The Relationship Between Self-Regulated Learning on Learning Motivation and e-Learning Activities in Virtual Learning at SMAN 9 Tasikmalaya City

Darwis Darmawan[1], Septian Cahya Azhari[2*], Siti Fadjarajani[3]
[1,2,3]Department of Geography Education, Siliwangi University, Indonesia

ABSTRACT

Virtual learning during the COVID-19 pandemic requires an investigation into the psychological development of students. This study aims to determine the relationship between self-regulated learning on student learning activities using e-learning. This research was conducted in May 2022 on class XI students at SMAN 9 Kota Tasikmalaya by taking a sample of 100 students to fill out a questionnaire. Structural equation modeling partial least square (SEM-PLS) was used to analyze the data in the study. The results showed that the value of the path coefficient of all variables was 0.000 so that there was a significant relationship between self-regulated learning (SLR), learning motivation and e-learning student activity. So, to get optimal results during virtual learning, the formation of student SLR is one thing that needs to be focused.

Keyword: Self-regulated learning, Learning Motivation, E-Learning Activity

Corresponding Author:
Septian Cahya Azhari
Siliwangi University,
Siliwangi Street, No.24, Tawang, District, Tasikmalaya City
E-mail: **192170004@student.unsil.ac.id**

1. INTRODUCTION

Student learning activities are largely determined by how students can organize themselves to carry out learning activities and the motivation that drives them. In virtual learning, their learning is done through media such as zoom, google meet which allows them not to interact directly with their teachers and friends. However, virtual learning is still an option that is still applied during the covid-19 pandemic which aims to prevent wider COVID-19 virus infections. Students are required to be able to master the knowledge conveyed by the teacher and do school assignments given as a way to assess the competence of students.

Self-regulated learning is a way for students to regulate themselves about how they learn and carry out various cognitive activities to achieve their goals (Zimmerman, 1986). Self-regulated learning includes several aspects including goal setting (Cleary & Zimmerman, 2004; Hadwin & Winne, 2001; Wolters et al., 1996), planning (Cleary & Zimmerman, 2004; Zimmerman & Risemberg, 1997), self-motivation (Cleary & Zimmerman, 2004; Corno, 1993; Wolters, 2003), attention control (Harnishfeger, 1995; Panadero, 2017), flexible use of learning strategies (Broek et al., 2001), self-monitoring (Cleary & Zimmerman, 2004), appropriate help seeking (Butler, 1998; Pintrich et al., 1993) and self-evaluation (Schraw & Moshman, 1995; Toering et al., 2012).

E-learning-based student learning activities have been widely applied in various high schools and colleges, the difference being that students in high school require more guidance and direction from their teachers than students in higher education. However, students who have high self-regulated learning can regulate themselves to carry out learning activities alone or in groups. At the time of virtual learning during the COVID-19 pandemic, most students carried out their learning activities individually and carried out in their respective homes. Thus, parents have a strategic role in shaping students' study habits and providing encouragement for learning motivation.

According to some studies, virtual learning causes psychological effects on students such as academic anxiety, boredom, and academic stress (Camacho et al., 2021; Fuentes-García et al., 2020; Kannampallil et al., 2020).

The role of motivation in students' learning activities during virtual learning helps them in completing various school assignments, having the urge to repeat learning materials and setting a consistent schedule for learning. This study aims to investigate the relationship between self-regulated learning on learning motivation and student learning activities related to the use of e-learning. This research is important to do by looking at the condition of the learning system that applies distance learning or virtual learning, besides that student in the 21st century already have unlimited connectivity to world libraries so it is necessary to find out whether the millennial generation can use these technological advances in their learning. The limitation in this study is that it has not yet reached the use of e-learning further which is used by students, so it has not been able to provide an evaluation of the use of e-learning in student learning. Future research may be able to analyze more specifically about student learning activities based on e-library.

