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Volume 1, Issue Number 1

The official research journal of the

ASSOCIATION OF SOUTHEAST ASIAN TEACHER EDUCATION NETWORK

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AsTEN Journal of Teacher Education

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Message

In the aspiration to create a mark in Teacher Education in the regional and global arena, the Philippine Normal University established the Association of Southeast Asian Teacher Education Network (AsTEN) to bring together premier Teacher Education Institutions (TEIs) of the countries in the Asian region to work together to shape and redefine Teacher Education in the region. With the mandate to serve as vehicle for collaboration in both academic and research endeavours, AsTEN’s Board to Trustees officially initiated and approved the AsTEN Journal of Teacher Education as the official publication of the Association during the 2nd meeting of the University Presidents of the member institutions in Manila on April 24, 2015; subsequently assigning management of the journal to the Philippine Normal University and the editorship to the National Institute of Education in Singapore.

The AsTEN Journal of Teacher Education is an inaugural publication of the Association of Southeast Asian Teacher Education Network. This journal serves as a venue for created knowledge and research on teacher education in the region may be known to the global community. This platform is a tangible scene to communicate and promote teacher education advancement in the ASEAN region and the world; advance research and teaching scholarship on various areas in teacher education; and increase the Network’s visibility in the global arena. The publication of the journal’s maiden issue is an undeniable manifestation of excellent collaboration and correspondence of the member countries towards realizing the network’s goals of addressing issues, challenges and concerns pertinent to Teacher Education in the region. A reality at its novelty, the journal may now concretely speak of the Network’s ingenuity of providing the academic community a scholarly platform to share the programs and projects of AsTEN to continuously bridge gaps, anticipate challenges and create, shape and redefine teacher education in the region. In this maiden issue, eight articles by eminent scholars from Myanmar, Philippines, Singapore and Vietnam represented the take of AsTEN on the ASEAN perspective in Teacher Education that in the region there is unity in diversity promoting greater understanding and appreciation of the richness and diversity of the ASEAN culture in the aspects of teacher education.

The efforts of the editorial board headed by the Editor-in-Chief and the entire editorial team are commendable for conscientiously providing the authors constructive manuscript reviews to enhance their respective articles worthy of international publication. The member institutions have shown that they are capable to foster greater cooperation on knowledge generation, enrichment and utilization and bring to the international readership worthy knowledge on teacher education. With this maiden
issue and the next publications, more meaningful insights, unique perspectives, critical analysis, critical advice and actionable guidance on teacher education in the ASEAN region may be imparted by the Association to the ASEAN community and internationally.

ESTER B. OGENA, Ph.D.
President, PNU
and Chair, AsTEN
An ASEAN Perspective in Teacher Education

Lim Kam Ming
National Institute of Education, Singapore

In this inaugural issue of the ASEAN Teacher Education Journal (ASTEN Journal), eight papers by distinguished scholars from Myanmar, Philippines, Singapore and Vietnam were selected to present on key aspects of education and teacher education.

This collection of papers ranged from understanding how students learn social and emotional skills (Hoang, 2016) and the critical thinking skills of postgraduate students (Nyunt, 2016) to constructing an ASEAN perspective of teacher education curriculum (Reyes & Navarro, 2016).

While Myint and Aung (2016) informed us about the links between emotional intelligence and the work performance of teachers in Myanmar, Loh (2016) explored a beginning teacher’s challenges during the 1st 3 years of teaching.

As teacher education is a key focus for the AsTEN Journal, in addition to Reyes and Navarro’s paper, two other papers were selected to provide a broader perspective.


One of the many positive outcomes of the ASEAN Teacher Education Conference 2014 - “Finding ASEAN Common Ground in Teacher Education: Issues and Challenges” that was held from 18-19 September 2014 in Manila was the agreement amongst the conference participants to the establishment of the AsTEN Journal.

This journal is established as the flagship publication of ASTEN. This journal will serves as a scholarly forum on education, teacher education, scholarship of teaching, teacher education leadership, curriculum and pedagogy, education policies and other relevant topics which continue to shape and redefine teacher education in the ASEAN region.

Credit and thanks must go to the members of the AsTEN Journal Publication Board from the consultants, associate editors, technical assistant, layout/graphic artist, proof reader and support staff for
their valuable advice, assistance, support and help to make this 1st issue of the AsTEN Journal a reality. Many months of hard work by many people led to the publication of this 1st issue.

A note of thanks goes to the authors of the eight papers selected for this 1st issue for making the AsTEN Journal their preferred journal for their papers.

We look forward to receiving many more manuscripts for future issues of the AsTEN Journal. Only with your support, can AsTEN Journal be a key voice for teacher education both within ASEAN and internationally.

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The Relationship Between Emotional Intelligence and Job Performance of Myanmar School Teachers

Aye Aye Myint
Yangon University of Education, Myanmar

Aye Aye Aung
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Abstract

The primary purpose of this study was to investigate the strength of teachers’ emotional intelligence by four dimensions: utilization of emotion, optimism/mood regulation, expression/appraisal of emotion and emotional resilience. Next was to explore the relationship between emotional intelligence and job performance of school teachers. A descriptive research survey design was taken in this study. A total of 2014 school teachers from Yangon Region and Rakhine State participated by using multistage equal stratified random sampling technique. School teachers’ emotional intelligence and job performance were assessed by using questionnaire survey method. In this study, out of four dimensions of EI, utilization of emotion is found to be the highest whereas emotional resilience is found to be the weakest among Myanmar school teachers. According to t-test result, gender and marital status are not related factors for EI. But senior teachers have higher EI than primary teachers and junior teachers. Then, more experienced teachers have higher EI than less experienced teachers. Comparing the two regions, school teachers in Yangon Region had higher EI than those in Rakhine State. Working experiences and job designation were related factors of teacher’s job performance whereas there were no marital status and region differences in job performance. Primary teachers and junior teachers performed better than senior teachers with regard to job designation. Multiple regression analyses revealed that emotional intelligence was moderate predictor for job performance of school teachers. Optimism/mood regulation and expression/appraisal of emotion had direct predictive contribution to teachers’ job performance.

Keywords:
Emotion, Emotional Intelligence, Teacher Job Performance

Authors’ Notes

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Introduction

Importance of the Study

Nowadays, emotional intelligence has become an exciting topic with enormous implications for many areas. Emotional knowledge, skills and intelligence hold a major key to improving education and helping students, teachers, faculty, and student development professionals attain higher degrees of achievement, career success, leadership and personal well being. Moreover, teaching is an emotional practice which involves emotional relationships, emotional understanding and emotional labor. It therefore requires teachers to become more efficient role models in terms of emotional intelligence. Furthermore, individuals are always in an interaction and communication with their environment. So, in order to develop good interpersonal relationship between teachers and students, feeling and emotion that everyone experiences are considered vital factors. Emotions contain valuable information about relationships.

In daily life, teachers have to bond with students and educate students as emotional and social beings. There may be many factors affecting the quality of this interaction and communication. These factors can be originated either from personal characteristics or other external factors. Individuals’ past experiences, personal characteristics, interests, attitudes, and expectations can influence their interpersonal relationships. Besides all, another factor worthy of mentioning relationship among people is emotional intelligence. Emotional intelligence refers to competencies in identifying, understanding, expressing, and managing emotions, in both self and others (Matthews, Zeidner & Roberts, 2004). It represents the combination of heart and mind. The activity of mind, the inner urge, is a fundamental property of life (Khin Zaw, 2001). So, it has been determined as an indispensable activator and enhancer of intellectual powers. Teaching is also an emotional practice which involves emotional relationships, emotional understanding and emotional labor. This requires teachers to become more efficient models in terms of emotional intelligence. As teachers are true builders of the nation, the effect of emotional intelligence on teachers’ job performance cannot be ignored and also be taken into account as a crucial point in the classroom environment.

Recognizing the essential of emotional intelligence and the lack of studies in Myanmar, this exploratory study is an attempt to contribute to an understanding of emotional intelligence of Myanmar school teachers. Moreover, there has been no study investigating the relationship between emotional intelligence and school teachers’ job performance in Myanmar. On account of these reasons mentioned above, emotional intelligence of Myanmar school teachers and its impact on their job performance are considered as an urgent need.

Purpose of the Study

The primary purpose of this study is to explore the strength of teachers’ emotional intelligence by four dimensions: utilization of emotion, optimism/ mood regulation, expression/ appraisal of emotion and emotional resilience.

The specific objectives are:

1. to explore the related factors of emotional intelligence and that of job performance among school teachers;
2. to investigate the relationship of emotional intelligence with job performance of school teachers.

Definitions of Key Terms

The following definitions of the key terms were used in this study.

Emotion: It is defined as “a strong feeling deriving from one’s circumstances, mood, or relationships with others” (Matthews, Zeidner & Roberts, 2004).

