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The Influence of Emotional Intelligence and Learning Style on Student’s Academic Achievement

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ABSTRACT

This study explores the influence of emotional intelligence and learning styles on academic achievement of University Technology Mara Sarawak students. A sample size of 500 students at the diploma and bachelor level was selected for the study. The total number of usable questionnaires returned was 389 which gave a response rate of 78%. Emotional Intelligence Questionnaire (EIQ), an adapted version of the Self-Report Emotional Intelligence Test (SREIT) developed by Schutte et.al (1998), was used in this study to measure emotional intelligence. The learning styles were measured using Learning Style Questionnaire (LSQ) which comprised adapted items from the ‘VARK Learning Styles Inventory’ developed by Neil Fleming (1987). The findings showed significant positive relationship between emotional intelligence and academic achievement and also between learning styles and academic achievement. The level of emotional intelligence of the students was found to be moderate and no dominant learning style was found amongst the students. The study concluded that emotional intelligence and learning styles have a positive impact on students’ academic achievement.

Keywords: Emotional Intelligence, Learning Styles, Academic Achievement
Introduction

Researchers have struggled to define adequate predictors of educational success. The most commonly used predictors of academic achievement are measures of cognitive ability, or IQ test (Stinnett, Harvey, & Oehkler-Stinnet, 1994; Wilson & Reschly, 1996). IQ test has a rich history of accounting for meaningful levels of achievement variance (Bracken & Walker, 1997; Flanagan, Andrews, & Genshaft, 1997; Grigorenko & Stenberg, 1997; Jensen, 1981; McDermott, 1984). In fact, it is often said that one of the most important applications of intelligence tests is their ability to predict student achievement (Brown, Reynolds, & Whitaker, 1999; Weiss & Prifitera, 1995). Tramontana, Hooper, and Selzer (1998) examined 74 longitudinal studies published between 1973 and 1986, in which kindergarten measures were used to predict achievement in grade school. Their findings revealed a variety of sources that had served as predictors of student achievement such as: (a) cognitive abilities, (b) academic skills/readiness, (c) language abilities, (d) motor skills, (e) behavioural-emotional functioning, (f) personality, (g) self-image, (h) achievement motivation, (i) study attitude and habit, (j) peer-relationships, (k) student-teacher relationships, and (l) demographic factors. Some variables were more effective than others, with the predictive validity of others more inconclusive. For example, many of the predictive relationships were unstable across grade level, time of administration and demographic variables.

The argument above shows that academic success does not depend on IQ alone. Currently, some fundamental new theories have been introduced namely, The Multiple Intelligence Theory (Gardner, 1983) and The Emotional Intelligence Theory (Bar-On, 1988; Mayer & Salovey, 1990; Goleman, 1995). These theories argue that success depends on several intelligences and the control of emotions. IQ only counts for 20%, and the rest goes for Emotional and Social Intelligence, and luck (Goleman, 1995).

This study explored how emotional intelligence and learning style influenced students’ academic achievement. Since emotional intelligence is not fixed like IQ, it can be learned through development intervention strategies hence, the possibility of improving academic performance. In short, emotionally intelligent students would have better academic achievement. Understanding the learning styles of the students will also enhance students’ academic ability through the employment of teaching and learning strategies that are more in tune with their learning preferences.

Literature Review

The influence of emotional intelligence and learning styles on student’s academic achievement is the major focus of this paper. A brief review of the following is
The Influence of Emotional Intelligence and Learning Style


Concept of Emotional Intelligence

Emotional intelligence is a relatively new concept. Much of the recent work on emotional intelligence is based on the foundation provided by Gardner (1983). Although he did not use the term “emotional intelligence”, his reference to intrapersonal and interpersonal intelligence has been a foundation in more recent models on this topic. Gardner’s (1983) concept refers to having the ability to know and understand one’s own emotions and other individuals’ emotions and intentions. This understanding, in turn, is presumed to guide one’s behaviour.

Concept of Learning Styles

The term “learning styles” as used in the literature during the past 30 years or so, has been labelled a very broad and relatively fuzzy concept (Moran, 1991). According to Claxton and Murrell (1987), the psychologist Allport used the term “style”, “to refer to consistent patterns on the part of individuals”. Sternberg (1997) characterized “learning styles” as individual preferences for how to learn. Anderson (1995), citing Curry (1983), referred to “learning styles” as a generic term subsuming several “general levels of learning behaviour”.

