

Metakognitif Ability Analysis Viewed from Student Learning Students

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Abstract: This research is based on the low of metacognitive ability of the students of grade X of Social High School of State 11 Bandung. The goal is to know the difference in metacognitive ability seen from activist, reflector, theoretic and pragmatic learning styles. This research method is explanatory survey with descriptive technique and quantitative data analysis. The population of this research is the students of X Grade of Social Science of State Senior High School, the sample is saturated by 176 students. The instrument used to collect data consists of two standardized questionnaires: learning styles using Learning Styles Questionnaire (LSQ) developed by Peter Honey and Alan Mumford, and metacognitive capabilities using the Metacognitive Awareness Inventory (MAI) developed by Schraw and Denninson. Data is processed and analyzed by using different test analysis. The results showed that there were significant differences in metacognitive ability seen from student learning styles, and metacognitive ability in reflective learning style greater than activist, theoretic and pragmatic learning style.

1 INTRODUCTION

Learning in the 21st century is aimed at fostering critical and creative thinking skills and empowering metacognitive abilities to enable learners to be able to face and respond to challenges in the future. In line with that one of the intelligence that is aimed at Curriculum applicable in Indonesia is metacognitive intelligence. Pre-research results indicate that there are still students who fail or have not reached the minimum graduation criteria. Allegedly one of the causes of low learning outcomes is due to low metacognitive awareness that affects the thinking of students who are less systematic or less coherent. This can make it difficult for students to understand concepts that result in low learning outcomes. (Lin and Sugiarto, 2012, Ellis. Et.al., 2014)

Metacognitive in this study refers to the model made by Schraw and Moshman (1995) which consists of metacognitive knowledge (metacognitive knowledge) and metacognitive regulation (metacognitive regulation). General metacognitive knowledge according to Brown et al (Schraw and Moshman 1995, pp. 352) is knowing what one knows and how one learns and remembers. Learning Style used in this research is Learning Style according to Peter Honey and Alan Mumford (2006)

better known as Honey Mumford Learning Style. There are four types of learning styles of Honey and Mumford: learning style of activist, theorist, pragmatic and reflector.) Activists, ie learning style of people who are open, focused, enthusiastic, likes challenges, easy to make decisions and social. Theorists, the Logical, Rational, Systematic, Conceptual and Logical Logical Learning Styles. Pragmatists, Learning Styles who prefer to solve problems, love new ideas, enjoy working with others, and Reflector, the Learning Style of people who are more considerate, careful, conscientious, happy to be on the bench and low self. (Hutapea and Thoha, 2008) Carns and Carns' research (1991) suggests that Learning Styles can be used to improve metacognitive skills. Of the 118 grade 4 students diagnosed with the Learning Styles, test results were obtained which showed an increase in score. In addition to research from Carns and Carns, also reinforced by research from Kania (2012) which shows that learning styles and learning motivation have a significant effect on students' metacognitive ability.

2 METHODS

The method used is explanatory survey, with all students of social science X State senior High School 11 Bandung who have obtained economic subjects. Research population of 176 students. (Siregar, 2013) and with sample technique. Data were obtained using a learning style questionnaire developed by peter honey that was more familiar with Learning Style Questionnaire (LSQ) and metcognitive awareness inventory (MAI) questionnaire developed by Schraw and Dennison. In order to answer the analysis, we used a different analysis technique with Chi-Square

3 RESULTS AND DISCUSSION

3.1 Finding

Research result The dimensions of metacognitive knowledge have indicators that include declarative knowledge, procedural knowledge, and conditional knowledge while metacognitive regulation has indicators that are planning, information management, monitoring, improvement and evaluation, all these indicators have been summarized in 52 questions that researchers have spread and distributed to the recipient. The data of this research on metacognitive is shown in table1.

Table 1: Metacognitive ability analysis

No	Dimension	ST	T	S	R	SR	Total
1	Knowledge metacognitive	52	67	40	11	6	176
2	Metacognitive Regulation	90	50	23	8	5	176
Total		142	117	63	19	11	352
Percentage (%)		40	33	18	5	3	100

Table 1 illustrates the metacognitive abilities of the class X students. The social science of the 11th high school of the country of Bandung is mostly included in very high criteria.

Activist learning style has indicators that are needed as a reference in developing questionnaire questions that include: flexible, bored with konsolidasi, open minded, optimistic about change, acting without preparation, quick decision, taking unnecessary risks, not resisting to change, likes challenge And social life.

The reflector learning style has indicators that include: Careful, meticulous, more considerate, good listener, part of participation, methodical, not jumping to conclusions, slow to decide, thorough and wise, happy to be bench and humble.

Theorist learning style with very high criteria is the learning style most owned by respondents that is as much as 43% whereas theorist learning style with very low criteria is the smallest that is only 3%.

Pragmatic learning styles have indicators that include: Impatient attitude with too long discussions and too many theories, interested in testing things in practice, realistically practical, loves new ideas, rejects ideas without clear application, likes to solve problems with clear solutions, Focused tasks and techniques, happy to work together.

Table 2: Result Test

Learning Style	Mean Rank
Activist	2.00
Reflector	3.03
Theorist	2.51
Pragmatis	2.47

There are differences in Metacognitive abilities seen from learning styles accepted, meaning that the metacognitive ability of reflector learning style is greater than the learning style of activist, theorist, and pragmatic.