Emotional intelligence: It is the ability to monitor one’s own and other feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions (Goleman, 2000).

Teacher’s job performance: It can be defined as the ability of teachers and the job responsibilities or duties performed by the teacher to combine relevant inputs for the enhancement of teaching and learning processes (Justine, 2010).
Review of Related Literature

Historical Context of Emotional Intelligence

Emotional, social and practical intelligence have been called the nonacademic intelligence, the non-cognitive intelligences, and the non-intellective intelligences. These terms distinguish traditional views of intelligence from the more widely recognized and researched abstract, or academic, intelligence, at the core of which is alleged to be g (general ability) measured by IQ tests (Goleman, 2000).

There were researchers who recognized early on that the non-cognitive aspects were also important. Wechsler was the researcher who saw non-cognitive aspects of intelligence to be important for adaptation and success (Cherniss, 2000). On the other hand, Gardner also (1983) defined social intelligence as one of the seven intelligence domains in his theory of multiple intelligences. Salovey and Mayer (1990) seem to focus on emotions as one aspect of social intelligence. They are the earliest developers of the concept and define EI as “the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions”. Goleman’s best-selling book, “Emotional intelligence” includes abilities such as being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one’s moods and keep distress from swamping the ability to think; to empathize and to hope” (Goleman, 1995, p.34).

Recently, in the light of Salovey and Mayer’s definition of emotional intelligence, Goleman (1998) expanded the definition of EI into five basic emotional and social competencies: (1) knowing one’s emotions, or ‘self-awareness’ (2) managing emotions, or ‘self-regulation’ (3) motivating oneself (4) recognizing emotions in others, or ‘empathy’ and (5) handling relationships, or ‘social skills’. At the same time, Bar-On (2000) defined EI in terms of an array of emotional and social knowledge and abilities that influence our overall ability to effectively cope with environmental demands. The five main domains in his model are intrapersonal skills, interpersonal skills, adaptability, stress management, and general mood (Cherniss, 2000). Furthermore, the Goleman (2002) taxonomy offers a four-part structure: self-awareness, self-management, social awareness and relationship management.

Moreover, the theory of emotional intelligence is synthesized into ability model and mixed model. Representatives of ability model are Mayer and Salovey (1997) with four-branch model of emotional intelligence. They perceive as a form of pure intelligence, that is, emotional intelligence is a cognitive ability. Mixed model emphasizes how cognitive and personality factors influence general well-being (Goleman, 1995).

Teachers’ Job Performance

Performance could be described in various ways. It could be an act of accomplishing or executing a given task (Okunola, 1990, cited in Adeyemi, 2010). Job performance, which refers to the degree to which an individual executes his or her roles with reference to certain specified standards set by the organization, is central to any organization (Nayyar, 1994, cited in Akhlaq I & Amjad II, 2010). However, good performance involves being punctual at work, cooperating with co-workers, management in overcoming problems, having control over emotions, commitment and regular at work among others while poor performance involves late arrivals at work place, leaving early, lack of commitment, absenteeism, too much complaints, unwillingness to accept the delegated duties and having no control over emotions hence, strikes (Cole, 1998, cited in Justine, 2004). In addition, teachers’ job performance could be described as the duties performed by a teacher at a particular period in the school system in achieving organizational goals.

Methodology

Research Participant and Setting

In order to obtain the data, the sample of Myanmar school teachers from Yangon Region and Rakhine State, was selected by using multistage equal stratified random sampling technique in Phase I. It employed a three stage sample selection process, first, districts from each region, and selected townships, then selecting school teachers (primary teachers, junior teachers and senior teachers) from the townships. A total of 1006 school teachers from Yangon Region and
1008 school teachers from Rakhine State participated in this study. Based on the descriptive analysis of emotional intelligence test scores, the three groups such as high EI level, moderate EI level and low EI level were classified. In Phase II, out of 2014 school teachers, a total of 400 teachers, 100 teachers of low EI group (40%), 200 teachers of moderate EI group (13%) and 100 teachers of high EI group (40%), were selected and administered by Teachers’ Job Performance Questionnaire.

Research Instruments

Emotional Intelligence Scale was adapted from Schutte Self-Report Emotional Intelligence [SSREI] scale by Schutte in 1998, Trait Emotional Intelligence Questionnaire (TEIQ) by Petrides in 2001, Leahy Emotional Intelligence Schemas (LEIS) by Leahy in 2002, Wong & Law Emotional Intelligence Scale by Wong and Law in 2002, Trait Meta-Mood Scale (TMMS) by Salovey, Mayer & et al (1995) and Dulewicz & Higgs Emotional Intelligence Questionnaire (DHEIQ) by Dulewicz & Higgs (2001). EIS consists of 60 items: utilization of emotion (20 items), optimism/mood regulation (21 items), expression/appraisal of emotion (9 items), and emotional resilience (10 items). It is 5-point Likert scales ranging from strongly disagree = 1, to strongly agree = 5. Teachers’ Job Performance Questionnaire was mainly adapted from Self-Administered Questionnaire of Teachers’ Job Performance (SAQs) by Nabuhenya. It includes 58 items: 25 items of positive interpersonal relations/professional responsibility, 19 items of instruction/learning environment and 14 items of planning and preparation.

Data Analysis

Confirmatory Factor Analysis for Emotional Intelligence Scale

Confirmatory factor analysis was used to establish the four factor structure of the Emotional Intelligence Scale. The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.93, above the recommended value of 0.7, indicating sufficient items for each factor. And Bartlett’s Test of Sphericity was significant (p < 0.001) which means that the variables were highly correlated enough to provide a reasonable basic for factor analysis. Finally, factor analysis was conducted with 60 items: utilization of emotion (20 items), optimism/mood regulation (21 items), appraisal of emotion (9 items), and emotional resilience (10 items).

Emotional Intelligence of School Teachers

In this study, an emotional intelligence scale for Myanmar school teachers have been developed by two parameter logistic model of item response theory (IRT). The results were reported in Journal of Myanmar Academy Arts and Science June, 2015 Vol. X. Using the ability parameter θ estimate from that result, school teachers were identified into the three groups: 14% of school teachers with ability one standard deviation above the sample mean were considered high group; 74% of school teachers with ability (+1) and (-1) standard deviation from the sample mean were grouped into moderate group and the remaining school teachers of 12% who have ability one standard deviation lower than the sample mean were grouped into low group.

Strength Level of Each Dimension of Emotional Intelligence Scale for Myanmar School Teachers

Myanmar school teachers’ emotional intelligence was measured by Emotional Intelligence Scale which included four dimensions for emotional intelligence. The descriptive statistics corresponding to each dimension of emotional intelligence are reported in the following Table 1.

Based on the descriptive statistics shown in Table 1, the mean score for utilization of emotion is the highest among four dimensions. However, it was observed that school teachers’ emotional resilience is weak. It may be interpreted that they are weak in performing consistently in a range of situations under pressure and adopting behavior appropriately. According to the result, EI teaching strategies related to improving emotional resilience should be incorporated into pre-service and in-service teacher training programme in Myanmar.
Table 1. Means and Standard Deviations for Four Dimensions of Emotional Intelligence Scale

<table>
<thead>
<tr>
<th>Dimensions of EI</th>
<th>Mean %</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Emotion</td>
<td>78.74</td>
<td>9.56</td>
</tr>
<tr>
<td>Optimism/ Mood Regulation</td>
<td>69.50</td>
<td>10.93</td>
</tr>
<tr>
<td>Expression/ Appraisal of Emotion</td>
<td>68.39</td>
<td>11.97</td>
</tr>
<tr>
<td>Emotional Resilience</td>
<td>63.57</td>
<td>11.97</td>
</tr>
</tbody>
</table>

Table 2. Means and Standard Deviations for Emotional Intelligence by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>198</td>
<td>211.58</td>
<td>28.53</td>
</tr>
<tr>
<td>Female</td>
<td>1816</td>
<td>214.57</td>
<td>25.14</td>
</tr>
<tr>
<td>Total</td>
<td>2014</td>
<td>214.28</td>
<td>25.50</td>
</tr>
</tbody>
</table>

Table 3. Means and Standard Deviations for Emotional Intelligence by Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>994</td>
<td>214.26</td>
<td>25.19</td>
</tr>
<tr>
<td>Married</td>
<td>1020</td>
<td>214.30</td>
<td>25.81</td>
</tr>
<tr>
<td>Total</td>
<td>2014</td>
<td>214.28</td>
<td>25.50</td>
</tr>
</tbody>
</table>

Comparison of Emotional Intelligence by Gender

Descriptive analysis revealed that the mean score of emotional intelligence for female teachers is greater than those of male teachers (see Table 2).

In order to make detailed investigation, independent sample t-test was conducted. According to the result of t-test, there was no gender difference in EI. So, it may be said that gender is not a related factor for emotional intelligence.