Measurement of Emotional Intelligence

There are several instruments that measure the concept of EQ (Bar-On, 1997; Bernet, 1996; Boyatzis, Goleman, & Rhee, 1999; Mehrabian, 2000). Since there are numerous interpretations of the meaning EQ, each measure of EQ varies in what aspect it assesses (Bar-On & Parker, 2000). Some are self-assessment while others are ability assessment. The Emotional Quotient Inventory (EQ-I) (Bar-On, 1997) was designed to measure non-cognitive intelligence. The EQ-I consists of a five-point response format that renders a total EQ composite scores based on 15 subscale scores. The five EQ composite scales include: Intrapersonal, Interpersonal, Stress Management, and General Mood. The EQ-I has been used in the study of graduate students and assessments of EQ curricular (Jaeger, 2001), learning disabilities and gender among undergraduate students (Reiff et al., 2001), and community college students and grades (Wells et al., 2000).
Measurement of Learning Styles

The VARK Styles Inventory provides a perceptual learning style profile for each student. The acronym VARK stands for the Visual, Aural, Read/Write, and Kinesthetic sensory modalities used in learning. The VARK Inventory was developed in 1987 by Neil Fleming, Lincoln University, New Zealand. It differs from most learning styles instruments in that its primary purpose is to be advisory rather than diagnostic and predictive. Fleming added a fourth category, read-write, to the visual, aural and kinesthetic characteristics used by most researchers to define perceptual learning styles by subdividing the visual mode into symbols (visual) and text (read-write). The inventory has “received high acclaim from students and professors for its powerful simplicity, its ability to spark discussion about learning and the fact that it makes intuitive good sense.”

Emotional Intelligence and Academic Achievement

Teaching emotional and social skills is very important in schools and colleges. It can affect academic achievement positively not only during the year they are taught, but during the years that follow as well. Teaching these skills has long term effect on achievement (Elias et al., 1991). Richardson and Evans (1997) explored some methods for teaching social and emotional competence with a culturally diverse society. Their purpose was to help students connect with each other in order to assist them in developing interpersonal, intrapersonal, and emotional intelligences, arguing that these intelligences are essential for personal accomplishment.

Learning Styles and Academic Achievement

The potential educational importance of information about student’s learning styles, in higher education, is indicated by conclusions drawn by Marton (1986) from the results of several research studies. Marton (1986) cited phenomenographic studies, the findings of which support a conclusion that there are definite relationships between the ways in which an individual conceptualizes learning, the processes by which an individual attempts to learn, and the outcomes of the individual’s attempts to learn. The existence of definite relationship between specific aspects of learning styles and measured learning outcomes in terms of academic achievement, as predictable from the work of Sternberg (1997) and Vermunt (1998), for example, would have significant implications for curriculum, teaching, and academic counseling practice.
Methodology

In this study, the researcher chose to use the self-reported measure as the data collection method as opposed to direct interview or telephonic interview. An adapted questionnaire, with some adaptations to suit the context of the study, was used. A thorough content analysis and pilot test were performed to ensure the reliability and validity of the questionnaire.

Population

The population of this study is designated as the full-time Semester 4 to Semester 6 students, comprising of 16 programmes, of Universiti Teknologi MARA. The total population sample is 1,600 students.

Sample

A sample of 500 students was chosen using random sampling. As this study utilised statistical inference, random sampling was crucial. Before the researcher randomly selected the sample, a list of students enrolled at Universiti Teknologi MARA Sarawak was obtained from the Department of Academic Affairs and based on this list, 500 students were selected randomly using the stratified random sampling technique. The average age of the respondents is 21 years and the mean GPA is 2.87.

Instrumentation

The questionnaire used in this study consists of three parts. Part A of the questionnaire is the background information about the students. Part B of the questionnaire consisting of 33 items, is an adaptation of the Self-Report Emotional Intelligence Test (SREIT) developed by Schutte et al. (1998). Part C of the questionnaire aims to assess the students' learning styles. The items for the learning styles were mainly adapted from the 'VARK Learning Styles Inventory' developed by Neil Fleming (1987). The learning Styles Inventory consists of 42 items measuring three types of learning styles: visual learner, auditory learner, and kinesthetic learner.