3.2 Discussions

In this study, the result of students who have metacognitive ability is very high reaches 40%, the arrest is, most students have ability to control the learning process, starting from choosing the right strategy according to problem faced, then monitoring progress in learning and simultaneously correction if any Errors that occurred during understanding the concept, analyzing the effectiveness of the chosen strategy

Differences in Metacognitive Ability Viewed From Student Learning Styles In this study, the result of students who have metacognitive ability is very high reaches 40%, the arrest is, most students have ability to control the learning process, starting from choosing the right strategy according to problem faced, then monitoring progress in learning and simultaneously correction if any Errors that occurred during understanding the concept, analyzing the effectiveness of the chosen strategy.

Flavel (Garrett, 2007) formulates three variables that influence metacognitive abilities of the learners (self) variables, task variables and strategy variables. Of the learners variables (Self) improvement of metacognitive ability is influenced by individual differences. Differences between individuals like their learning styles. Student learning style in this research is learning style according to Honey and Mumford which consists of learning style of activist, reflector learning style, theorist learning style and pragmatic learning style.

Activist learning style is very high reached 35%. The data illustrates that most respondents have a flexible and open attitude, are easily bored with the consolidation and are optimistic and open to change. But respondents with learning style criteria tend to often act without preparation, make quick decisions and take unnecessary risks. In addition, respondents love challenges, have a high social spirit. Furthermore, the results of research on reflector learning style variables, students who have reflector learning style with very high criteria reached 59.1% of students. This illustrates that some respondents are students who have a careful, conscientious, more considerate attitude, good listener, part of participation, methodical, not jumping to conclusions, slow to decide, thorough and wise, happy to be bowed and humble.

Students who have theorist learning style with very high criteria reach 43%. This illustrates that some respondents are students who have a disciplined attitude, good logic, be rational and very conceptual. Students who have a theoretical learning style will experience barriers to learning when they engage in objective activities and are involved in unstructured activities.

Students with this type of learning will be good at learning on activities when in a structured situation with clear goals. Students who have a pragmatic learning style with very high criteria reach 48%. This shows that some respondents are students who do not like long-standing discussion but students who want to immediately do real action or directly down the spaciousness.

Students who have pragmatic learning styles will learn well on active activities when they are introduced to ideas or techniques to perform as clearly as have practical advantages and have a high quality of appearance and they have the opportunity to try and practice techniques / theories with expert guidance Trusted and given the opportunity to implement what they have learned.

Metacognitive ability in reflector learning style is greater than the learning style of activist, theorist and pragmatic. The results of this test show that students who have reflector learning style have metacognitive ability is better than students who have learning style of activist, theorist, and pragmatic.

The results are reinforced by the results of research conducted Teti (2015) which shows that reflector learning style has a greater influence on metacognitive ability compared with other learning styles. Students who have reflective learning styles more time to observe before they act. They do not want to take the initiative to act because they do not want to be a leader. In accomodating the learning styles of students, teachers should train students to

look at learning well, teachers should pay attention to student learning styles according to what students need.

Therefore, teachers must adjust the learning model with the learning style of students. In the learning process the teacher should act as a facilitator by providing direction and guidance through questions so that students ask themselves. Siswa yang memiliki gaya belajar pragmatis dengan kriteria sangat tinggi mencapai 48%.

4 CONCLUSIONS

That most students have metacognitive regulation with very high criteria means that students can do planning, goal setting, and resource allocation before learning very well, have the skills to process information very efficiently, can assess the way learning and strategies used, always evaluate Success and effectiveness of learning strategies.

That most students are very careful and very careful, excellent listeners, always part of participation, very methodical, not quick jump to conclusions, always be thorough and wise, very happy to be dibangku. But, very considerate, slow to decide, very low self. There is a difference in metacognitive ability seen from student learning styles. The students' metacognitive abilities with reflective learning styles outweigh the activist, theoretic and pragmatic learning styles.

REFERENCES

- J, Garrett. 2007. Assessing Students' Metacognitive Skills. *Am J Pharm Educ* vol 71(1).America: American Association of Colleges of Pharmacy
Kementrian Pendidikan Nasional (online). Tersedia: <http://www.google.co.id/url>.
- Iin, Yustina dan Sugiarto, Bambang. 2012. Correlation Between Metacognitive Skills With Student Learning Outcomes At SMAN 1 Dawarblandong, Mojokerto. *J. Unesa Journal of Chemical Education*.
- G, Schraw &D, Moshman. 1995. J. Metacognitive Theories. *Educational Psychology Review* Linclon: University Nebraska. 7, 4. 351-371.
- P, Hutapea dan N, Thoha. 2008. *Kompetensi Plus*. Jakarta: Gramedia Pustaka Utama.
- A.W, Carns & M.R., Carns (1991). J. Teaching Study Skills, Cognitive Strategiesand School Metacognitive Skills through Self-Diagnosed Learning Styles. *Counselor*. 38, 5. 341– 346.
- Kania. 2012 Pengaruh Gaya Belajar Dan Motivasi Belajar dalam meningkatkan kemampuan Metakognitif siswa pada pelajaran IPS. Tesis. UPI Bandung.

- P, Honey & A, Mumford. 2006. Learning Styles Questionnaire: 80 Item Version. London: Peter Honey. Publications.
- Teti. H. 2015. Pengaruh gaya belajar reflector dan Gaya Belajar Pragmatis Terhadap Keterampilan Belajar Metakognitif Siswa Dalam Pelajar ekonomi. Tesis. Upi Bandung

