Emotional Intelligence of Elementary Scholar: Instructional Strategy and Personality Tendency

Nilawati Tadjuddin*  
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Robingatin  
Institut Agama Islam Negeri Samarinda, INDONESIA

Meriyati  
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Eti Hadiati  
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Rifda El-Fiah  
Universitas Islam Negeri Raden Intan Lampung, INDONESIA

Ahmad Walid  
Institut Agama Islam Negeri Bengkulu, INDONESIA

Widayanti  
Sekolah Tinggi Keguruan dan Ilmu Pendidikan Nurul Huda, INDONESIA

Received: December 10, 2019 • Revised: December 27, 2019 • Accepted: January 15, 2019

Abstract: Each child has a different personality type of tendency. Personality type is closely related to emotional intelligence. Through this study, we report the analysis results of the effects of personality type tendencies and the application of learning strategies in controlling the emotional intelligence of elementary school students. This study uses the quasi-experimental method with a 2x2 factorial design in data collection. Data analysis used was a two-way analysis of variance (ANOVA) test. Research findings show that students with extrovert tendencies personality are better than students with introvert personality types. The application of inquiry strategies in learning is better at controlling emotional intelligence than the application of expository strategies.

Keywords: Students' emotional intelligence, elementary school students' learning strategies, students' personality types.


Introduction

God created humans as intelligent beings (Felix, Marpaung, & Akmal, 2019; Sahputra & Hayati, 2019). The level of intelligence of a person depends on a particular place and culture, thus, producing different ways of thinking and individual intelligence (Mamangkey, Tewal, & Trang, 2018; Suryana, 2019). Multiple intelligence was chosen as a concept in seeing descriptively how individuals use their intelligence to solve problems (Mujib & Mardiyah, 2017; Oktaviana, Jufrida, & Darmaji, 2016). One indicator of multiple intelligences is emotional intelligence (Asmawati, 2017). The emotional intelligence is a self-domain (self-awareness), self-control (self-regulation), motivation (self-motivation), empathy (self-empathy), and social skills (Goleman, 2001).

Emotional intelligence in the scope of education is important for elementary school students (Asmawati, 2017; Baharuddin & Dalle, 2019; Valoka, Tsausi, & Nikolaou, 2004). Achievement, behavior, social, self-concept, and personality of students affect emotional intelligence (Haryadi & Aripin, 2015; Indriawati, 2018). Emotional intelligence is very important to be taught and applied in the family and educational environment (Asmawati, 2017; Sahputra & Hayati, 2019; Sinetar, 2000). Based on research from the United States and Europe, the emotional intelligence of elementary school students can be controlled through learning by playing (Baidi, 2019). However, Asian countries still choose academic learning over games, even, in Asian countries, the parents still assume that playing is not learning (Hedges & Lee, 2010; Parmar, Harkness, & Super, 2004). Bearing in mind the many impacts that the elementary school students could have from learning by playing, there is a need for socialization from teachers to parents of elementary school students (Soemarmi, 2017; Zaini, 2015).

Various positive impacts obtained from learning by playing include feeling happy, interested, creative, even having a direct experience that can be applied in the environment of daily-life (Indrawati, 2013; Parmin et al, 2019; Soemarmi, 2017; Yuberti et al., 2019). Besides, learning by playing can show the personality types of students (Rasyid, Apriani,
Irianti, & Verlanda, 2017). Learning by playing a game requires special strategies to work well (Felix et al., 2019; Rachmawati & Kurniati, 2011; Saregar et al, 2019). The various strategies that can be applied include inquiry learning and expository strategies (Abdurrahman, 2017; Dewi, 2016; Nasution, 2018; Wangsa-P, Suyana, Amalia, & Setiawan, 2017; Soemarmi, 2017). Student-centered inquiry learning strategies and teacher-centered expository learning are expected to make it easier to analyze students’ emotional intelligence (Choerunnisa, Wardani, & Sumarti, 2017; Dewi, Suyatna, & Ertikanto, 2017; Purnamawati, Ertikanto, & Suyatna, 2017).

However, research related to emotional intelligence has been rarely done, especially its impact in the field of education. The exercise of emotional intelligence will have an impact on the formation of more realistic thinking in supporting the future (Hanana, 2018). Specifically in overcoming the limitations of natural resources and preservation efforts in Indonesia (Komarudin, Alkhudri, Ubedilah, Syaifudin, & Casmana, 2019). Indonesia has sufficient available energy sources but has not been fully utilized including in its preservation (Asmuniv, 2015; D. Hidayati, 2016; Warjijono, 2016; Widayanti, Abdurrahman, & Suyatna, 2019). So it is necessary to get used to controlling emotional intelligence through cases in Indonesia.