Comparison of Emotional Intelligence by Marital Status

Means and standard deviations for school teachers’ emotional intelligence by marital status were reported in Table 3.

To investigate detailed information, independent sample t-test was conducted. According to the result of t-test, there was also no difference in EI by marital status. Moreover, these results were consistent with the other research findings in which emotional intelligence is not significantly related to gender and marital status by Imrani in 2004.

Comparison of Emotional Intelligence by Job Designation

According to the mean score, there were differences in mean score by job designation (see Figure 1). In other words, STs have higher emotional intelligence than JTs who were higher than PTs in emotional intelligence. To investigate detailed information, one way analysis of variance was conducted. The result of ANOVA showed that there were significant differences among PTs, JTs and STs in emotional intelligence. So as to obtain detailed information of which particular job designation had the differences, Post Hoc Test was executed by Tukey HSD method. It is apparent that STs have higher emotional intelligence than PTs and JTs. Such an increase in emotional intelligence may be explained by the increase of experience which increases with the age due to the service related promotion system and...
Table 4. Means and Standard Deviations for Emotional Intelligence by Working Experience

<table>
<thead>
<tr>
<th>Working Experience (years)</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>5yr &amp; below 5yrs</td>
<td>183</td>
<td>206.58</td>
<td>23.92</td>
</tr>
<tr>
<td>6-15yrs</td>
<td>469</td>
<td>211.57</td>
<td>25.39</td>
</tr>
<tr>
<td>16-25yrs</td>
<td>507</td>
<td>215.88</td>
<td>23.13</td>
</tr>
<tr>
<td>26 &amp; above 26yrs</td>
<td>855</td>
<td>216.46</td>
<td>26.79</td>
</tr>
<tr>
<td>Total</td>
<td>2014</td>
<td>214.28</td>
<td>25.50</td>
</tr>
</tbody>
</table>

Figure 1. Mean Comparisons for Emotional Intelligence by Job

Comparison of Emotional Intelligence by Working Experience

Descriptive analysis revealed that the mean score of more experienced teachers was higher than that of less experienced teachers (see Table 4). To investigate whether there are differences in emotional intelligence or not, one way analysis of variance was conducted. The result showed that there were significant differences in emotional intelligence. So as to find which particular group had highest difference, Post Hoc Test was executed by Tukey HSD method. It was apparent that school teachers with (16-25 yrs) experiences have higher EI than those with (5 yrs & below) experiences and (6-15 yrs) experiences. Moreover, school teachers with (26 yrs & above) experiences have higher EI than (5 yrs and below) and (6-15 yrs) experiences. This finding seems to be unique and contrary to the findings of previous studies conducted by Imrani in 2004 and Mwathi in 2010.
Comparison of Emotional Intelligence by Region

The following table revealed that the mean score of teachers from Yangon Region was higher than those of teachers from Rakhine State (see Table 5). To investigate detailed information, independent sample t-test was conducted. According to the result, school teachers from Yangon Region differ from those from Rakhine State in EI at 0.05 level (t = 1.964, p = 0.050).

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yangon</td>
<td>1006</td>
<td>215.40</td>
<td>26.03</td>
</tr>
<tr>
<td>Rakhine</td>
<td>1008</td>
<td>213.16</td>
<td>24.93</td>
</tr>
<tr>
<td>Total</td>
<td>2014</td>
<td>214.28</td>
<td>25.50</td>
</tr>
</tbody>
</table>

Comparison of Dimensions of Emotional Intelligence by Job Designation

Descriptive Statistics for dimensions of emotional intelligence of school teachers by job designation was shown in table 6 to figure out the strength of school teachers’ four dimensions of emotional intelligence. According to the result, STs have the highest emotional intelligence in all dimensions. This may be due to the fact that more experienced and matured teachers were good at coping various emotions.

Moreover, to investigate detailed information for job designation, one way analysis of variance was conducted. ANOVA result showed that there were differences among percentage mean score of EI dimensions by job designation. So, to find which particular group had highest difference, Tukey test was conducted. It was obvious that in emotional resilience, STs were better than PTs and JTs who were also better than PTs. This is due to the fact that more matured or experienced teachers can resist emotions and perform consistently in a range of situations under pressure and to adopt behavior appropriately. In addition, STs seem to be more competent in solving emotional problems through their working experiences.

Table 5. Descriptive Statistics for Emotional Intelligence by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>Mean</th>
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</tr>
<tr>
<td>Rakhine</td>
<td>1008</td>
<td>213.16</td>
<td>24.93</td>
</tr>
<tr>
<td>Total</td>
<td>2014</td>
<td>214.28</td>
<td>25.50</td>
</tr>
</tbody>
</table>

Table 6. Descriptive Statistics for Dimensions of Emotional Intelligence by Job Designation

<table>
<thead>
<tr>
<th>Dimensions of EI</th>
<th>Job Designation</th>
<th>N</th>
<th>Mean %</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilization of Emotion</td>
<td>PT</td>
<td>676</td>
<td>78.14</td>
<td>10.05</td>
</tr>
<tr>
<td></td>
<td>JT</td>
<td>668</td>
<td>78.67</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>670</td>
<td>79.41</td>
<td>8.53</td>
</tr>
<tr>
<td>Optimism/ Mood Regulation</td>
<td>PT</td>
<td>676</td>
<td>69.39</td>
<td>10.63</td>
</tr>
<tr>
<td></td>
<td>JT</td>
<td>668</td>
<td>69.15</td>
<td>12.05</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>670</td>
<td>69.97</td>
<td>10.00</td>
</tr>
<tr>
<td>Expression/ Appraisal of Emotion</td>
<td>PT</td>
<td>676</td>
<td>67.87</td>
<td>11.77</td>
</tr>
<tr>
<td></td>
<td>JT</td>
<td>668</td>
<td>68.55</td>
<td>11.77</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>670</td>
<td>68.76</td>
<td>11.94</td>
</tr>
<tr>
<td>Emotional Resilience</td>
<td>PT</td>
<td>676</td>
<td>60.95</td>
<td>11.32</td>
</tr>
<tr>
<td></td>
<td>JT</td>
<td>668</td>
<td>63.11</td>
<td>12.20</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>670</td>
<td>66.67</td>
<td>11.71</td>
</tr>
</tbody>
</table>
Comparison of Dimensions of Emotional Intelligence by Gender

Table 7 showed different percentage mean score and standard deviation of dimensions of EI by gender. It was clearly seen that percentage mean scores of female teachers were higher than those of male teachers in every dimension. In addition, independent sample t-test was conducted to obtain specific information on EI dimensions. According to the result, only in expression/appraisal of emotion, female teachers were higher than male teachers in EI. It can be said that innately, females are very sensitive to emotions and always interested in whether something is wrong with the other people.

Table 7. Descriptive Statistics for Dimensions of Emotional Intelligence by Gender

<table>
<thead>
<tr>
<th>Dimensions of EI</th>
<th>Gender</th>
<th>N</th>
<th>Mean %</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>198</td>
<td>78.44</td>
<td>9.95</td>
</tr>
<tr>
<td>Utilization of Emotion</td>
<td>Female</td>
<td>1816</td>
<td>78.77</td>
<td>9.52</td>
</tr>
<tr>
<td>Optimism/ Mood Regulation</td>
<td>Male</td>
<td>198</td>
<td>68.82</td>
<td>11.80</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1816</td>
<td>69.58</td>
<td>10.83</td>
</tr>
<tr>
<td>Expression/ Appraisal of Emotion</td>
<td>Male</td>
<td>198</td>
<td>65.70</td>
<td>13.65</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1816</td>
<td>68.69</td>
<td>11.74</td>
</tr>
<tr>
<td>Emotional Resilience</td>
<td>Male</td>
<td>198</td>
<td>62.62</td>
<td>13.18</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>1816</td>
<td>63.67</td>
<td>11.83</td>
</tr>
</tbody>
</table>

Comparison of Dimensions of Emotional Intelligence by Region

Table 8 showed that there were differences among percentage mean score of EI dimensions by region. Vividly, percentage mean scores of teachers in Yangon were higher than those of Rakhine in EI dimensions, except utilization of emotion. To make detailed investigation, independent sample t-test was conducted. The result of t-test revealed that school teachers in Yangon Region differ from those of Rakhine State in appraisal of emotion and optimism/mood regulation. This may be concluded that teachers in more developed region were better at reading emotions and regulating their emotions.

