The relationship of adversity quotient and learning environment with self-directed learning

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Abstract
Self-directed learning is where individuals learn on an initiative without expecting the help of others to achieve their learning goals. However, it was found that students did not want to learn directly, did not have the initiative in doing assignments, rarely used existing books, did not take advantage of school facilities and some students often cheated on their friends' assignments. This is caused by various factors such as adversity quotient and learning environment. This study aims to analyze the relationship between adversity quotient and learning environment with self-directed learning. This study uses a descriptive correlational quantitative method. The research sample was students of class X and XI of SMA Negeri 13 Padang totaling 249 students, taken using a proportional random sampling technique. This study uses the adversity quotient instrument, learning environment, and self-directed learning. Data were analyzed by simple regression and multiple regression. The results of this study indicate that on average the adversity quotient is in the high category, the learning environment is in a good category, the self-directed learning is in a good category, there is a positive and significant relationship between the adversity quotient and self-directed learning, between the learning environment and self-directed learning, and between adversity quotient and learning environment with self-directed learning.

Keywords: Adversity Quotient, Learning Environment, Self-Directed Learning


Introduction
Self-directed learning is a learning process in which students are responsible for learning, are actively involved and control the learning process (Bosch, Mentz, & Goede, 2019; Miarso, 2004), can choose strategies, resources, and learning outcomes (Boyer, Edmondson, Artis, & Fleming, 2014) develop skills towards mastery of subject matter (Kartadinata, 2001; Mudjimana, 2007), have the initiative to solve problems related to the lessons faced by oneself without help from others (Heru & Abdullah, 2012; Nurhayati,
Based on the results of observations and interviews conducted at SMA Negeri 13 Padang in July to December 2019 it was found that students did not want to study self-directly, did not try to do assignments self-directly, rarely used existing textbooks to find sources to help to understand, lacked use the school library facilities. In addition, when the teacher explains in front of the class and gives important notes, there are still students who do not take notes, there are some students who often cheat on other students’ assignments. This can be seen from the results of the exact same answers from several students and when asked, the student could not explain again. This is also supported by research conducted by Moerdiyanto (2014) that the students of class XI which amounted to 221 students, showed the results of self-directed learning of about 41.63% were a low category, 23.98% were in the high category, 19.91% were in the very high category, 14.48% were in the very low category. The results of these data illustrate that most students are low in self-directed learning.

The characteristics of self-directed learning include not being easily discouraged when faced with difficulties and problem-solving self-directed learners taking advantage of existing learning resources and appropriate learning strategies to overcome difficulties that occur in the learning process (Aziz & Basry, 2017; Brockett & Hiemstra, 2018). Predictors of one's success in dealing with difficulties, how learners behave in difficult situations, controlling the situation, finding the correct origin of the problem, taking proper ownership of the situation, trying to limit the effects of adversity, and how optimistic the difficulties will eventually end up facing many situations. or challenges in everyday life are called the adversity quotient. Having the capacity to face and overcome difficulties can easily achieve life goals (Parvathy & Praseeda, 2014; Phoolka & Kaur, 2012).

Adversity quotient is a person’s ability to struggle in the face and overcome difficulties (Hidayat, Wahyudin & Prabawanto, 2018; Parvathy & Praseeda, 2014; Sinamo & Udiani, 2010; Stoltz, 2005), so that it does not have a profound impact on the individual’s efforts in living his life, and turns these difficulties into opportunities for greater achievements (Effendi, Matore dan Khairani, 2016), a pattern of behavior to help adjust to rapidly changing circumstances and uncertainties, no matter how difficult the problem or difficulty is (Sipahai, 2015), as a person’s fighting power to solve the problems he faces (Hidayat, Wahyudin & Prabawanto, 2018).

In addition, factors that influence self-directed learning come from outside the student, namely environmental factors (Basri, 2000), students organize and control their learning self-directly with a learning environment that supports the learning process (Roger Hiemstra & Brook, 2012). The environment is something that exists in the natural environment that has a certain meaning or influence on the individual. A conducive learning environment, both at home and at school, will create calm and comfort for students in learning so that students will find it easier to master the learning material to the fullest. (Hamali, 2015; Munib, Hadikusumo, Budiyono, & Suryono, 2005) have a positive influence on children or students so that they can learn as well as possible (Slameto, 2010), any physical, psychological, or emotional environment. conditions, and social or cultural influences that affect the growth and development of students involved in education (R. Hiemstra, 2006)
Method

This study uses a quantitative descriptive method. The population of this study was students of class X and XI of SMA Negeri 13 Padang as many as 662 students and the research sample amounted to 249 students using a proportional random sampling technique. This study uses the adversity quotient instrument, learning environment, and self-directed learning with a scale model. The research data were analyzed by simple regression and multiple regression.