Several previous studies have examined emotional intelligence including: analyzing the relationship of emotional intelligence and employee performance (Brunetto, Teo, Shacklock, & Farr-wharton, 2012; Cartwright & Pappas, 2008; Farrastama & Asmony, 2019; Feyerhem & Rice, 2002; Harahap & Sagala, 2019; Ibrahim, 2012; O’Boyle Jr, Humphrey, Pollack, Hawver, & Story, 2011; Kirk, Schutte, & Hine, 2011; Krisnanda, Bagus, & Surya, 2019; Mamangkey et al., 2018; Mulyasari, 2018), the nature of emotional intelligence in adolescents (Argyriou, Bakoyannis, & Tantaros, 2016), the effect of emotional intelligence on work practices (Athariq & Andayono, 2019), the effect of emotional intelligence on pro-social behavior (Hanana, 2018; Sahputra & Hayati, 2019), portrait of emotional intelligence in students (Birks, Mckendree, & Watt, 2009; Indriawahyuni, 2018; Luan & Blegur, 2018), the role of emotional intelligence in coping strategies (Felix et al., 2019), the importance of emotional intelligence for leadership (Allameh & Khazaei, 2015; Suryana, 2019), description of emotional intelligence in gifted students (Respati, Arifin, & Ernawati, 2007), consumer emotional intelligence (Kidwell, Hardesty, & Childers, 2008), and the importance of emotional intelligence in learning. From the most recent research, most of the emotional intelligence research applied to the working-age, only a few that examines emotional intelligence in the educational environment. In this study, emotional intelligence is applied in the educational environment through learning strategies and personality types. Also, the application is carried out on elementary school students.

**Method**

**Research Design**

This research uses a quasi-experimental method with a 2x2 factorial design (Ferreira, Morais, Brothers, & Ferreira, 2019; Sakib, Muhammad, & Osman, 2019). The variables in this study are learning strategies and personality types as independent variables, while emotional intelligence is the dependent variable. The design of this study pays attention to the possibility of a moderate variable affecting treatment (the independent variable) on the outcome (the dependent variable) (Keeler, Skidmore, Leenstra, Macdonald, & Stewart, 2019). The factorial design in this study is shown in table 1 (Yang, Wang, & Chiu, 2015).

<table>
<thead>
<tr>
<th>Tabel 1. Factorial Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personality Types</strong></td>
</tr>
<tr>
<td>Extrovert (B&lt;sub&gt;1&lt;/sub&gt;)</td>
</tr>
<tr>
<td>Introvert (B&lt;sub&gt;2&lt;/sub&gt;)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

**Sample and Data Collection**

The study population was 60 first grade students of Pahoman Elementary School, Bandar Lampung. The sampling technique was done in stages (random sampling). Before the treatments were given, the students were given a personality type test by a psychologist to determine the tendency for extrovert or introvert personality types. Then, 50% of the students were categorized to have extrovert tendencies and 50% of the students were categorized to have introvert tendencies.

The instrument used in this study was a questionnaire. The questionnaire used was a close-ended questionnaire with several choices that had been provided by researchers related to the emotional intelligence indicators. The data was then analyzed using interpretations in the form of assessment scores. The scores' values ranged from 1 to 4. The highest score is 4 and the lowest score is 1 for each questionnaire item selected.
Analyzing the Data

The data were analyzed quantitatively using a two-way analysis of variance (ANOVA) (Rita, 2019; Sudrajat, Iasha, & Femayati, 2018). Before the ANOVA test was performed, the prerequisite tests of normality and homogeneity tests were conducted. The instrument validation test was performed using the Pearson Product Moment correlation technique formula with the Alpha Coefficient of Cronbach to calculate the reliability of the instrument.