Table 8. Descriptive Statistics for Dimensions of Emotional Intelligence by Region

<table>
<thead>
<tr>
<th>Dimensions of EI</th>
<th>Region</th>
<th>N</th>
<th>Mean %</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yangon</td>
<td>1006</td>
<td>78.39</td>
<td>9.24</td>
</tr>
<tr>
<td>Utilization of Emotion</td>
<td>Rakhine</td>
<td>1008</td>
<td>79.09</td>
<td>9.87</td>
</tr>
<tr>
<td>Optimism/ Mood Regulation</td>
<td>Yangon</td>
<td>1006</td>
<td>70.33</td>
<td>10.64</td>
</tr>
<tr>
<td></td>
<td>Rakhine</td>
<td>1008</td>
<td>68.68</td>
<td>11.15</td>
</tr>
<tr>
<td>Expression/ Appraisal of Emotion</td>
<td>Yangon</td>
<td>1006</td>
<td>69.34</td>
<td>11.84</td>
</tr>
<tr>
<td></td>
<td>Rakhine</td>
<td>1008</td>
<td>67.45</td>
<td>12.04</td>
</tr>
<tr>
<td>Emotional Resilience</td>
<td>Yangon</td>
<td>1006</td>
<td>63.91</td>
<td>12.08</td>
</tr>
<tr>
<td></td>
<td>Rakhine</td>
<td>1008</td>
<td>63.22</td>
<td>11.86</td>
</tr>
</tbody>
</table>
Job Performance of School Teachers

Based on the descriptive analysis of emotional intelligence, the three groups such as high EI level, moderate EI level and low EI level were classified. Out of 2014 school teachers, a total of 400 teachers, 100 teachers of low EI group (40%), 200 teachers of moderate EI group (13%) and 100 teachers of high EI group (40%), were selected and administered by Teachers’ Job Performance Questionnaire.

Confirmatory Factor Analysis for Teachers’ Job Performance

The reliability coefficients were largely acceptable for each of these three theoretically derived Teachers’ Job Performance Questionnaire (Alpha = 0.96). Principal axis factor analysis with varimax rotation was conducted to assess the underlying structure for the 75 items of Teachers’ Job Performance Questionnaire. Finally, three factors were requested, based on the fact that the items were designed as positive interpersonal relation/ professional responsibility, instruction/ learning environment, planning and preparation.

Comparison of Teachers’ Job Performance by Marital Status

It is hypothesized that there may be differences in job performance of teachers with regard to marital status and so it is necessary to find out marital difference. Descriptive analysis for job performance by marital status was shown in the following Table 9. As slight differences can be found between single and married teacher, it showed the necessity to conduct the mean comparison for job performance by marital status. So, analysis of independent sample t-test was conducted. According to the result of t-test, there was no significant difference in job performance by marital status (t = 0.060, p = 0.952).

Comparison of Job Performance by Working Experience

Interestingly, the sources of mean differences were found among the four groups. It is apparent that both two groups of well experienced teachers showed better job performance than less experienced ones (see Figure 2). So, it is satisfactorily found that having more teaching experience has an impact on teachers’ job performance. Comparing with the two experienced groups, it was found that although the last group had a lot of experiences, their performance was lower than the third group. This fact pinpointed that teachers in the last group were the oldest teachers and so they approach retirement age. Therefore, they are not energetic to perform their job as much as before.

Next, one way analysis of variance was undertaken for further detailed analysis. The result highlighted that there were significant differences among school teachers with regard to working experience. For making mean comparisons among the groups, Tukey HSD comparison procedure was again interpreted. It can easily be seen that school teachers with (16-25 yrs) experiences have higher job performance than those with (6-15 yrs) experiences significantly. It may be due to the fact that teachers with (16-25 yrs) experiences are more self-reflective through their experience and they are already well-equipped with their professional development at that time. This finding seems to be unique and contrary to the findings of previous research conducted by Mwathi in 2010 that working experience does not affect on job performance.

| Table 9. Means and Standard Deviations for Job Performance by Marital Status |
|-----------------------------|----------|----------|------|
| Job Performance             | Marital Status | N   | Mean | SD  |
|                             | Single    | 198 | 187.99 | 20.42 |
|                             | Married   | 202 | 188.12 | 23.77 |
|                             | Total     | 400 | 188.06 | 22.15 |
Comparison of Job Performance by Job Designation

The following figure shows that there were differences in mean score by job designation. It was found that PTs had the highest job performance among them. In addition, significant differences were found in job performance by job designation by using one way analysis of variance. Then, Post Hoc Test was executed by Tukey HSD method. From this result, PTs and JTs were better than STs in job performance evidently. It may be due to the fact that age group may be a related factor in job performance because in this study, 23% of PTs and 20% of JTs are less than 35 years old. However, it was found that very few STs (only 10%) are less than 35 years old. So, it can be concluded that young teachers are very energetic and they can make a great effort in their job.

Comparison of Job Performance by Region

Comparing to the two regions, it was clearly seen that the mean score of teachers from Rakhine State was higher than those in Yangon Region in job performance (see Table 10). So, it can be observed that the teachers in less developed region have to exert effort in their job when they teach their students because they get less support and cooperation from the parents of their students. Afterwards, independent sample t-test was conducted to gain detailed information about job performance. Yet, there was no significant difference between the two regions in job performance ($t = -0.661, p = 0.509$). So, it was clearly seen that the teachers in the two regions have the same ability in job performance.
Table 10. Means and Standard Deviations for Job Performance by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yangon</td>
<td>200</td>
<td>187.32</td>
<td>22.85</td>
</tr>
<tr>
<td>Rakhine</td>
<td>200</td>
<td>188.79</td>
<td>21.45</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>188.06</td>
<td>22.15</td>
</tr>
</tbody>
</table>

**Figure 4. Mean Comparisons for Dimensions of Job Performance by Job Designation**

Comparison of Dimensions of Job Performance by Job Designation

Descriptive Statistics for job performance dimensions of school teachers by job designation was shown in figure 4 to figure out the strength of school teachers’ three dimensions of job performance. Concerning with the three dimensions of job performance, PTs had the highest percentage mean score in all dimensions. Next, one way analysis of variance was undertaken for further detailed analysis. According to the ANOVA result, PTs was significantly better at performance than the others in the three dimensions whereas JTs were also better than STs in instruction/learning environment. It may be due to the fact that primary students have strong attachment to their teachers whereas adolescents keep distance away from them. According to the period of human development, adolescents move towards independence and autonomy (Coleman, n.d.). So, STs may be weak in positive interpersonal relations/professional responsibility dimension.

Moreover, adolescents are challenged in the development of cognitive skill whereas children are likely to accept the adults’ viewpoint without challenging due to the fact that they would have little reason to challenge the adults’ opinion (Naing Naing Maw, 2007). Adolescents can think logically and use their capacity to make judgments and decisions to themselves. On the other side, PTs can teach the students with ease due to their easy course for them so that they are efficient in their lessons. Thus, it has been seen that PTs are good at instruction/learning environment. Besides, as PTs teach young children, they can succeed behavior management and achieve in the classroom as well.

Correlation Between Emotional Intelligence and Job Performance Using Self-rating (400 participants)

Concerning interrelations between emotional intelligence and job performance, there is a significant correlation among emotional intelligence, EI dimensions, overall job performance and its dimensions. The value of Cronbach's alpha for Emotional Intelligence Scale and Teachers’ Job Performance Questionnaire was 0.91 and 0.96. For
The correlation coefficient \( r \) of 0.289** was obtained between emotional intelligence and job performance. According to several researchers such as Cohen (1988), for the behavioral sciences correlation coefficients, \( r = .10, \ r = .30 \) and \( r = .50 \) are interpreted as small, medium and large coefficients respectively (cited in Hemphill, 2003). The obtained \( r \) of 0.28 which is approximately equal to 0.30 therefore, indicates a moderate positive relationship between the two variables, emotional intelligence and job performance.

Regression Analysis for Prediction of Teachers’ Job Performance

A simple linear regression analysis was calculated for predicting teachers’ job performance based on their emotional intelligence. Regression Analysis revealed that the model significantly explained job performance, \( F = 36.36, p = 0.000 \). \( R^2 \) for model was 0.084 and adjusted \( R^2 \) was 0.081. Based on the result, emotional intelligence contributed 8.1% of the variance to job performance. According to Cohen (1998), this is a medium effect. It was consistent with the study of Bradberry & Greaves (2005) in which people who develop their emotional intelligence tend to be successful on the job because the two go hand in hand. By applying regression analysis, the resultant model for job performance can be described as in the following equation concerned with emotional intelligence.

\[
\text{Job Performance} = 149.11 + 0.183EI
\]

From the result, the model of emotional intelligence and job performance was developed (see figure 5).