Data Analysis

Both descriptive analysis and inferential statistics were used. Descriptive analysis such as mean and standard deviation was used to perform data analysis on demographic variables. Inferential analysis such as correlation and regression analysis were used to determine the relationship between the independent and dependent variables.
Objectives of the Study

The main objectives of this study are as follows:

1. To determine the level of emotional intelligence of students.
2. To identify the learning styles of students.
3. To explore the relationship between emotional intelligence and academic achievement.
4. To explore the relationship between learning styles and academic achievement.
5. To explore the influence of gender on emotional intelligence and academic achievement.

Specifically this study aims to address the following questions:

1. What is the emotional level of students?
2. What are the dominant learning styles of students?
3. What is the relationship between emotional intelligence and academic achievement?
4. What is the relationship between learning styles and academic achievement?
5. What is the influence of gender on emotional intelligence and academic achievement?

Results and Discussions

The present study investigated the relationship between emotional intelligence and learning styles of students of UiTM Sarawak and its relationship to academic achievement. The study has identified that the student's emotional level is satisfactory and that they do not have a dominant learning style. A significant relationship between emotional intelligence and academic achievement was established. The results of the correlational analysis show a significant relationship between GPA and regulation ($r = .22$), understanding ($r = .21$), facilitation ($r = .14$) and expression ($r = .16$) at the 0.5 and 0.1 level of significance. In general, the results suggest that students with high levels of regulation, understanding, facilitation and expression, tend to be more successful in their academic achievement. Regression analysis indicates that emotional intelligence accounts for 10% of the variance in academic achievement.

A positive relationship was also found between learning styles and academic achievement. The results of the correlational analysis also show a significant relationship between GPA and visual ($r = .17$), auditory ($r = .15$), and kinesthetic ($r = .12$) at the 0.5 level of significance. In general, the results suggest that students with high levels of visual, auditory and kinesthetic, tend to be more successful in their academic achievement. Regression analysis shows
that learning styles accounted for 12% of the variance in students’ academic achievement.

This study also indicated a significant relationship between GPA and regulation ($r = .21$), understanding ($r = .22$), facilitation ($r = .14$) and expression ($r = .12$) among the female students. In general, the results suggest that female students with high levels of regulation, thought and expression tend to be more successful in their academic achievement.

In relation to the question of how well emotional intelligence predicted academic achievement for females, a multiple regression analysis was conducted (Table 1). The predictors were the four emotional intelligence dimensions, while the criterion variable was GPA. Based on the correlation analysis, results as presented in Table 1, the dimensions of expression, understanding, facilitation and regulation are predictors of GPA. These predictors accounted for 11% of the variance in female students’ achievement.

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>B</th>
<th>t</th>
<th>Sig</th>
<th>$r^2$</th>
<th>$sr^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(Constant)</td>
<td>2.38</td>
<td>.37</td>
<td>6.38</td>
<td>.00</td>
<td>.11</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td>3.26E-02</td>
<td>.02</td>
<td>.14</td>
<td>2.05</td>
<td>.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding</td>
<td>-5.514E-02</td>
<td>.02</td>
<td>.17</td>
<td>-3.16</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitation</td>
<td>7.160E-02</td>
<td>.02</td>
<td>.25</td>
<td>3.35</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expression</td>
<td>-3.785E-02</td>
<td>.02</td>
<td>.16</td>
<td>-2.68</td>
<td>.01</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. $(n = 348, R = .34, R^2 = .11, \text{Adjusted } R^2 = .10)$

Likewise, a significant relationship was established between GPA and regulation ($r = .13$) understanding ($r = .22$), facilitation ($r = .13$), and expression ($r = .18$). In general, the results suggest that male students with high levels of regulation, thought and expression, tend to be more successful in their academic achievement.

A multiple regression analysis conducted to evaluate how well emotional intelligence predicted academic achievement for males, shows that expression, understanding, facilitation and regulation are predictors of GPA. As shown in Table 2, these predictors accounted for 9% of the variance in students’ achievement.