2. RESEARCH METHOD

Types of Research

This study uses a quantitative research approach using path analysis.

Population and Sample

The population in this study were students of SMAN 9 Kota Tasikmalaya Class 11 IPS 1-4 which were then taken as a sample of 100 respondents by random sampling. A sample of 100 has met the requirements for sampling with partial least squares (PLS) analysis (Insap Santosa, P. 2018).

Research Measurement

The research data was obtained through a questionnaire with a Likert scale of 1-5 (1 strongly disagree-5 strongly agree) to measure their perceptions related to the research topic. The variable model that is formed is then measured through reflective indicators. The reflective indicator is a sample representation of all possible items that are determined to measure the latent variable according to the domain of the latent variable (Insap Santosa, P. 2018). The purpose of reflective measurement is to maximize the overlap that shows a high degree of correlation between the indicators that have been determined.

Data Analysis Technique

Analysis of research data using Structural Equation Modeling-Partial Least Square (SEM-PLS) analysis using SmartPLS software version 3.3.7.

Research Design

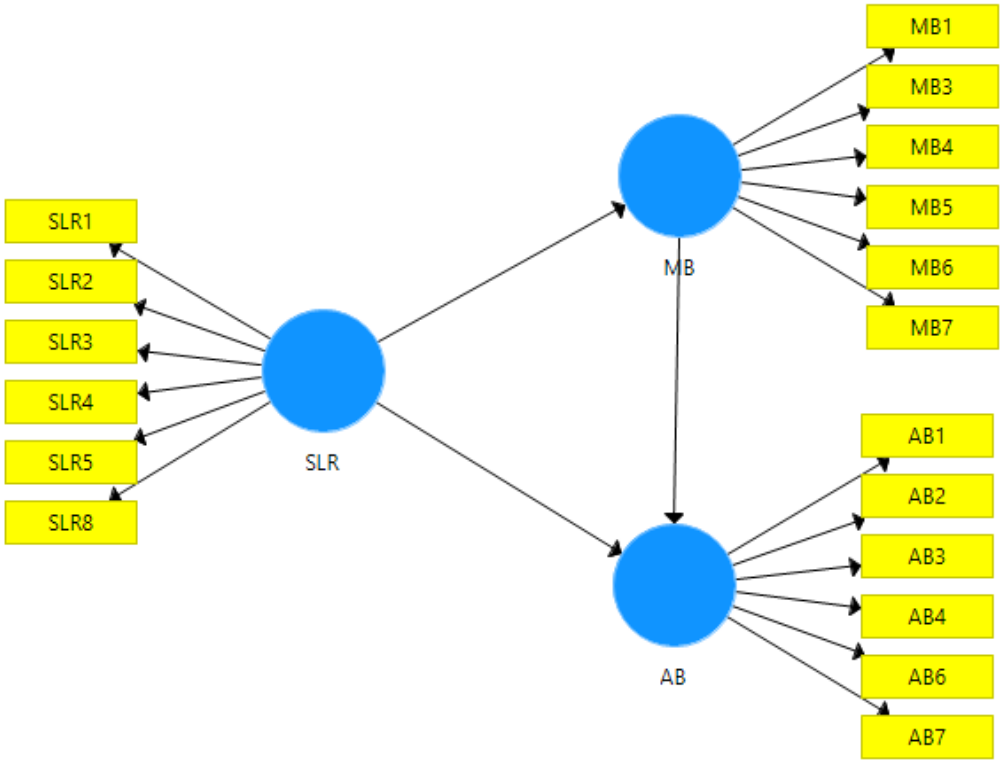

Fig 1. Research Design

Fig.1 shows the research design where there are self-regulate learning variables as exogenous variables, learning motivation and student learning activities as endogenous variables.