To identify the best model for predicting job performance of school teachers, simultaneous multiple regressions analysis was used. Significant variance in job performance was explained by optimism/ mood regulation and expression/ appraisal of emotion which yielded the model best explaining variance in job performance of school teachers. Regression Analysis revealed that the model significantly explained job performance, \( F = 10.69, p = 0.000 \). \( R^2 \) for model was 0.098 and adjusted \( R^2 \) was 0.089. According to the result, optimism/ mood regulation and expression/ appraisal of emotion contributed 8.9% of the variance in shared variability to job performance. It was found that optimism/ mood regulation and expression/ appraisal of emotion had moderate effect on job performance. By applying regression analysis, the
resultant model for job performance can be described as in the following equation concerned with optimism/mood regulation and expression/appraisal of emotion.

\[ \text{Job Performance} = 154.89 + 0.39 (O/M) \]

According to the result of multiple regressions analysis, the model of EI dimensions and teachers’ job performance was developed (see Figure 6).

In order to test the predictive contributions of the EI dimensions to job performance dimensions: positive interpersonal relations/professional responsibility, instruction/learning environment, planning and preparation, the simultaneous multiple regressions analysis was undertaken. The result revealed that the two dimensions of EI, optimism/mood regulation and expression/appraisal of emotion, made a significant predictive contributions to instruction dimension, \( F = 11.46, p < 0.000 \), and explained for 9.5% (adjusted \( R^2 \)) of the variance in instruction. The resultant model of for instruction dimension can be described as in the following equation concerned with optimism/mood regulation and expression/appraisal of emotion.

\[ \text{Instruction} = 62.31 + 0.14(E/A) + 0.24 (O/M) \]

According to Cohen (1998), this is a medium effect. Likewise, optimism/mood regulation could contribute to planning and preparation dimension, \( F = 8.42, p < 0.000 \), and explained for 6.9% (adjusted \( R^2 \)) of the variance in planning and preparation dimension. This is also a medium effect (Cohen, 1998, cited in Warmbrod, 2001). In this study, no EI dimension was a significant predictor for positive interpersonal relations/professional responsibility dimension of job performance. The resultant model of for planning and preparation dimension can be described as in the following equation concerned with optimism/mood regulation.

\[ \text{Planning and Preparation} = 71.13 + 0.25 (O/M) \]

According to the above two results of multiple regressions, the model of EI dimensions and job performance dimensions was developed (see Figure 7).
**Conclusion and Recommendations**

In this study, out of four dimensions of EI, utilization of emotion was found to be the highest whereas emotional resilience was found to be the weakest among Myanmar school teachers. Observing emotional intelligence in general, gender and marital status were not related factors of emotional intelligence. When emotional intelligence was examined across job designation, working experience and region, STs have higher emotional intelligence than JTs and PTs according to ANOVA result. Moreover, more experienced teachers have got higher EI level than less experienced teachers. Comparing the two regions, school teachers in Yangon Region have higher EI than those in Rakhine State.

Next, specific dimensions of emotional intelligence were examined across job designation, gender and region. It was found that STs were better than PTs and JTs in both utilization of emotion and emotional resilience. On the other hand, JTs were better than PTs only in emotional resilience. It is not a surprised fact that female teachers were higher than male teachers only in expression/appraisal of emotion. Interestingly, teachers in Yangon Region have higher EI than those in Rakhine State.

Moreover, teacher’s job performance was also examined. Despite no marital status and region difference in job performance, working experience and job designation distinctly influence on teacher’s job performance. According to mean score, performance begins to decline as one approaches retirement age due to age related decline in physical and cognitive capacities. Surprisingly, ANOVA result revealed that teacher with (16-25 yrs) of working experiences performed much better than (6-15 yrs) of working experiences. In job designation, PTs and JTs performed better job performance than STs.

Again, a series of multiple regression analyses was conducted to find out the impact of emotional intelligence on teacher’s job performance. The results revealed that emotional intelligence was moderate predictor for job performance of school teachers. Moreover, optimism/mood regulation and expression/appraisal of emotion had direct predictive contribution to teachers’ overall job performance. Specifically, optimism/mood regulation was a moderate prediction of instruction/learning environment dimension, and planning and preparation dimension. Besides, expression/appraisal of emotion was also a moderate predictor of instruction/learning environment dimension only.
Implication for Teacher Education

Myanmar as a country giving highest priority for education is now striving to create a Myanmar learning society to be able to face the challenges of the 21st century. Here, human resource development plays a large part in building a modern developed nation through education. The ultimate goal of every educational institute is to provide better quality of education to their students and that totally depends upon the people who have to impart knowledge to students. As the future of a nation depends on the hands of nowadays students, the responsibility of a teacher is sky-high. To be a good teacher, he or she must be physically or mentally well being in which teachers’ emotional intelligence is a vital role for their effective job performance. So, this study pinpointed that emotional intelligence is one of the related factors of job performance for Myanmar school teachers so as to keep up with the global targets.

It has been accepted that schools are basic training grounds to enhance emotional intelligence. For the youths, this includes an education in emotional literacy; for those already at work, it means cultivating emotional competence. If EI can be documented to impact job performance, EI teaching strategies could be incorporated into pre-service teacher training programme. If it is so, in our country, training programs of emotional literacy programs for the teachers who are responsible to all round development students should be taken into account. Definitely, the teachers having good emotional intelligence can mould the students in effective manners and be successful in the job performance.

Moreover, it was suggested that it is necessary to conduct an experimental research design where some teachers are exposed to EI development training programs while others are not, and their job performances before and after trainings are compared. Apart from these, next study might examine the relationship between other variables, demographics on individual differences such as personality, value, attitude, leadership, deviant behavior and life satisfaction.

References


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From Fantasy to Depression:  
A Beginning Teacher’s encounter with Performativity  

Jason Loh  
National Institute of Education, Nanyang Technological University

Abstract
This paper reports a qualitative study of a beginning teacher in Singapore. It explores the journey of a beginning teacher from his pre-service teacher education to his third year of teaching, drawing on extensive interviews, emails, phone text messages and field notes over a span of three years. This study illuminates the issue of performativity faced daily by teachers caught in such a discourse, and highlights the tension between enacting one’s idealism as a beginning teacher and pursuing academic excellence as required by the school system within such a climate. The study describes how the performativity pressures exerted by the school system shaped the beginning teacher’s beliefs and practices. As a result of the socialization forces limiting and regulating his practices, the beginning teacher experienced cognitive dissonance, and consequently suffered clinical depression. From the findings, it shows there is a need for current teacher education to highlight the neoliberal emphasis on “market values” of accountability that currently exists in the school system. The study concludes with suggestions that teacher education in Singapore needs to extend beyond skills training to incorporate performativity discourse within its pedagogy courses. This might create more opportunities and thus induce a greater propensity to teach against the grain.

Keywords:
Performativity, Teacher socialization, Worksheet curriculum

Introduction
In this age of performativity, Ball (2012) posits that teachers are required to spend increasing amounts of time making themselves accountable to the school and public. Performativity is a market-influenced principle of governance and a technology of power that drives teachers towards a certain type of “professionalism”. It is a form of regulatory culture, which subjugates teachers’ lives through accountability measures. These measures put a harsh spotlight on their achievements, or lack of, and are used as a yardstick for comparison. As such, new sets of skills – “of presentation and of inflation” – are necessary for teachers to market and to make a “spectacle” of themselves (p.19). In such school systems, teachers are accountable for an efficient production of their students’ academic and non-academic performances. After all, the public

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performance is necessary for schools’, principals’ and teachers’ appraisal. Consequently, the ranking of schools determine the public perception of the schools’ instructional quality; likewise, the ranking of the class results determine the school management’s perception of the teachers’ instructional quality.

As a result, teachers are driven to adopt time-tested teaching approaches. One of which is the transmissive drill-and-practice, via the ubiquitous worksheets. In Singapore, the worksheet syndrome is pervasive; worksheets are not just used as a tool to reinforce what was taught, they are used as the main resource for teaching and assessing learning. Much of the classroom teaching is planned around the completion of worksheets (Sullivan, 1997; Cheah, 2004; Hogan et al, 2013). Worksheets serve another function; they are used to assess whether the teachers have completed what they are required to teach. Teachers are required to submit the worksheet files of the teaching subjects, such as English language, Mathematics and Science, to the Heads of Department (HODs) before the start of the termly breaks in months of March, June and September. The HODs and their assistants would check the files to ascertain that that the stipulated number of worksheets have been utilized for teaching, completed by the students, and marked by the teachers.

In order to complete the worksheets, which were distributed in the beginning of each term or during the term itself, time has to be set aside for the students to do these worksheets. Furthermore, time is required for the teachers to explain the answers. These activities take up time, especially when particular schools require teachers to fulfill a certain number of worksheets in a particular week or for a particular topic. To survive in the first few years in such schools, beginning teachers (BTs) need to adjust their teaching time to accommodate the ‘worksheet curriculum’ and in doing so, they have less time to incorporate student-centred constructivist activities in their lessons. Moreover, as these worksheets need to be marked, time has to be set aside to correct and mark them. This is in addition to the marking of the workbooks and exercises that accompany the school textbooks.