Results and Discussion

Testing Data Analysis Requirements

Test requirements analysis carried out on the data of this study is normality test, linearity test, and multicollinearity test.

Normality Test

The results of the calculation of the normality test of the data about the adversity quotient have an Asymp score. Sig 0.316, the learning environment has an Asymp score. Sig 0.902, self-directed learning has an Asymp score. Sig 0.446. The data above shows that the three variables have Asymp scores. Sig. greater than the predetermined significance (0.05). That is, the data from the three variables are normally distributed.

Linearity Test

The results of the linearity test of the adversity quotient variable with self-directed learning showed F\text{count} (25.247) > F\text{table} (3.89) and the learning environment variable with self-directed learning showed F\text{count} (236.314) > F\text{table} (3.89), with a sig. 0.000 0.05. That is, the data for each X variable is linear.

Multicollinearity Test

The results of the multicollinearity test calculation explain that the VIF adversity quotient value is 1.058 and the learning environment VIF value is 1.058, thus both VIFs are smaller than 10. That is, there is no multicollinearity between the adversity quotient variable and the learning environment variable.

Research Hypothesis Testing

The data of this study consisted of adversity quotient (X\text{1}), learning environment (X\text{2}), and self-directed learning (Y) variables. The following are the results of the data analysis obtained

Table 1. Results of Simple Regression Analysis and Adversity Quotient Significance Test (X\text{1}) with Self-Directed Learning (Y)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X\text{1}-Y</td>
<td>0.296</td>
<td>0.088</td>
<td>0.084</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 1 above shows that the R-value is 0.296 which shows the regression coefficient of the adversity quotient relationship with self-directed learning with a significance value of 0.000 and an adjusted R square value of 0.084. The value of R square is 0.088, this means 8.8% of the contribution of the adversity quotient to self-directed learning. Adversity quotient is a factor that supports students' success in dealing with difficulties and the process of solving
the problems they face (Hidayat, Wahyudin & Prabawanto, 2018; Juwita, 2017; Parvathy & Praseeda, 2014; Phoolka & Kaur, 2012). With a high adversity quotient, the individual will not easily give up when facing obstacles or problems in self-directed learning.

Table 2. Results of Simple Regression Analysis and Significance Test of Learning Environment (X2) with Self-Directed Learning (Y)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X2-Y</td>
<td>0.690</td>
<td>0.476</td>
<td>0.474</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 2 above shows that the R-value is 0.690 which shows the regression coefficient of the relationship between the learning environment and self-directed learning with a significance value of 0.000 and the adjusted R square value of 0.474. The value of R square is 0.476, this means 47.6% of the contribution of the learning environment to self-directed learning. The learning environment is something that is around that has a certain meaning or influence on the individual (Hamalik, 2015; Munib, Hadikusumo, Budiyono, & Suryono, 2005), have a positive influence on children or students so that they can learn as well as possible (Slameto, 2010).

Table 3. Results of Multiple Regression Analysis and Significance Test Analysis Adversity Quotient Significance Test (X1) and Learning Environment (X2) with Self-Directed Learning (Y)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Sign.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X12-Y</td>
<td>0.704</td>
<td>0.496</td>
<td>0.492</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 3 above shows that the R-value is 0.704 which shows the regression coefficient of the relationship between adversity quotient and the learning environment with self-directed learning with a significance value of 0.000 and an adjusted R square value of 0.492. The value of R square is 0.496, this means 49.6% of the contribution of adversity quotient and learning environment to self-directed learning. It can be understood that the adversity quotient and learning environment are factors that influence self-directed learning. Adversity quotient is needed by individuals in every effort to achieve the desired goals, in this case, related to self-directed learning, being able to conquer challenges, overcoming difficulties, and solving problems in facing independent learning difficulties and even being able to make it an opportunity to achieve the desired goals. (Dewi & Suhendri, 2017). The learning environment is a factor that affects self-directed learning that comes from outside the student (Basri, 2000; Puspitasari & Sutriyono, 2017), assisting educators in providing a positive influence on students on the condition that the environment can be managed properly by educators (Slameto, 2010). A calm, conducive, and comfortable environment will affect the learning process as a form of educational practice. An environment that supports student learning processes, provides a lot of experience and increases students' social interactions will positively impact changing student behavior towards a better direction. (Munib, Hadikusumo, Budiyono, & Suryono, 2005).

Conclusion
From the research results and discussion of the research, it can be concluded that there is a positive and significant relationship between adversity quotient and self-directed learning.
That is, the higher the student’s adversity quotient, the higher the student's self-directed learning. There is a positive and significant relationship between the learning environment and self-directed learning. That is, the better the learning environment, the better the student’s self-directed learning. There is a significant positive relationship between adversity quotient and learning environment with self-directed learning. That is, the higher the adversity quotient and the student's learning environment, the more self-directed learning will be.

**Reference**


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