3. RESULTS AND DISCUSSION

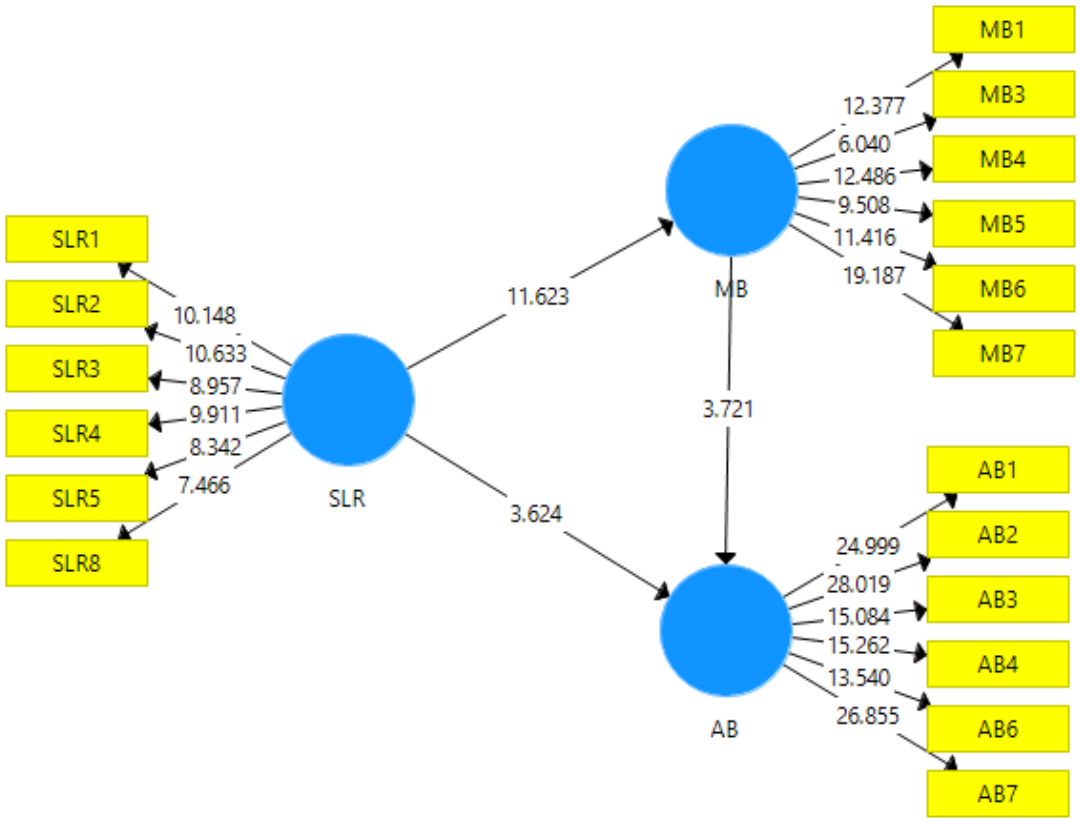

Fig 2. Measurement results

Outer Loadings

Table 1. Measurement of Outer Loadings

Indicator	Learning Activity	Learning Motivation	Self-Regulated Learning
AB1	0.834		
AB2	0.846		
AB3	0.795		
AB4	0.778		
AB6	0.712		
AB7	0.838		
MB1		0.715	
MB3		0.609	
MB4		0.730	
MB5		0.684	
MB6		0.701	
MB7		0.785	
SLR1			0.722
SLR2			0.727
SLR3			0.644
SLR4			0.686
SLR5			0.704
SLR8			0.635

In table 1 shows the results of the outer loadings, each variable has a value above 0.6 so that the data can be accepted to proceed to the next analysis (Henseler et al., 2014).

Construct Reliability and Validity

Table 2. Construct Reliability and Validity Results

Matrix	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
Learning Activity	0.889	0.895	0.915	0.643
Learning Motivation	0.800	0.813	0.856	0.499
Self-Regulated Learning	0.776	0.775	0.843	0.473

Table 2 shows normal data where the value of Cronbach's alpha is above 0.7 (Henseler et al., 2014; Sarstedt et al., 2016).