This shift towards a performativity stance in educational development is not limited only to Singapore. In a number of comparative studies in the Asian-Pacific region, Mok and Welch (2003) found that the educational reforms in Hong Kong, Taiwan, South Korea, Mainland China, Japan, the Philippines, Cambodia, New Zealand and Australia have been heavily influenced by the performativity discourse of marketization and accountability as well. The various educational institutions within the system in the aforementioned countries have adopted strategies to market themselves and compete against each other. Such strategies include, but are not limited to, publishing their academic and non-academic achievements, branding themselves as institutions of choice and quality, etc. This case study provides illumination on what could possibly happen to the teaching profession in the region, if the performativity shift is not kept at bay.

**Performativity in Education**

Although this performativity situation may have been highlighted during teacher education, it is “not fully addressed as teacher preparation cannot duplicate the reality of the actual world of beginning teaching” (Loughran, Brown & Doecke, 2001, p.17). This creates a form of cognitive dissonance for the beginning teachers, as this was not what was advocated during teacher education. This is further compounded when more experienced teachers tell beginning teachers to put aside what they learned during teacher education, and that teaching to the worksheet & examination is how teachers teach. This is what has been termed performativity. Ball (2003) defines “performativity” as:

... a technology, a culture and a mode of regulation that employs judgements, comparisons and displays as means of incentive, control, attrition and change – based on rewards and sanctions (both material and symbolic). The performances (of individual subjects or organisations) serve as measures of productivity or output, or displays of “quality” or “moments” of promotion or inspection. As such they stand for, encapsulate or represent the worth, quality or value of an individual or organisation within a field of judgement. (p.216)

Performativity seeks to reform the teacher as an instrument of productivity. Its main purpose is to raise standards in schools and educational achievement across the nation, so as to prepare a workforce to
consequently, intensification in the volume of first order activities (e.g. additional teaching in after-school supplementary/remedial lessons, extra training sessions for academic and extra-curricular competitions) and second order activities (e.g. documentation of lesson planning, result monitoring, report writing) result. This aids the school in its “fabrication” of identity – a construction of a particular version of the organisation; its “effective” self (Ball 2004). This fabrication is especially important during the public ranking and the inspection period. This performativity trend in the UK has been well documented over the years (Ball, 2004, 2007, 2012; Jeffrey, 2002; Jeffrey & Troman 2012; Troman, Jeffrey & Raggl, 2007). This technology of education governmentality has also insidiously spread its influence over other parts of the world.

Tan (2005), Ng (2008) & Tan (2008) have pointed a trend towards performativity in Singapore. The Enhanced Performance Management System (EPMS) was officially implemented to appraise all Education Officers (i.e. teachers) in 2003. It is a system to “set work targets, review performance and plan their (i.e. teachers’) development” (MOE, 2007). In the EPMS, teachers are assessed on areas in addition to teaching. Being a responsible teacher, in terms of teaching and marking, will only garner a “Meeting Expectations” D-grade for the teacher. For a teacher to acquire a C-grade and above, the teacher needs to involve himself/herself in other school programmes or activities. The performance indicators by which the teachers are assessed “act mainly as a form of accountability”; furthermore, the appraisal acts as a discourse because “it is a practice that incorporates values, establishes behaviours and affects relations” (Jeffrey, 2002, p.532). These “terrors of performativity” exert socialization pressures on the beginning teachers to conform to the “values” and “behaviours” that the schools regard as important.

As neophytes to the organization, pressures to conform are always great and it will not be easy to hold on to and enact their personal pedagogical beliefs if they do not fit with the school’s. Turner-Bisset (2007) attests to this: “Teachers compromise on the kinds of teaching in which they believe, and (enact) the kinds of teaching demanded by performativity” (p.195). As beginning teachers are new to the service, they, more so than the experienced teachers, feel the need to ensure that they compete in the global knowledge economy (Jeffrey & Troman, 2012). This is invariably accomplished through accountability measures, benchmarking of performance targets and high-stakes testing. This is invariably accomplished through accountability measures, benchmarking of performance targets and high-stakes testing. Consequently, intensification in the volume of first order activities (e.g. additional teaching in after-school supplementary/remedial lessons, extra training sessions for academic and extra-curricular competitions) and second order activities (e.g. documentation of lesson planning, result monitoring, report writing) result. This aids the school in its “fabrication” of identity – a construction of a particular version of the organisation; its “effective” self (Ball 2004). This fabrication is especially important during the public ranking and the inspection period. This performativity trend in the UK has been well documented over the years (Ball, 2004, 2007, 2012; Jeffrey, 2002; Jeffrey & Troman 2012; Troman, Jeffrey & Raggl, 2007). This technology of education governmentality has also insidiously spread its influence over other parts of the world.

This study is set within the context of the life of Henry, a beginning teacher, and it focuses on his transition from teacher education to the teaching profession. It explores the tensions that arose as a result of the conflict between the school’s demands for strict adherence to performativity-driven norms and routines, and Henry’s desire to hold onto his ideals. Hence, to study how the culture of performativity has affected Henry’s beliefs and practices, the following research tools were used.

Methods of Data Collection

The key instrument for data collection in this study is the ubiquitous interview. Silverman’s (2000) admittance that the interview can be considered as the “gold-standard of qualitative research” (p.291) underscores the significance of interviewing as a tool of revelation and data collection. Due to the restrictions on participant observation, the interview became an essential tool for data gathering. The interviews were used to obtain “unique information or interpretation held by” Henry and the key informants, and to find out about things “that the researchers were unable to observe themselves” (Stake, 2010, p.95).

All the interviews with Henry were semi-structured and focused on the respective issues during the span of the three years of study: (1) experiences during teacher education and teaching practice; (2) experiences in the first three years; (3) critical
events encountered during the three years; and (4) interpretations of the critical events. Each interview lasted between 60 to 100 minutes, and was audio-recorded and transcribed. The transcriptions were then sent to him for member checking to ensure trustworthiness (Lincoln & Guba, 1985). A total of ten interviews were conducted from June 2008 to June 2011. Field notes of the interviews with Henry and the key informants were made immediately after each session. These meta-data can offer invaluable insights in the analytic phase of the study (Dornyei, 2007).

This study also drew on other methods of data collection: emails and phone text messages with Henry. Throughout the three years, I emailed Henry fortnightly; this was to demonstrate a concern as to how he was coping in school, as well as to provide an avenue for him should he wish to ask me for any suggestion or advice pertaining to school life. I texted him via the mobile phone network for the same purpose. The emails and phone text messages were used as “different sources of the same information” (Lincoln & Guba 1985, p.305), so as to check for “the consistency of what people say about the same thing over time” (Patton, 2002, p.559). Internal consistency is used as a measure to ascertain that what a participant says in one part of the interview does not contradict what is said in another part (Atkinson, 2002). These three modes of data collection – interviews, emails, and phone text messages – served as a form of quality check to verify Henry’s interpretation of his reality. Henry’s permission to use the data gathered from all three modes were solicited and obtained right at the start of the study, and also sought again at each face-to-face session.

Research Participant and Setting

Henry, 35 (in 2008), had been an industrial trainer for eight years before he was retrenched and enrolled in the Postgraduate Diploma in Education (PGDE) programme to be a teacher in 2007. He loved to read extensively in any area that he was interested in at that particular period of his life. To him, books were “food for the brain”. The book by Richard Feynman, What do you care what other people think?, was a major influence on him. Through the book, in Feynman’s recount of his life, Henry realized it would advantageous to always be more knowledgeable than others in any field; this realization piqued his desire to always read beyond what one should know.

Henry had a positive experience during teacher education. He had a “world class science educator”, Dr. Felix Sharpe, who showed his classmates and him “interesting, engaging, and practical” pedagogical strategies to use in their science classes. Henry was inspired by Dr. Sharpe’s passion because he believed that passion was the most important ingredient in teaching, and the way to obtain passion was to be enthusiastic. Henry believed that with sustained enthusiasm, passion would follow. As the Teaching Practice (TP) neared, Henry felt a sense of adventure. He was excited because it was “like a journey of discovery ahead”. He believed TP was a chance for him to “better” himself with regard to teaching, and try out what was taught during teacher training.

Henry was posted to Central Primary School. Central Primary was a relatively young but popular school located in the southeastern part of Singapore. It had an enrolment of 1,500 students. It was popular partly because the principal knew how to promote his school to the neighbourhood. It was touted as a school with many curricular programmes catering to the needs of all its students. Henry’s supervisor, main Cooperating Teacher (CT) and School Coordinating Mentor all commented that he excelled in his work attitude and that he had commendable enthusiasm for teaching. He was able to meet all the lesson outcomes he had planned for in his Science and Mathematics lessons. Henry found a parallel to his Science teacher educator in his Science CT, Mdm. Oh. Henry felt that Mdm. Oh was the female version of Dr. Felix Sharpe. Mdm. Oh, in spite of teaching for more than 20 years, used the inquiry approach of teaching in nearly all the lessons that Henry observed, unlike many of his friends’ CTs in other schools.

