The Relationship between Self-efficacy and Learning Environment with Students' Self-directed Learning

Nanda Mirzawati[1*], Neviyarni[1], Rusdinal[1]
[1]Universitas Negeri Padang
*Corresponding author, e-mail: nandamirzawati@yahoo.co.id
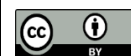
Abstract: The lack of self-directed learning of students shown by students is one problem associated with self-efficacy and the learning environment. The purpose of the research is to reveal the relationship between self-efficacy and the learning environment, and self-directed learning. This study uses the correlational method and data collected from a sample of 198 students, which were found using proportional random sampling techniques. Data were collected using a self efficacy scale (24 valid items = 0.851), a learning environment scale (32 valid items = 0.830), and a self-directed learning scale (64 valid items = 0.936). Data were then analyzed using multiple regression. The results showed the correlation coefficient $r = 0.535$ and $p = 0.00$ ($p > 0.05$), which showed that there was a positive and significant relationship between self-efficacy and the learning environment together with self-directed learning. So it can be explained that the higher the self-efficacy and learning environment, the higher the student's self-directed learning.

Keywords: *Self Efficacy,* Learning Environment, *Self-Directed Learning*

Conflict of Interest Disclosures:
The authors declare that they have no significant competing financial, professional or personal interests that might have influenced the performance or presentation of the work described in this manuscript.

Introduction

Facing the challenges of the Industrial Revolution 4.0 era, education is needed that can form creative, innovative, and competitive individuals (Lase, 2019). Students must know how they learn every day, how they can adapt to the changing era that is so fast, and how students can take initiative independently when they miss opportunities. Related to this, *Self-directed learning* (SDL) prepares students to become active students who can survive the changes in the new world in the Industrial's era Revolution 4.0 (Gibbons, 2003).

Self - directed learning or independent study is an effort of individuals whose autonomy to achieve competency academically. Knowles (in Esham & Abdul, 2010) suggests that *self-directed learning* is a " *Process in which learners take the initiative, with or without the help of others, in identifying their learning needs,*

planning learning goals, choosing to learn resources, using suitable learning strategies, and assessing learning outcomes ". This means that is *self-directed learning* is a process where students take the initiative, with or without the help of others, identifying the need to learn them, to a plan the purpose of learning, choosing a source of learning, using strategies learned that right, and assessing the results of learning.

Self-directed learning is a requirement an absolute for students to achieve the results were satisfactory, things have to be understand as activities to learn the responsibilities responsibility of the student's own. Managing learning in the classroom is important, and this is also very meaningful for teachers to assist student development in the process of independent learning (Suknaisith, 2014). *Self-directed learning* is considerate as learning in which students learn self- them, meaning that students who determine the needs and objectives of learning, experience, and resources to learn the support, and students who test themselves their own.

Research conducted by Agustin, AW, & Sri Rahayu (2018) illustrates the low *self-directed learning of* students. It can saw from students not on time in completing assignments given by the teacher, some students claimed not to take notes, some students did assignments while lying on the table, and some seemed passive when the learning process took place.

The results of research on Malaysian and Turkish students related to low *self-directed learning* found that respondents were in the average and below-average categories, very few respondents were in the above-average category, in the study it is to be explained that this could be respondents identifying as not being very independent (Ahmad, Ozturk, Åmli, Baharum, & Majid, 2019) .

Problems that occur at the top, not without reason, respect the *self-directed learning* in students being influenced by several factors. According to Basri (1996) that the factors that influence *self-directed learning* in students come from inside and outside the student's self. Factors that come from inside ourselves the students, which is a factor of psychic, include *self-efficacy*, motivation to learn, attitudes, interests, and habits of learning. Factors that come from outside the self student, that factor environmental, socio-economic, teachers, methods of teaching, the curriculum, the eyes of subjects, and the means of infrastructure.