Discriminant Validity

Table 3. Discriminant Validity

Variable	Learning Activity	Learning Motivation	Self-Regulated Learning
Learning Activity	0.802		
Learning Motivation	0.579	0.706	
Self Regulated Learning	0.572	0.666	0.687

Table 4 shows a good value where each loading value on the construct has a higher value (Henseler et al., 2014)

Path Coefficient

Table 4. Path Coefficient

Variable	Original sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistic (|O/STDEV|)	P Values
Learning Motivation -> Learning Activity	0.355	0.358	0.096	3.721	0.000
Self-Regulated Learning -> Learning Activity	0.335	0.343	0.092	3.624	0.000
Self-Regulated Learning -> Learning Motivation	0.666	0.680	0.057	11.623	0.000

Table 5 shows the results of the path coefficient analysis with the P Values of each variable 0.000 so that between variables has a significant relationship. Self-regulated learning has a relationship to student acceleration, especially to the formation of learning motivation and activities to improve students' cognitive (Broadbent & Lodge, 2021). Students' learning motivation is formed by their goals in learning and the ideals they will realize in the future (Azhari et al., 2022; Cheng, 2020).

4. CONCLUSION

Self-regulated learning has a role to be able to raise students' awareness in learning activities. This needs to get the attention and support of people to stimulate students in managing independent learning. In addition, in the 21st century, which has provided easy access to knowledge, students must be directed by their teachers so that they can manage e-libraries wisely, so that in the future they can face more complex educational challenges and be able to provide problem solving for their environment.

REFERENCES

Bandura, A. (1971). Social learning theory. New York, NY: General Learning Press.

Azhari, S. C., Rosali, E. S., Firmansyah, M. F., & Zulian, H. (2022). Investigating Family and Peer Support on Learning Habits and Achievements in Online Learning. *JINOTEP (Jurnal Inovasi Dan Teknologi …*, *9*(2), 136–144. https://doi.org/10.17977/um031v9i22022p136

Bandura, A. (1971). Social learning theory. New York, NY: General Learning Press.

Broadbent, J., & Lodge, J. (2021). Use of live chat in higher education to support self-regulated help seeking behaviours: a comparison of online and blended learner perspectives. *International Journal of Educational Technology in Higher Education*, *18*(1). https://doi.org/10.1186/s41239-021-00253-2

Broek, P. Vanden, Linderholm, T., & Gustafson, M. (2001). The effects of readers' goals on inference generation and memory for texts. *Memory & Cognition*, *29*(8), 1081–1087.

Butler, R. (1998). Determinants of Help Seeking: Relations between Perceived Reasons for Classroom Help-Avoidance and Help-Seeking Behaviors in an Experimental Context. *Journal of Educational Psychology*, *90*(4), 630–643. https://doi.org/10.1037/0022-0663.90.4.630

Camacho, A., Correia, N., Zaccoletti, S., & Daniel, J. R. (2021). Anxiety and Social Support as Predictors of Student Academic Motivation During the COVID-19. *Frontiers in Psychology*, *12*(May), 1–11. https://doi.org/10.3389/fpsyg.2021.644338

Cheng, X. (2020). Challenges of'school's out, but class's on'to school education: Practical exploration of Chinese schools during the COVID-19 Pandemic. *Sci Insigt Edu Front.* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3565605

Cleary, T. J., & Zimmerman, B. J. (2004). Self-Regulation Empowerment Program: A school-based program to enhance self-regulated and self-motivated cycles of student learning. *Psychology in the Schools*, *41*(5), 537–550. https://doi.org/10.1002/pits.10177

Corno, L. (1993). The Best-Laid Plans: Modern Conceptions of Volition and Educational Research. *Educational Researcher*, *22*(2), 14–22. https://doi.org/10.3102/0013189X022002014