Data Analysis

Texts from the data corpus were analysed and coded according to recurring patterns. The codes were reviewed against each data set and revised or merged, and then collated into potential themes. The potential themes were in turn reviewed against each data set, and this produced a number of broad thematic categories. Accompanying data extracts were also collated with the potential themes. The data extracts from each theme was then read and verified that they indeed fit within the potential theme; whether they appeared “to form a coherent pattern” (Braun & Clarke 2006, p.91). If they did not, the theme was “re-worked” or a new theme
was created, or the data extracts were moved to another potential theme. After all the themes were reviewed against each of the data sets, they were finalized and named. One theme stood out above the others, having a pervasive influence over the other themes:

<table>
<thead>
<tr>
<th>Overarching theme</th>
<th>Socialization towards performativity</th>
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<tbody>
<tr>
<td>Sub-theme 1</td>
<td>Worksheet curriculum / pedagogy</td>
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<td>Sub-theme 2</td>
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Results and Discussion – Socialization Towards Performativity

In the beginning, before and during the teaching practice, and to some extent, his first six months after graduation, Henry enacted his teaching belief of engaging their students through interesting and engaging lessons, which are fundamentally different from that prescribed by many schools:

I am thinking of ways to excite and engage my students with my media/ICT skills. I really want to be competent in the teaching of my subjects. (email, 2008, September 25)

Research (Pajares, 1992; Richardson, 1996; Sahin, Bullock & Stables, 2002) has shown that teachers’ educational beliefs do shape the nature of their instructional practices. Yet, the challenges of classroom teaching and school life quite often curb teachers’ ability to enact practices that are congruent to their beliefs (Fang, 1996; Keys, 2005). This seems to be the case for Henry.

The first three years have been identified as one of the critical periods of a beginning teacher’s career (Sikes, Measor & Woods, 1985). This stressful period can provoke “shattered images” of teaching (Cole & Knowles, 1993) or induce “praxis shock” for the beginning teachers. This “shattered images” or “praxis shock” is an outcome of a confrontation between the beginning teachers’ personal philosophical beliefs about teaching and the schools’ reality. Kelchtermans and Ballet (2002) define “praxis shock” as “the teachers’ confrontation with the realities and responsibilities that challenged and put his “beliefs and ideas about teaching” to the test. In fact, the challenge was so great that he had to revise and adapt their practice to fit with the school norm – the extensive use of worksheets to teach and to drill (i.e. the worksheet curriculum), so as to prepare the students for the examination (i.e. teaching to the test).

Worksheet Curriculum

In his first calendar year (January 2009 – December 2009), Henry’s seventh to 18th month, the worksheet culture seemed to have seeped into his classroom practice:

Worksheet works. It produces results. All those pedagogies are good for fun and stuff, but when it comes to the crunch, results matter. And worksheets are the way to go. I intend to come during the hols to create all the worksheets I need for my P3 science class. (phone text message, 2009, May 27; emphasis added)

Beginning teachers are unsure of their professional ability in the beginning due to their lack of experience, and thus “the experience of professional success inside and outside the classroom” is “essential to the development of professional self-confidence” (Kelchtermans & Ballet, 2002, p.111). This success can be found in being viewed by their colleagues as competent and hardworking professionals, and especially “if students do well on their tests, this is motivating and
reassuring to the beginning teacher” (p.112). Thus, highly visible artifacts such as worksheets, homework assignments, and test results create the perception in themselves and in the eyes of their colleagues that they are competent and professional.

A study by Chan, Tan and Khoo (2007) reveals that Singapore preservice teachers are “capable of embracing two seemingly contrasting notions of teaching and learning in chorus” (p.192). They speculate that “given constraints such as the need to complete the syllabus on time” (p.193), even though the preservice teachers believe in the constructivist theories of teaching and learning, they would teach in a more traditional drill-and-practice way. This was played out in the case of Henry, who had espoused constructivist beliefs in the beginning of the study. But when he started teaching, these constructivist teaching beliefs were put on hold.

Henry was socialized into the use of the worksheet pedagogy in his second year (June 2009 – May 2010). By then, due to the pressure on him to produce sterling academic results for his classes, he accepted the norm of using worksheets. He did not do so willingly, but out of necessity for his own survival and appraisal. He adopted the strategy of strategic compromise (Sikes et al, 1985), whereby he utilized both the worksheet pedagogy and his constructivist teaching approaches.

Turner-Bisset (2007) posits that teachers “compromise on the kinds of teaching in which they believe,” and execute “the kinds of teaching demanded by performativity” (p.195). This seems to be what happened to Henry – he started following the worksheet curriculum within the span of the first three years. Beginning teachers are appraised at the end of the calendar year on their class results and on the projects that they contribute to. Thus, the need to perform in these situations seemed to have rendered the need to uphold their personal teaching beliefs ineffectual. In addition, even though the Henry had been in the teaching service for a relative short span of time, he was given projects to manage on his own in his first year. In spite of the heavier workload, Henry continued to show a positive attitude.

According to Ball (2003), performativity is both “a culture and a mode of regulation” (p.216). Individual subjects within an organization are measured by their performances, and these performances, or performance measures, serve as indicators of their productivity or output. These “displays of ‘quality’, or ‘moments’ of promotion or inspection” represent “the worth, quality or value of an individual or an organization” within such a discourse (Ball, 2007, p.27). In the case of the school system, it allows the school to insert itself in the culture and the practices of the staffroom and its teachers; similarly, it allows the state to insert itself in the culture and practices of the schools, its principals and its teachers. Clearly, from Henry’s responses to the work that he had to do, some assigned and some volunteered, he had re-constructed himself as what Ball (2004) would term as the “post professional” – one who is willing and able “to adapt to the necessities and vicissitudes of policy” (p.17).

This policy tool in effect serves to re-make the school and its teachers through objectification and commodification of their work. Their work is rendered into “outputs”, “levels of performance” and “forms of quality” (Ball, 2007, p.28). As such, the work produced by the teacher or the school is “contestable and competitive” (p.28): schools are compared in terms of their academic results and the awards obtained; principals are compared in terms of what their schools have achieved; teachers are compared in terms of the academic results that their classes produce during the examinations, the prizes or awards that their students obtain in inter-school competitions, and even the amount of work they have put in to prepare their students for the examinations or the competitions. This intensification of being publicly compared and assessed leads to a constant need to produce “artifacts” of recognition. And Henry was put through this intensification process.

Teaching to the Test

Right from the beginning, during the teaching practice, Henry was required to prepare the students for the mid-year examinations, especially in the weeks prior to it. He was asked to put aside the normal curriculum, and replace it with worksheets or practice papers. Like what Watanabe (2008) discovered about classroom instruction in a high-stakes accountability programme, the high-stakes testing regime influenced teachers to place more emphasis on explicit test preparation, whereby “students practice the demands and format of the multiple-choice standardized test through workbook exercises” (p.504). Similarly, Henry was pressured to focus on the test preparation, during
teaching practice and during his first three years of teaching. Various studies (Craig, 2004; Hammerness, 2004; Hogan et al., 2013) have shown the effect high-stakes test pressures have on teachers’ classroom instruction.

Despite his teaching beliefs in constructivism, Henry succumbed to the pressure of the high-stakes testing; he taught using the worksheets, as the worksheets were the most efficient method of preparing his students for the high-stakes tests. He was measured by the results produced by his own students, and thus he felt compelled to produce this performance indicator through the worksheet pedagogy:

I will just deliver what the school wants and that’s results. And the best way of obtaining results is to worksheet the children to death. Worksheet them to death. It’s the only way of getting results – worksheets. And that is the way that the (school) management appraise, assess the teachers. And that’s the way the teachers keep themselves safe, protect themselves and that’s through worksheets. (Harriet, interview, 2009, November 7; emphasis added)

This is corroborated by Deng and Gopinathan (2003) who analyzed the challenges of teacher training in Singapore. They found that teachers in Singapore tend to be examination-oriented, and expect their students to learn by “drilling and practising” (p.62). They agree that the primary reason for this examination-oriented pedagogy is due to the “prevalence of high-stakes examinations” (p.62). Similarly, Hogan and his colleagues (2013), in an extensive study that covered 32 schools in Singapore in 2010, found a consistent single-minded performative orientation, where instructional practice focuses “on worksheets and workbooks” and where “focus on exam preparation led the field” (p.65). The students’ success in tests implies that the beginning teachers have the ability to teach well; this was how Henry felt after his second year of teaching:

It is all drill and practise for me next year. It’s all about results and adding value since numbers are used to evaluate us. (email, 2009, November 1)

It is hence not surprising to note that the “focus of many teachers is still on testing and drilling” (Tan, 2008, p.118). After all, the post professional is one who is driven by the demands of performativity, whose practice is driven by results and improvements, and thus is able maximize performance (Ball 2004).

