Is there any relationship between Student's learning styles and self-Efficacy?

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Abstract

Introduction: Learning shows that how difficult a person worked on something, how much time she/he spent on it, and how difficult she/he insisted on troubles to solve them. Individuals who have low self-efficacy levels would lose so many learning opportunities specially opportunities which need much more trying and are a kind of challenge. Then the researchers aimed to notice that is there any relationship between Students learning style and self-efficacy?

Material and Methods: This is a cross-sectional study. The sample volume was 363 students. They were chosen randomly from Zahedan University of Medical Sciences’ students. A three section questionnaire was used for data collection. Section one determined the demographic information. Section two was the Vark’s learning style standard questionnaire. The third section was the self-efficacy questionnaire designed by Pintrich and colleagues. Data were analyzed through descriptive statistics, qui square test, Pearson correlation, t test and ANOVA by SPSS v.19. Significance level was considered less than 0.05(P<0.05).

Results: Mean of age students was 21.28±2.64 in this study. 197 respondents were females while others were male. A significant relationship was found between student's gender and their
efficacy. Females showed a higher level of efficacy. Despite this there wasn’t any significant relationship between student’s gender and their learning styles. The ANOVA test showed a significant relationship between student's learning styles and efficacy.

**Conclusion:** Learning styles could help us predicting one's efficacy. While self-efficacy is an important factor in someone’s success. So this study suggests to the professors to use optimum learning methods by considering student's learning styles.

**Keywords:** Efficacy, Learning styles, Students.
Introduction:
People have different views about the world. So maybe they learn about things in different ways. Learning; it has been considered by the human being from long times ago. Several factors could affect learning. Despite the personal characteristics such as personality, IQ (Intelligence quotient), family, age and sex there are some acquired factors either; learning styles, controlling source, motivational strategies for learning and studying methods are examples (1,2). Learning styles would show that how do people prefer to learn (3)? Kolb says: learning styles are exclusive methods for learning expression process that contains strategies of problem solving and decision making in different situations (4). Learning styles are beliefs which people use them to learn things in different situations. Learning styles are not abilities but preferences (5). Learning shows that how hard a person worked on something, how much time he spent on it, and how hard he insisted on troubles to solve them. Person who have low self-efficacy levels would lose so many learning opportunities. Specially opportunities which need much more trying and are a kind of challenge (6).

As our second variable, self-efficacy means how one believes in his abilities to do something (7). For example in an educational environment; self-efficacy means believe of a student about his abilities to do his educational duties. Students who show higher level of self-efficacy would do their educational tasks much better while they believe in their abilities (8). Probably they use self-control strategies more than others. So self-effected student would try harder to understand his lessons, thinks much deeper about them and plans for doing his homework (9). According to this and the shortage of studies about this topic we aimed to notice that is there any relationship between Students learning style and self-efficacy?

Material and methods:
We have chosen 363 students randomly from different schools of Zahedan university of medical sciences (including, schools of medicine, dentistry, nursing and midwifery, health, paramedical and rehabilitation) for this cross-sectional study. Inclusion criteria were passing one semester in the University for our Study. A three section questionnaire was used for data collection. Section one determined the demographic information. Section two was the Vark's learning style standard questionnaire which contained 16 questions about all 4 learning styles (visual, audio, reading-writing and motor). In visual style people would learn things better while they are seeing it. In the audio style they learn better while they are hearing it. In reading-writing method they learn better while they take notes and study books. And in the motor style they learn better while they are doing the job and making a physical activity. The questions are designed based on person's reaction in different situations. Each question has four choices. Each of them states for one of learning styles. According to this each respondent would get a score from 0 to 16 from each learning style. The highest score would show the learning style for that respondent. If a respondent had equal scores in two styles or more he would be considered as multiple functioning learning style. Reliability of this questionnaire was proved and its validity was 0.80 calculated through Test - Retest by Javadinia and colleagues (10). The third section was the self-efficacy questionnaire designed by Pintrich and colleagues which contained 8 questions. This section is a subset of Pintrich's learning strategies questionnaire. The
scale of this questionnaire was sequential MSLQ. Respondents scored their answers by a 7 point Likert scale according to the questionnaire's instruction. The score of each scale would be the mean score of that scale. The validity of questionnaire was 0.93 calculated by Pintrich and colleagues and we did calculated it again in this study through Cronbach's alpha and it was 0.90. After choosing the respondents the aim of the study was explained to them then after getting the verbal consent the questionnaires were given to them. After completing the questionnaires were given back to the researcher. If any was incomplete the respondents were asked to complete them respectfully.