Findings

This study applies expository and inquiry strategies in learning both for students who have extrovert and introvert tendencies. The research design carried out in the application of expository and inquiry strategies on extrovert and introvert personality types is shown in Figure 1.

| Preparing | • The teacher prepares natural and artificial environment material by conveying the objectives and discussion points.  
• Students pay attention to the teacher |
| Explaining | • The teacher presents the material verbally to students assisted with demonstrations in the form of posters such as pictures of dams, beaches, sea, bridges, buildings, rice fields, mountains etc.  
• All students pay attention to the material presented by the teacher and optimally respond to learning activities. |
| Connecting | • The teacher directs each student to be able to connect the image of the poster presented with the learning material discussed  
• Each student links the material learned from the poster displayed |
| Concluding | • The teacher directs students to conclude the material that has been learned  
• Each student concludes the learning that has been done |
| Applying | • The teacher directs students to be able to apply a caring attitude to the environment by protecting the natural environment  
• All students learn to apply energy saving in everyday life |

*Figure 1. Expository Strategy Implementation Design in Measuring Students’ emotional Intelligence*
The same treatment between extrovert and introvert personality types (see figures 1 and 2) was given to both personality types in the form of expository and inquiry learning strategies to measure emotional intelligence. The results of the were analyzed using the two-way ANOVA test, before conducting the test, the normality and homogeneity tests were first performed to determine the emotional intelligence based on personality types and learning strategies. The following data is the result of the research.

**Table 2. The Normality Test Results for the Students’ Emotional Intelligence**

<table>
<thead>
<tr>
<th>Data</th>
<th>N</th>
<th>$L_h$</th>
<th>$L_{(α=0.05)}$</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>30</td>
<td>0.112329</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>A2</td>
<td>30</td>
<td>0.66610</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>B1</td>
<td>30</td>
<td>0.123777</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>B2</td>
<td>30</td>
<td>0.128259</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>A1 B1</td>
<td>15</td>
<td>0.1301195</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>A2 B2</td>
<td>15</td>
<td>0.144969</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>A1 B2</td>
<td>15</td>
<td>0.076183</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
<tr>
<td>A2 B2</td>
<td>15</td>
<td>0.185243</td>
<td>0.2200</td>
<td>Normal</td>
</tr>
</tbody>
</table>
The students’ average emotional intelligence consists of different variations (see table 4). Emotional intelligence through the application of inquiry strategy is higher than emotional intelligence through the application of expository strategy ($X_{A2} = 80.94 > X_{A1} = 78.06$). Besides, it is found that there are significant differences between the emotional intelligence of students subjected to the inquiry strategy and the expository strategy (see table 5). This is indicated by the value of $F_o = 5.426 > F_{0.05} (1;56) = 4.01$ which states that there is a difference between students’ emotional intelligence who is subjected to inquiry learning strategy and students’ emotional intelligence who is subjected to expository strategy. This happens because, in its application, the steps of the expository and inquiry strategy are different. So students have different tendencies in controlling emotional intelligence. Expository learning strategies prioritize the explanation of teachers through everyday life events while the inquiry strategy emphasizes the discovery of student orientation to everyday problems.

Indonesia is implementing curriculum 2013 by emphasizing problem orientation through daily life, thus, the inquiry strategy is very appropriate for implementing the curriculum in Indonesia today (Hidayati & Prihatin, 2016; Kemendikbud, 2018; Sagala et al., 2019; Wekke & Astuti, 2017). The results of this study are in line with the findings by (Felix et al., 2019), that the independence of students who are trained when learning takes place can guide them to find solutions to problems that occur in daily life and can better control their emotional intelligence.

Several other researchers have found that emotional intelligence affects employee performance. The better a person’s performance, the better their emotional intelligence (Harahap & Sagala, 2019; Mamangkey et al., 2018; Mulyasari, 2018; Nugraha, 2019), other studies have found other things that can affect emotional intelligence including social interaction (Damayanti, Putri, & Wardani, 2014; Sahputra & Hayati, 2019), coping strategies can also affect the emotional intelligence of working students (Felix et al., 2019), work that puts excessive pressure also affects emotional intelligence.

### Table 3. Variance Homogeneity Test of Emotional Intelligence in the Two Treatment Groups and Two Category Attributes

<table>
<thead>
<tr>
<th>Variance</th>
<th>Highest Variance</th>
<th>Lowest Variance</th>
<th>$F_{observed}$</th>
<th>$F_{table}$</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A_1$ and $A_2$</td>
<td>43.82</td>
<td>26.32</td>
<td>1.67</td>
<td>4.17</td>
<td>$\alpha (0.05)$</td>
</tr>
<tr>
<td>$B_1$ and $B_2$</td>
<td>70.33</td>
<td>49.20</td>
<td>1.43</td>
<td>4.17</td>
<td>$\alpha (0.01)$</td>
</tr>
</tbody>
</table>

The research data were normally distributed (see Table 2). Then, the next test is the homogeneity test. Homogeneity test data turned out to be homogeneous (see table 3), so the data analysis used was the parametric statistic of the two-way ANOVA test.