Self -efficacy has an influence significant to the activity of learning. In the activity of learning, *self-efficacy* associated with the belief the student will be its ability to perform tasks, organize activities to learn their own, and live with the hope of academics of their own and others (Baron & Byrne, 2004). Then, *self-efficacy* is high is essential to achieve the successful task, the duties of the school, exercise physical, health, action politics, and avoid behavior violation (Baron & Byrne, 2004).

Factors environment is a factor that is very important in helping students grow and thrive. An environment that is mean is the environment of learning, in which the environment of learning are all things that surround students when doing activities to learn, and that has a meaning and effect of certain of the individual (Hamalik, 2003).

I back explanations up by the results of research Jumanto (2014), which shows the influence of the positive and significant between the environmental study of the independence of learning. This can see from the results of the multiple linear regression analysis (t-test) it is known that $t_{arithmetic} > t_{table}$, which is 5.654> 1.979 and significance a <0.05 ie 0.000 so of relative contributions of 73.4% and effective contributions of 25.1 %.

The aim of this research is: to describe students 'self-efficacy, to describe students' learning environments, to describe students 'self-directed learning, to examine the relationship between self-efficacy and students' self-directed learning, to examine the relationship between learning environments with self-directed student learning.

Method

This study uses the correlational method and data collected from a sample of 198 students, which were found using proportional random sampling techniques. The instruments used for this study were self efficacy scale (26 valid items = 0.851), learning environment scale (32 valid items = 0.830), and self directed learning scale (64 valid items = 0.936). Data were analyzed using descriptive statistics, simple regression, and multiple regression. Data were analyzed using SPSS version 20.0.

Results and Discussion

Results

The relationship between *Self Efficacy* and Learning Environment with *Self-Directed Learning*, both partially and simultaneously, it found to be significant and positive.

The results of the regression coefficient between self-efficacy and the learning environment, together, and self-directed learning are summarized in Figure 1.
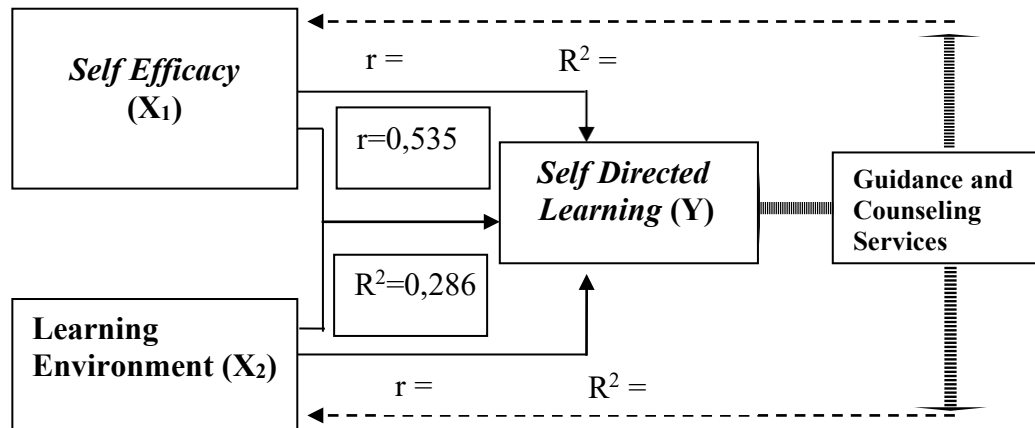

Figure 1. Relationship between X_1 and X_2 with Y

Figure 1 above can be an interpretation that there is a positive and significant relationship between *self-efficacy* and *self-directed learning* and contributing 23.1%, there is a positive and significant relationship between the learning environment with *self-directed learning* and contributing 18.2%, and there is a positive and significant relationship between *self-efficacy* and the learning environment together with *self-directed learning* and contributes 28.6%.

Based on the explanation, it can give the meaning that the level of *self-directed learning is* determined by the level of each variable of *self-efficacy* and the learning environment. Thus to improve *self-directed learning* students need *self-efficacy* and a good learning environment.