Fuentes-García, J. P., Martínez Patiño, M. J., Villafaina, S., & Clemente-Suárez, V. J. (2020). The Effect of COVID-19 Confinement in Behavioral, Psychological, and Training Patterns of Chess Players. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.01812

Hadwin, A. F., & Winne, P. H. (2001). Conotes2: A software tool for promoting self-regulation. *International Journal of Phytoremediation*, *21*(1), 313–334. https://doi.org/10.1076/edre.7.2.313.3868

Harnishfeger, K. K. (1995). Shaping Words to Fit the Soul: The Southern Ritual Grounds of Afro-Modernism. *Shaping Words to Fit the Soul: The Southern Ritual Grounds of Afro-Modernism*, 1–192. https://doi.org/10.1353/afa.2011.0074

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen, D. J., Hair, J. F., Hult, G. T. M., & Calantone, R. J. (2014). Common Beliefs and Reality About PLS: Comments on Rönkkö and Evermann (2013). *Organizational Research Methods*, *17*(2), 182–209. https://doi.org/10.1177/1094428114526928

Insap Santosa, P. (2018). Metode Penelitian Kuantitatif Pengembangan Hipotesis dan Pengujiannya Menggunakan SmartPLS. Yogyakarta; Penerbit Andi.

Kannampallil, T. G., Goss, C. W., Evanoff, B. A., Strickland, J. R., McAlister, R. P., & Duncan, J. (2020). Exposure to COVID-19 patients increases physician trainee stress and burnout. *PLoS ONE*, *15*(8 August), 1–12. https://doi.org/10.1371/journal.pone.0237301

Panadero, E. (2017). A review of self-regulated learning: Six models and four directions for research. *Frontiers in Psychology*, *8*(APR), 1–28. https://doi.org/10.3389/fpsyg.2017.00422

Pintrich, P. R., Marx, R. W., & Boyle, R. A. (1993). Beyond Cold Conceptual Change: The Role of Motivational Beliefs and Classroom Contextual Factors in the Process of Conceptual Change. In *Review of Educational Research* (Vol. 63, Issue 2). https://doi.org/10.3102/00346543063002167

Sarstedt, M., Hair, J. F., Ringle, C. M., Thiele, K. O., & Gudergan, S. P. (2016). Estimation issues with PLS and CBSEM: Where the bias lies! *Journal of Business Research*, *69*(10), 3998–4010. https://doi.org/10.1016/j.jbusres.2016.06.007

Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review*, *7*(4), 351–371. https://doi.org/10.1007/BF02212307

Toering, T., Elferink-Gemser, M. T., Jonker, L., van Heuvelen, M. J. G., & Visscher, C. (2012). Measuring self-regulation in a learning context: Reliability and validity of the Self-Regulation of Learning Self-Report Scale (SRL-SRS). *International Journal of Sport and Exercise Psychology*, *10*(1), 24–38. https://doi.org/10.1080/1612197X.2012.645132

Wolters, C. A. (2003). Regulation of Motivation: Evaluating an Underemphasized Aspect of Self-Regulated Learning. *Educational Psychologist*, *38*(4), 189–205. https://doi.org/10.1207/S15326985EP3804_1

Wolters, C. A., Yu, S. L., & Pintrich, P. R. (1996). The relation between goal orientation and students' motivational beliefs and self-regulated learning. *Learning and Individual Differences*, *8*(3), 211–238. https://doi.org/10.1016/S1041-6080(96)90015-1

Zimmerman, B. J. (1986). Becoming a self-regulated learner: Which are the key subprocesses? *Contemporary Educational Psychology*, *11*(4), 307–313. https://doi.org/10.1016/0361-476X(86)90027-5

Zimmerman, B. J., & Risemberg, R. (1997). RESEARCH FOR THE FUTURE Becoming a Self-Regulated Writer: A Social Cognitive Perspective. *Contemporary Educational Psychology*, *22*, 73–101.