically.

Research conducted by Milan (2014), shows that the cognitive learning styles greatly influence on the students' ability in solving a lesson material in electronics. While Hongtin (2016) in his research explains that students who have the ability to learn the style of field independence tend to be higher and faster in response to the subject matter related to two-dimensional and three-dimensional mapping. Another study conducted by L.Remy (2014), shows that field independence and field dependence models are the most effective strategies used to measure students' skills in problem-solving,. Charoula study (2013) shows a significant difference in the students who have the cognitive style of field independence and field dependence in solving the problem on a computer lesson.

From the opinions of experts and results, it can be concluded that FI-FD cognitive learning styles greatly affect students' ability to solve problem. This study attempted to see from another aspect, namely the classification of students' cognitive abilities and recommend treatment in accordance with their cognitive styles.

METHOD

To achieve these objectives, the method used in the study was an experiment and the populations were 95 students of class 2016. Data were collected using Witkin tests model, observation, and interviews. While research data analysis used was descriptive statistics by percentage.

RESULT AND DISCUSSION

Results of This Research

The results showed that 82.1% of new students or 78 new students in the department of geography education, Faculty of Social Sciences and Law, State University of Surabaya have cognitive learning styles of field dependence, and 17 students or 17.9% had field independent. Furthermore, 78 students with dependent field learning style by 72 students, or approximately 92.3% of them were from social sciences in high school, and other 6 students, or about 7.7% were inexact science background. Then from 17 students who have learning styles are all independent field from inexact science in high school. The trials in this study were conducted twice and showed the same results so that the researchers did not conduct the third test.

DISCUSSION

Cognitive styles are important variables that influence the choices of students in the academic field, especially issues related to learning, behavior patterns of student learning, how students learn, how students think, the way students respond to information, and how students solve problems. According to, Archarya (2002) if the cognitive styles of students are accommodated in learning, then it can lead to the improved learning attitudes and increase their thinking skills, academic achievement, and creativity. Information about cognitive style helps teachers in the school to be more sensitive to the students' differences in the classroom. Tenant (1988) defines cognitive style as characteristic consistency of individuals to organize and process information. Such information is kind of student information received from the subject matter of the teacher when studying, information obtained through reading materials or other media, as well as information in the form of a task or problem to be solved.

Cognitive style is characterized as a cognitive trait possible to tell the difference in quality of individual ability to solve problem. Measurement of these properties typically involves tasks that require the selection of the right solution among several alternative responses, in which the response latency and accuracy is recorded for each item (Kagan, 1966; Egeland, 1974). According to Goldstein and Brophy (1990) Cognitive styles refer to the individual characteristics to organize the environment conceptually. The opinion can be taken from an understanding that cognitive style is a way used by individuals to process information in response to environmental stimuli. There are individuals who receive such information presented, while the other individual to reorganize the information in his own way. Ausubel (1968), Theo Van Els (1984) and Brown (1994) (in Mukhid 2009) limit the permanent and durable in organizing and cognitive functioning." Thus, cognitive style

is the one characteristic that may explain individual differences in learning.

Witkin, et al (1977: 15) suggests some understanding of cognitive styles as follows: *(a) cognitive style is concerned with the form rather than the content of the cognitive activity. They refer to individual differences in how we perceive, think, solve the problem, learn, relate to other, etc, (b) characteristic of cognition style is that they are stable over time, and (c) cognitive style are bipolar. This characteristic is of particular importance in distinguishing cognitive styles from intelligence and other ability dimensions.*

Heineman (1995) suggests some understanding of cognitive styles as follows: (1) cognitive style refers to the preferred way people organize and process information; (2) cognitive style is usually described as a dimension of personality that influence attitudes, values, and social interaction; (3) cognitive styles include consistent behavior patterns of individuals, in terms of how to think, remember, and solve problems. The same opinion of Riding, Glass, and Douglas (1993) cognitive style refers to individual characteristics and consistency in understanding, remembering, organizing, and processing the information, thinking and solving problem. Witkin, et al. (1971) states that cognitive style is a characteristic reflected from each individual and these characteristics can be influenced by two factors, namely: factors relating to the influence of external stimuli and factors relating to the effect of individual personal. The individual characteristics are often not recognized and once formed tend to hang on, meaning that external stimuli factor is quite dominant in influencing psychiatric problems, such as environmental education, family environment, and s ociety environment. This is described by Dunn and Dunn (cited in Lourdusamy, 1994) that cognitive style can be affected by five factors: environment, social, emotion, physiology, and psychology.

Field Dependent Cognitive Style

According to Witkin (in Hendel, 2004) says that " *field-dependent cognitive style refers to a way of organizing and processing in the formulation in which the field is seen as a single unit*". Thus, there are some inherent characteristics of students who have the cognitive style of field dependent, as proposed by Witkin, et al. (1977), the characteristics of a field-dependent cognitive styles as follows: (a) global and socially-sensitive/ prefer group project, (b) easily influenced by prevailing field or context, (c) extrinsically motivated, (d) sensitive to environments, (e) less structured, less autonomous.

According to Witkin and Goodenought (in Mancy and Reid, 2004) field dependent of individuals is difficult to separate the items of an object from its original form. Furthermore, Witkin, et al. (In Oh and Lem, 2005) states that dependent fields people tend

to see things in a relatively global, and are easily influenced by the prevailing environment or context. Based on some theories above, it can be concluded that field-dependent cognitive style is an individual characteristic in addressing global issues. Implications of cognitive style field are dependent student in learning is likely to choose to study in groups and frequently interact with teachers, require reward or reinforcement that is extrinsic.

Field Independent Cognitive Style

According to Witkin and Goodenough (cited in Altun dab Mehtap, 2006) individuals with cognitive Field Independent style are capable of abstracting elements or background of context, and tend to be more analytical and use the problem-solving approach in a more analytic way. Witkin, et al. (1977) describe the characteristics of cognitive Field Independent style as follows: (a) the analytical, competitive, independent, and individualistic, (b) have goals, objectives, strategies and the strengthening of its own, (c) are motivated intrinsically, (d) lack of social skills / prefers individual tasks, (e) structured and well organized in learning. Witkin and Goodenough (cited in Mancy and Reid, 2004) defines the characteristics of Independent Field is the individual / person who can easily put the items object in its original form. The people are good at seeing the differences specific to place an item on the object that is complicated. It is said to be complicated because many of objects to place the item. According to Witkin, et al. (In Oh and Lem, 2005) states that individuals with cognitive styles tend to perceive their environment analytically, separate objects from the background discretely.

Based on some Expert opinions above, it can be concluded that individuals with Independent Field cognitive style are individuals who have characteristics in addressing the problems analytically. Implications of students who have the cognitive independent field tend to choose individual learning in learning process, enable to respond better and more independent, make it more likely to achieve the goal with intrinsic motivation, and tend to work to meet their own objectives.

CONCLUSIONS

This study shows that students who come from the social sciences tend to have cognitive learning style of field dependence type and for inexact students who have a cognitive learning styles of field independentnce type. In general, most of the new students who entered in department of geography education have cognitive learning styles of field dependence type. They would rather choose to study in groups and frequently interact with teachers, require reward or reinforcement that is extrinsic.

This study recommends lecturers to provide cooperative learning in the lecturing process because the characteristics of the students may have cognitive learning styles of field dependence type. Meanwhile, to

support the independence of the student, the faculty needs to provide and design the individual task at the end of the course. Therefore, the learning objectives can be done well, and students can learn with fun learning environment that meet their expectations.

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