### Table 4. Students’ Emotional Intelligence Results Based on Personality Types and Learning Strategies

<table>
<thead>
<tr>
<th>Emotional Intelligence</th>
<th>Max Score</th>
<th>Min Score</th>
<th>Average</th>
<th>Mode</th>
<th>Median</th>
<th>Variance</th>
<th>Standard Deviation</th>
<th>Absolute</th>
<th>Relative Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expository($A_1$)</td>
<td>88</td>
<td>67</td>
<td>78.06</td>
<td>75</td>
<td>77</td>
<td>49.19</td>
<td>7.01</td>
<td>7</td>
<td>23</td>
</tr>
<tr>
<td>Inquiry ($A_2$)</td>
<td>92</td>
<td>68</td>
<td>80.94</td>
<td>82</td>
<td>81</td>
<td>70.32</td>
<td>8.38</td>
<td>7</td>
<td>23.33</td>
</tr>
<tr>
<td>Extroverts ($B_1$)</td>
<td>88</td>
<td>67</td>
<td>81.17</td>
<td>78</td>
<td>82</td>
<td>85.63</td>
<td>9.25</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Introverts ($B_2$)</td>
<td>87</td>
<td>68</td>
<td>77.83</td>
<td>77</td>
<td>77</td>
<td>31.83</td>
<td>5.64</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>$B_1 A_1$</td>
<td>88</td>
<td>67</td>
<td>76.78</td>
<td>69</td>
<td>77</td>
<td>65.12</td>
<td>8.07</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>$B_1 A_2$</td>
<td>92</td>
<td>72</td>
<td>85.56</td>
<td>87</td>
<td>87</td>
<td>52.81</td>
<td>7.27</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>$B_2 A_1$</td>
<td>87</td>
<td>73</td>
<td>79.33</td>
<td>73</td>
<td>77</td>
<td>31.74</td>
<td>5.63</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td>$B_2 A_2$</td>
<td>82</td>
<td>68</td>
<td>76.33</td>
<td>75</td>
<td>76</td>
<td>27.26</td>
<td>5.22</td>
<td>6</td>
<td>40</td>
</tr>
</tbody>
</table>

The average values of emotional intelligence are varied (see table 4). The results obtained are supported by the results of the analysis of variance shown in table 5.

### Table 5. Results of Analysis of Variance Data on Emotional Intelligence Scores

<table>
<thead>
<tr>
<th>Variance</th>
<th>Degree of Freedom</th>
<th>Number of squares</th>
<th>RJK</th>
<th>$F_{observed}$</th>
<th>$F_{critical}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between A</td>
<td>1</td>
<td>240</td>
<td>240</td>
<td>5.43</td>
<td>4.01</td>
</tr>
<tr>
<td>Between B</td>
<td>1</td>
<td>180.27</td>
<td>180.27</td>
<td>4.07</td>
<td>7.11</td>
</tr>
<tr>
<td>Interactions of A X B</td>
<td>1</td>
<td>749.07</td>
<td>749.07</td>
<td>16.93</td>
<td>-</td>
</tr>
<tr>
<td>In Groups</td>
<td>56</td>
<td>2477.07</td>
<td>44.23</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>3646.4</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Discussion and Conclusion

The students’ average emotional intelligence consists of different variations (see table 4). Emotional intelligence through the application of inquiry strategy is higher than emotional intelligence through the application of expository strategy ($X_{A2} = 80.94 > X_{A1} = 78.06$). Besides, it is found that there are significant differences between the emotional intelligence of students subjected to the inquiry strategy and the expository strategy (see table 5). This is indicated by the value of $F_o = 5.426 > F_{0.05} (1;56) = 4.01$ which states that there is a difference between students’ emotional intelligence who is subjected to inquiry learning strategy and students’ emotional intelligence who is subjected to expository strategy. This happens because, in its application, the steps of the expository and inquiry strategy are different. So students have different tendencies in controlling emotional intelligence. Expository learning strategies prioritize the explanation of teachers through everyday life events while the inquiry strategy emphasizes the discovery of student orientation to everyday problems.
The emotional intelligence of students with extrovert personality is better than the emotional intelligence of students with introvert personality (see table 4). This is supported by a significant difference between the emotional intelligence of students who tend to extrovert personality types and students who have introvert personality type tendencies (see table 5). The emotional intelligence of students who tend to extrovert personality types is higher than students who tend introvert personality types ($X_{16} = 81.17 > X_{82} = 77.83$). This reinforces the data that extrovert personality types play an important role in self-adjustment, especially those related to interpersonal dimensions whereas introvert personality types are shy, talk less, and tend to be self-centered (Parker & Asher, 1993; Weinberger, 1990). The extrovert personality types are easier to socialize and can control their emotional intelligence.