Discussion

Self Efficacy

Overall, respondents' *self-efficacy* was in the high category with a percentage of 58.08%. This means that students' *self-efficacy* can say to be good. We can see this in more detail from the results of data analysis in each aspect, including the aspect *level* has an average score percentage in the medium category of 67.3%; the *strength* aspect has an average percentage score in the high category of 75.1%; the *generality* aspect has an average percentage score in the high category of 72.5%. Based on the above findings we can conclude it that the aspect of *self-efficacy* has the highest percentage compared to other aspects, namely the aspect of *strength*.

Bandura (in Zimmerman, 2000) defines *self-efficacy* as a personal assessment of the ability of the self to regulate and carry out actions in achieving the goals set, and see individual efforts through three aspects, including; *level, generality,* and *strength*.

Learning Environment

Overall conditions of the learning environment of students in SMP N 1 Enam Lingkung are in the good category equal to 71.72%. The results showed that the conditions of the student learning environment are good. This can see from the results of data analysis of each aspect, including aspects of collaborative learning are in the good category equal to 77.2%, the learning aspect fly is in the good category equal to 61.9%, and aspects of communication and interaction in the good category equal to 81.1%.

Jamaiah (2008) also explained that the educational climate, in this case, is that the learning environment influences student achievement, satisfaction, and success in learning. It is important to get feedback from students regarding the student learning environment so that the information got will provide a useful basis for strategic planning and resource utilization. A positive learning environment must be

maintenance and maintaining. In a supportive learning environment, it also asks teachers are also to encourage students to be independent in learning, introduce critical thinking, introduce students 'freedom to explore students' abilities especially in learning and teach students to accept differences between students in solving problems.

Self-Directed Learning

The results of the study showed that *self-directed learning* students high dominant. We can see this from the acquisition of the percentage of each aspect, where the highest aspect is the *Processes* with a percentage of 74, 8%. The *personal attribute* aspect with a percentage of 72.9%, and the *learning context* aspect with a percentage of 69.9%. This means that students have a high learning process but the *learning context of* students still needs to be improve.

Based on some previous scientific studies, the main characteristics possessed by students who have high *self-directed learning* are independent individuals, can apply the knowledge gained in daily life, are responsible for the quality and experience of their learning (Vaivada, nd). Besides, Chiang (in Malison & Thammakoranonta, 2018) explained that *self-directed learning* can lead to lifelong learning which is one of the important characteristics needed by every country.

Self-directed learning is highly valued in the development of industries (McCartney et al., 2016) where professionals are expertly to be independent in their work. Therefore, students need to develop and improve their *self-directed learning* (McCartney et al., 2016).

Relationship of *Self Efficacy* with *Self-Directed Learning*

The results showed that there was a positive and significant relationship between *self-efficacy* and *self-directed learning*. The direction of positive *self-efficacy* and *self-directed learning* relationships means that the higher the student's *self-efficacy*, the higher the student's *self-directed learning*. Conversely, the lower the student's *self-efficacy*, the lower the student's *self-directed learning*. This finding also explains that *self-efficacy* contributes to other variables that also influence *self-directed learning to explain self-directed learning by 23.1%,*.

The results of Basereh & Pishkar (2016) research found that there was a positive and significant relationship between *self-efficacy* and *self-directed learning* among advanced EFL students. Lema & Agrusa (2008) found that the *self-efficacy* of the hospitality industry students supported the researcher's hypothesis that *self-efficacy* could significantly predict students' *self-directed learning*. Previously, Bandura (1994) mentioned that *self-efficacy is* a process that starts individuals in controlling learning. Meanwhile, the same thing was also express by Brokett & Hiemstra (1991) that *self-efficacy* is readiness to improve students' *self-directed learning*. Understanding *self-efficacy* as a significant predictor of *self-directed learning* can help schools to provide efficient and effective training for students.