Data were analyzed through descriptive statistics, qui square test, Pearson correlation, t test and ANOVA by SPSS v.19. Significance level was considered less than 0.05 in this study.

**Results:**

Mean of age was 21.28±2.64 in this study. 197 (54.3%) respondents were females while others were male. T-test had shown a significant relationship between student's gender and their self-efficacy (p=0.006). Females showed a higher level of self-efficacy. Despite this there wasn’t any significant relationship between student's gender and their learning styles (p=0.148). There wasn’t any significant relationship between age and self-efficacy according to Pearson correlation test (p=0.351). There wasn’t any significant relationship between age and learning styles too (p=0.275). The ANOVA test showed a significant relationship between student's learning styles and self-efficacy (p=0.025).

The relationship between learning styles and self-efficacy is shown in table1.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinesthetic</td>
<td>56</td>
<td>5.10</td>
<td>0.85</td>
<td>3.25</td>
<td>6.50</td>
<td>0.025</td>
</tr>
<tr>
<td>Auditory</td>
<td>23</td>
<td>4.68</td>
<td>0.96</td>
<td>2.25</td>
<td>6.13</td>
<td></td>
</tr>
<tr>
<td>Read/Write</td>
<td>166</td>
<td>5.16</td>
<td>0.91</td>
<td>3.25</td>
<td>7.00</td>
<td></td>
</tr>
<tr>
<td>Visual</td>
<td>56</td>
<td>4.80</td>
<td>1.11</td>
<td>2.00</td>
<td>7.00</td>
<td></td>
</tr>
<tr>
<td>Multiple styles</td>
<td>62</td>
<td>4.87</td>
<td>0.99</td>
<td>2.63</td>
<td>6.63</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>363</td>
<td>5.01</td>
<td>0.96</td>
<td>2.00</td>
<td>7.00</td>
<td></td>
</tr>
</tbody>
</table>

**Discussion:**

There was a significant relationship between learning styles and self-efficacy in this study, while students who had preferred reading-writing learning style had a higher score of self-efficacy. A study on intermediate variables had shown that self-efficacy could improve the student's learning methods, especially in self-control activities. It also could predict the educational achievement (11). Styles are variable. It means that different styles are used in different occasions. Someone who acts on a style may change his style in another situation. Having different styles is nor good neither bad, because the important thing is to coordinate them with the situation. Feldman's study had shown that self-estimation, self-efficacy and recognizing the problem situations are factors which can make different dimensions of learning. They also conducted that learning styles are
important for proper learning, educational achievement and self-efficacy among students (12). A student who believes on this that home works and educational activities are interesting would try harder for them. Because if someone believes in something truly it will have a positive effect in his self-efficacy (13). In training, researchers found that self-efficacy affects using the professional and scientific knowledge also (14). In another study the results had shown that nursing students considered the self-efficacy in clinical performance as achieving clinical abilities, having a good care of patients hanger on knowledge and experiences in order of checking the patient, planning, acting and nursing services evaluation (15). Another study stated that according to their respondents, self-efficacy and clinical abilities brings accomplishment for nurses. This accomplishment could help them make better decisions in taking care of patients (16). Learning style is coordinated with the self-efficacy and it can help to predict it. Not paying attention to student's preparation could lead to decreasing rate of learning, decrease in quality of education and making stress in them (17). Stress could have a negative effect on their self-efficacy and in fact their belief in their abilities (18). Effecting people are those who can get free from negative thoughts such as disappointment and stress. They use the proper learning style and face with their problems easier than others because the self-efficacy beliefs would affect the rate of hardworking. Those who have a higher self-efficacy try harder, have more success, have more perseverance and less fear. Finally this study suggests the authorities to recognize students learning styles and try to improve student's self-efficacy by using modern educational methods.

**Conclusion:**
Learning styles could help us predicting one's efficacy. While self-efficacy is an important factor in someone's success. So this study suggests to the professors to use optimum learning methods by considering student's learning styles.

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References