The findings in Table 4 show that students with extrovert personality, through the application of inquiry strategy, are better than students with extrovert personality since the application of inquiry strategy are directed to find solutions from problem orientation in daily life (Abdurrahman, 2017; Choerunnisa et al., 2017; Dewi et al., 2017; Nasution, 2018). Students who have an extrovert personality type can easily explore a finding that can trigger curiosity. So that the inquiry strategy is easy and challenging to do for students who have an extrovert personality type tendency. The inquiry learning conducted requires students in groups to analyze the problems of the natural environment and the artificial environment in the surrounding environment.

The teacher posed problems in the natural and artificial environment in the surrounding environment. Then each group made questions and answers hypotheses from problems. Then, each group collected information to test the hypotheses made. The hypothesis was analyzed using several references and the students were given the freedom to explore by observing the natural and artificial environment that exists around the school. Then, each group concludes the findings on the learning that has been done. Besides, learning by doing group work makes it easy for extrovert personality types to socialize.

Table 4 also shows the emotional intelligence of students who have introvert personalities through the application of expository strategy is better than students who have introvert personality through the application of inquiry strategies. The expository learning strategy is teacher-centered. The teacher explained verbally assisted by displaying posters about the natural and artificial environment that exists in Indonesia. Students listened and understood the material delivered by teachers. Introvert personality type tended to learn on their own rather than collaborating thus, providing learning with individual work methods making introvert students comfortable and easy to understand (Howorth et al., 2016; Mills et al., 2019; Roehling et al., 2017; Sugharta, 2019; Syarofah, Wiryokusumo, & Sugito, 2019). In expository learning, the teacher explained the objectives and material to be discussed in learning. Then, the teacher displayed posters about the natural and artificial environment that exists in Indonesia. Each student was directed to connect the material presented with daily life through the guidance of the teacher. Each student summarized the learning outcomes. The learning that has been applied is expected to make the students better understand the forms of the natural environment and artificial environment that exist in Indonesia and can preserve the natural and artificial environment in the surrounding environment by not littering.

Findings related to the interaction between learning strategies and tendencies of personality types are shown through the value of $F_r = 16.93 > F_{0.05}^{[1, 56]} = 4.01$ which states that there is an influence of learning strategies on emotional intelligence based on the tendency of personality types. Students who have an extrovert tendency are easy to socialize, have high self-confidence, and leadership so that they are very easy to control their emotional intelligence in terms of crowded and quiet situations. However, students who have an introvert tendency are very difficult to socialize, have low trust in a crowded situation so that they find it difficult to control their emotional intelligence when the situation is crowded and easier to control emotional intelligence in a quiet situation.

The findings of this study are that each student has different abilities and has different ways of learning. This research found that each personality type has a way to control emotional intelligence. Extrovert personality types and introvert personality types have different tendencies in controlling their emotional intelligence. Extrovert personality types tend to easily control their emotional intelligence by applying an inquiry learning strategy while introvert personality types are easier to control their emotional intelligence by applying an expository learning strategy.

Personality types and the application of strategies in learning affect students’ emotional intelligence. Students who tend to extrovert personality types are better at controlling their emotional intelligence than students who have an introvert personality type. The application of inquiry strategy in learning is better at controlling emotional intelligence than the application of expository strategy. Also, students who tend extrovert personality type, to better control their emotional intelligence, should be given an inquiry learning strategy whereas students who have introvert personality type tendencies better control their emotional intelligence by applying expository learning strategy.
Recommendation

In this study, it is clear that personality types and the application of strategies in learning affect students’ emotional intelligence. Therefore, teachers must pay attention to this to develop the skills that each student has. The skills can be affective, psychomotor, and cognitive.

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