Relationship of Learning Environment with *Self-Directed Learning*

The results of the analysis prove that there is a positive and significant relationship between the learning environment with *self-directed learning*. The learning environment contributed other variables that also influence *self-directed learning* can explain to an increase in *self-directed learning by 18.2% and another 81.8%*.

McFarland (2012) emphasizes that a positive learning environment is when students feel that they are support and valued in whatever students do so that learning can be mastery easily. Also, all students with exceptional personal challenges can study very well if students get full support and motivation. This emphasizes that creating a positive learning environment can stimulate student learning, and this applies to the development of student *self-directed learning*.

The learning environment influences the way individuals think and live (Pusawiro, 2011). From these statements, we can interpret it that the learning environment is an important component in the success of individuals both in daily life and the success of students in learning. That way, to improve *self-directed learning* students need to improve the learning environment to be better.

The Relationship of *Self Efficacy* and Learning Environment with *Self-Directed Learning*

The results showed that there was a positive and significant relationship between *self-efficacy* and the learning environment together with students' *self-directed learning*. Based on the results of the study the higher the *self-efficacy* and learning environment, the higher the student's *self-directed learning*, and vice versa the lower the *self-efficacy* and learning environment, the lower the student's *self-directed learning*. Also, the

findings of this study explained that *self-efficacy* and the learning environment together contributed 28.6% to *self-directed learning*, and 71.4other variables can explain% more improvement in *self-directed learning*.

Saeid & Eslaminejad (2017) research results show that *self-directed learning* is significantly related to *self-efficacy* and achievement motivation. *Self-efficacy* can improve efficiency and achievement motivation so they can understand how to use strategies in learning. Tarmidi & Rambe (2010) states that external factors influence the level of students' *self-directed learning*. Meanwhile, the learning environment is one of the external factors that influence *self-directed learning*, so we can say it that the learning environment also has an important role to improve students' *self-directed learning*.

Leatemia, Susilo, & Berkel (in Ramli, Muljono, & Afendi, 2018) explained that the academic environment and academic atmosphere influence the level of students' *self-directed learning*. This means that a good learning environment characterized by students can implement collaborative learning, can learn flexibly which means students can learn anywhere and with any situation, then communication and interaction between fellow students, teachers, and learning materials can be achieve well then it can help students improve student *self-directed learning*.

Conclusion

Based on the results and discussionof this research, the following conclusions can be put forward:

1. Overall students' self-efficacy in SMP N 1 Enam Lingkung is in the high category with a percentage of 58.08%.
2. Overall conditions of the learning environment of students in SMP N 1 Enam Lingkung are in the good category that is equal to 71.72%.
3. Overall self-directed learning students in SMP N 1 Enam Lingkung are in the high category with a percentage of 65.15%.
4. The results of the study indicate that there is a positive and significant relationship between self-efficacy and self-directed learning. Self-efficacy contributed to self-directed learning by 23.1%, and there was a positive and significant relationship between self-efficacy and self-directed learning.
5. The results of the analysis prove that there is a positive and significant relationship between the learning environment with self-directed learning. The learning environment contributed to an increase in self-directed learning by 18.2%, and there was a positive and significant relationship between the learning environment and self-directed learning.

Self-efficacy and the learning environment together contribute 28.6% to self-directed learning, and there is a positive and significant relationship between self-efficacy and the learning environment with self-directed learning.

Acknowledgment

References

Agustin, L., AW, S., & Sri Rahayu, M. (2018). Group Counseling Based on Self-Management Technique Tazkiyatun Nafsi: A Psychological Intervention in Improving Student's Self-Direction in Learning. *Journal of Psychology, 13* (1), 1. https://doi.org/10.24014/jp.v13i1.2399

Ahmad, BE, Ozturk, M., Amli, M., Baharum, A., & Majid, FA (2019). *A comparative study on the relationship between Self-directed Learning and Academic Achievement among Malaysian and Turkish undergraduates. 21* (June), 1–11.