### Implications for Practice

The findings of this study suggest that emotional intelligence does enhance students’ learning. The researchers propose some recommendations in line with the findings of this exploratory study for further research to be conducted.
Table 2: Regression Analysis Summary for Emotional Intelligence Variables Predicting Academic Achievement for Males

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>B</th>
<th>SEB</th>
<th>t</th>
<th>Sig</th>
<th>r²</th>
<th>sr²</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>(Constant)</td>
<td>1.68</td>
<td>.26</td>
<td>6.55</td>
<td>.00</td>
<td>.09</td>
<td>.08</td>
</tr>
<tr>
<td></td>
<td>Regulation</td>
<td>3.947E-02</td>
<td>.01</td>
<td>.19</td>
<td>3.00</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Understanding</td>
<td>-4.106E-02</td>
<td>.01</td>
<td>.19</td>
<td>2.99</td>
<td>.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitation</td>
<td>1.354E-02</td>
<td>.01</td>
<td>.14</td>
<td>2.79</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expression</td>
<td>4.570E-02</td>
<td>.02</td>
<td>.18</td>
<td>2.53</td>
<td>.01</td>
<td></td>
</tr>
</tbody>
</table>

Note: (n = 412, R = .29, R² = .09, Adjusted R² = .08)

using other emotional intelligence instruments to validate that emotional intelligence is a significant predictor of academic performance as stated in research studies. As for the influence of learning styles on students' achievement, further research should be done on the effect of self-efficacy on the interaction between emotional intelligence and academic achievement.

First, it is suggested that information about learning styles may enable educators to be more constructively responsive to individual differences amongst students and to match their instructions with the individual student's styles. The task of matching teaching and learning styles can be approached in either an environmental or learning style manner. The environmental approach puts an emphasis on compensating for that which is lacking in a student's learning style. A contrast would be to consider a student's learning style as strength to be capitalized on or built upon (Hunt, 1982). Entwistle (1990) demonstrate that academic success and failure in higher education depends not on student characteristics or teaching effectiveness alone, but on the interactions between the students and the learning environments and the match between how materials is presented and how students process it. Vermunt (2003) believed that knowledge of learning style would create a student oriented learning environment. Anderson (1995) states that knowledge of learning styles would help educators deal constructively with the instructional needs of diverse student population. Sims & Sims (1995) emphasized the importance of educators' repertoire of knowledge and skills, of knowledge of learning styles and how to apply them in the design and delivery of instruction. Learning styles also have implications for assessment because students learn differently, a one size fit all assessment measure does not work. Multi-dimensional assessment means evaluating students on a broader concept of intellectual ability and learning.

Second, it is imperative that students are provided with early interventions that involve emotional intelligence skills. Intervention programs that focus on understanding, regulation, facilitation and expression of emotions are of importance to students learning. Higher education Ministry and universities
need to work collaboratively and cooperatively to assure that students have the support they need to mature and succeed in university. It is crucial that learning environment is student-centered and nourish the development of emotional intelligence skills which may be the biggest predictor of student's success. An effective instructional curriculum needs to integrate emotional intelligence dimensions into it. Students who are emotionally engaged in learning will make a long lasting connection with an institution of higher education. Involving students in personal and meaningful learning will contribute to higher academic achievement.

Implications for Theory

The theoretical foundation of this study included aspects of learning styles, emotional intelligence and academic achievement. This section presents the implications pertaining to the theoretical foundations of this study.

The learning styles theory builds a strong basis for the concept of learning in universities and if applied in the university curriculum can significantly improve student's academic achievement as have been shown in the review of literature about learning styles. In today's competitive learning environment it is vital that more holistic approach be employed to enhance student's learning and as a result improves student's academic achievement. The same goes for emotional intelligence which has now been applied in schools and universities. The challenge facing universities is how to integrate emotional intelligence into the university's curriculum in order to develop university students who are emotionally intelligent and not just academically intelligent. Researchers who are interested in a more complete understanding of learning styles and emotional intelligence in a more comprehensive manner are recommended to examine other factors that are not included in this study such as self-esteem, self-efficacy and others which have an impact on student's academic achievement.

Conclusions

In general, the findings and conclusion of this study substantiate the major findings reported by Stenberg (1997), Vermunt (1998), Nelson and Low (1998), Vela (2003) and Stottlemyer (2002). Emotional intelligence and learning styles have a positive relationship with student academic achievement. Thus, this study has important implications for pedagogy in higher education in general and UiTM Sarawak in particular. Higher education based on emotional intelligence and learning styles domain can create conducive learning environment that promotes effective teaching and learning. Consequently it will have a positive impact on students' academic achievement.
References