Bandura, A. (1994). Self-efficacy [Electronic version]. In VS Ramachaudran (Ed.), Encyclopedia of human behavior (Vol. 4, pp. 71-81). New York, NY: Academic Press.

Baron, R. S & Byrne. (2004). Social Psychology. Jakarta: Erlangga .

Basereh, N & Pishkar, K. (2016). Self-Directed Learning and Self Efficacy Belief Among Iranian EFL learners at the advanced level of Language Proficiency. *Journal of Applied Linguistics and Language Research*. Islamic Azad University.

Basri, Hasan. (1996). Qualified Youth*: Adolescent problems & solutions*. Yogyakarta: Student Library.

Brockett, RG & Hiemstra, R. (1991). Self-direction in adult learning: Perspectives on theory, research, and practice. New York, NY: Routledge.

Esham, B., & Abdul, F. (2010). *Self-directed Learning and Culture: A Study on Malay Adult Learners. 7* (C), 254-263. https://doi.org/10.1016/j.sbspro.2010.10.036

Eslaminejad, T & Saeid, N. (2017). Relationship Between Student's Self-Directed Learning Readiness and Academic Self Efficacy and Achievement Motivation in Students. *Canadian Center of Science and Education*. Payamnoor University. Iran.

Gibbons, M. (2003). *The Self-Directed Learning Handbook: Challenging Adolescent Students to Excel*, 208. Retrieved from https://books.google.com/books?hl=en&lr=&id=7xrxPudNcGgC&pgis=1.

Hamalik, Oemar. (2003). Teaching and learning process. Jakarta: PT. Earth Literacy.

Jamaiah, I. (2008). Review of research in the learning environment. *Journal of Health and Translational Medicine*, *11* (1), 7–11.

Jumanto,A. (2014). " *The Effect of Environmental Learnin and Creativity Learning to Independence Learning Students of the Faculty of Teacher Training and Science Education Universitas Muhammadiyah Surakarta Program Study of Education Accounting Force 2011,".* UMS. Thesis (Online). (Eprints.UMS. ac id/2435/1/ Tesis. Pdf, accessed March 5, 2017).

Lase, D. (2019). Pendidikan di Era Revolusi Industri 4.0. *Jurnal Sundermann*, *1*(1), 28–43. https://doi.org/10.36588/sundermann.v1i1.18

Malison, K., & Thammakoranonta, N. (2018). An exploratory study of self-directed learning: The differences between it and non-it employees in Thailand. *Journal of Entrepreneurship Education*, *21* (3), 1–16.

Mccartney, R., Boustedt, J., Eckerdal, A., Sanders, K., Thomas, L., & Zander, C. (2016). Why computing students learn on their own: Motivation for self-directed learning of computing. *ACM Transactions on Computing Education*, *16* (1). https://doi.org/10.1145/2747008

McFarland, M. (2012). Children responding to a Positive Learning Environment. London: Kogan Page.

Pusawiro, Priyakorn. (2011). Constructing the Learning Environment in Classroom Convivial Computer Tools for Higher Education. Dissertation. Bremen: University of Bremen.

Ramli., Muldjono., & Afendi, M. (2018). *Factors that Influence Self-Directed Learning Readiness and Academic Achievement*. Journal of Education. Bogor Agricultural Institute.

Suknaisith, A. (2014). Science Direct The Results of Self-Directed Learning for Project Evaluation Skills of Undergraduate Students Selection and Peer Review under the responsibility of Prof. Dr. Servet Bayram. *Procedia-Social and Behavioral Sciences*. https://doi.org/10.1016/j.sbspro.2014.01.455

Tarmidi & Rambe, R. (2010). *Correlation between parental social support and Self-Directed Learning in high school students*. Journal of Psychology. University of North Sumatra, 37 (2): 216-223.

Vaivada, S. (nd). *Saulius Vaivada PERSONALITY SELF-EDUCATION THROUGH PARTICIPATION IN HEALTHY.*

Zimmerman, BJ (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, *25* (1), 82–91.