**Accountability Pressures**

Other than producing academic results, Henry had to engage in extra-curricular projects and work that were taken as measures of his work performances. He was attracted to the performativity discourse in the beginning. He was competitive by nature, and so was always game to help out in all the projects suggested by Mdm. Oh. In fact, he thrived in the projects as he felt he was contributing to their success. He was especially pleased that he was favourably looked upon by the school management. He knew his ideas and initiatives were welcomed by the management, and that these moves contributed to him performing well in the appraisal system:

Must write proposal for iPods by tonight for Wed (23rd July) superintendent’s meeting! Principal told me about it at 7.30 p.m. As cluster superintendent is visiting this Wed, P wants me to show how innovative our school is by the proposal, especially since my interest is in Physics and computers. (phone text message, 2008, July 21)

I have got a few major projects on hand, but I will save it for December citing time and priorities; must save some rabbits for next year to pull out of hat … to secure good ranking. (phone text message, 2008, July 7; emphasis added)

Much like what Kelchtermans and Ballet (2002) put across, all these artifacts, referring to the effective and extensive use of worksheets, students’ academic results and managing school projects, “get a symbolic importance in beginning teachers’ self-presentation and their quest for professional recognition” (p.112). But with this re-construction of self towards performativity, due to the contextual and socializing pressures of the appraisal tool, would not the individual have cognitive dissonance as a result of conforming to the dominant pedagogic practice that is fundamentally conflicting in nature to one’s teaching beliefs? This is demonstrated in Henry’s response to the accountability work, during
his third year in the school:

All this school and the system care for is about strictly following processes and showing evidence. All my burnt Saturdays (preparing for interesting lessons) for nothing. I could have spent that time creating evidence. (phone text message, 2011, November 14; emphasis added)

What then of one’s identity as a teacher? Has it been completely replaced by that of the post professional? MacLure (1993) has suggested that identity is something that people “use to justify, explain and make sense of themselves in relation to other people, and to the contexts in which they operate” (p.312). It is an argument for one’s existence as a teacher. Henry’s teacher identity started shifting, after just one year into teaching:

After one full year in teaching, I think the part that sucks is dealing with paperwork … I think the best thing to do is just bury yourself in the work … Like if you look at the Mother Tongue teachers, they are always busy marking. … And I think, you know, that’s what I should do. And then I’ve got my little corner, just sit down there and do my marking. So, like Mr. Goh, he just sits at the corner and does his marking. (interview, 2009, July 25)

Yet, that “context” is circumscribed by the school’s culture. The context, whether in-classroom or out-of classroom, is not wholly private; the performativity discourse prevalent in the school system would require an outward demonstration and accountability of one’s ability and value to the school. As such, one’s actions which are “perceived, interpreted and judged by others” to determine “the image others built from them” (Kelchtermans & Ballet 2002, p.111) have to be fully considered before being carried out. This was clearly a part of the school culture, which Henry had to contend with and consider for his work output:

We are at the start of week 7. More wayang coming from everyone. This year the atmosphere amongst staff feels apprehensive, a strong undercurrent of mutual sizing up, a coveted one up-manship started by Science department.
(phone text message, 2011, February 14)

Conclusion and Implications

Conclusion

Ryan (1986) proposed a four stage life cycle for teacher development: fantasy, survival, mastery and impact. This study traced Henry from the fantasy stage to the survival / mastery stage. According to Ryan (1986), the fantasy stage begins “when the person starts to think seriously about becoming a teacher” (p.10). It is denoted as fantasy because “(m) ost preservice teachers fantasize what their life as a teacher will be like” (pp. 10-11). Upon graduation from teacher training and being posted to a school as a qualified teacher, the survival stage starts. It is denoted as survival because “the new teacher is fighting for his or her professional life, and often for a sense of worth and identity as well” (p.13). The survival period supposedly varies according to each individual.

Henry’s tiredness stems from the extra-curricular work, or second order activities, he was given. This is exactly what Turner-Bisset (2007) posited: such activities “consume vast amounts of time and energy and reduce the time and energy which teachers can spend on genuine innovative teaching” (p.195). Incidentally, all the extra-curricular work was given by one person, Mdm. Oh, the one person he respects most in school. The constant encouragement by Mdm. Oh to perform and do well for the extra-curricular work was highly seductive for Henry. Since he was doing well in Mdm. Oh’s department, he genuinely felt there was a good chance he could perform well in the school, in terms of appraisal by the EPMS.

Henry readily adopted the performativity discourse in the beginning, and seemed to be on his way to becoming a post professional in that first year. It was a discourse which maintained that “we can become more than we were and be better than others – we can be ‘outstanding’, ‘successful’, ‘above the average’” (Ball, 2003, p.219). He gladly took on all the challenges of planning, coordinating and monitoring different extra-curricular projects and tasks for the Science HOD; he did beyond what was expected of a BT. He even went beyond what was expected of experienced teachers. This left him isolated from his colleagues, and thus it perpetuated a situation where everyone sought to outdo one another individually. But in terms of classroom practices, Henry was fortunate in that he could enact his constructivist beliefs because his HOD employed those same teaching approaches, or so it seemed. He discovered only much later that even though the HOD
taught so in the beginning, it was put aside nearer the examination period. Teaching to the test became the *de facto* curriculum (Craig, 2004; Lloyd, 2007). Henry did not do so, and he realized that his teaching ability was directly correlated with the examination scores of his pupils by the school management. It was through this experience that he too made the decision to adopt the worksheet pedagogy.

But due to his strong beliefs in constructivist approaches, he chose a strategy of strategic compromise. But that again was called into question when his results and teaching were disparaged by members of the management at the end of the year. The post professional roots were spreading in Henry’s psyche, but the dissonance it created led Henry to have a mental breakdown:

School sucks! Been getting pulsating headaches n chest pains these two weeks. I’m just sick n tired of wayang.
(Phone text message, 2011, July 26)

Henry was diagnosed with clinical depression by his family doctor, and he was advised to leave this profession since the school system’s belief in the performativity discourse were at odds with Henry’s beliefs in how teaching should be done. He faced acute pressure from the school to enact a particular form of pedagogy. This socialization of his pedagogic practice stems from the fact that the BTs are appraised by the academic results their pupils produce in each of the major examinations, the awards or prizes their pupils receive as a result of any inter-school competitions, the amount of work put in to produce such results (as in the number of worksheets and the number of training hours), and the successful implementation and completion of school projects (MOE, 2008, 2012a, 2012b). This appraisal of the teachers is derived from the performativity discourse enacted through the MOE’s performativity appraisal tools for teachers and schools. Through this performativity discourse, the BTs are compelled through the institutional ascription of roles by the schools and the discourse prevalent in the staff room to accept the identity of and live as a post professional, whereby one’s performance is driven by the demands of performativity and whose practice is driven by results. Even when the BTs are not willing to conform to this ascribed role to be a post professional, the middle management will bring to bear on them, “the use of formal and informal power”; this is “to achieve their goals in organizations” (Blase, 1991, p.11). As such, BTs have little choice but to conform to the schools’ practices and accept the school’s policies, albeit reluctantly.

**Implications for Teacher Education**

During preservice training, preservice teachers are taught educational theories and pedagogical approaches and principles. They are essentially learning how to teach – the work of a teacher. But the job of a teacher entails much more than the work of teaching; it consists of the “backstage behaviors of teaching” (Rust, 1994), such as “the delicate balancing of competing demands that beset teachers daily, even hourly” (p.216). This aspect of being a teacher is not taught, or even alluded to. As Goodman (1988) points out, “to be effective, one must have some knowledge of how institutions work and how one can best ‘work the system’” (p.39). Knowledge of the performativity discourse, with its concomitant reframing of educational priorities, and the ability to work with and around such a discourse, can help beginning teachers ameliorate the effects of the reality shock; after all, since performativity is a fundamental dimension of life in such a school system, knowing how it works will allow beginning teachers to understand, adapt and engage with the discourse in the interest of student learning. They would thus be more prepared for the realities of the schools and the complexities associated with the roles of teachers (Cole & Knowles, 1993).

Hence, since the performativity culture in the Singapore school system does not show any sign of abating (Tan, 2005; Tan & Ng, 2007; Ng, 2008; Tan, 2008), instead of ignoring it, the teacher education institute should engage with it during teaching methods courses, and teach preservice teachers how to adapt constructive pedagogical approaches within the dominant worksheet curriculum. It is thus imperative to retain teachers in the service for as long as possible; teachers who stay in the service gain experience and ideally this experience shapes them into better teachers. To help keep trained teachers in the service, it is necessary to prepare them for the performativity discourse which they will face in school. We cannot assume that all will find a way to survive the colonizing influence of performativity on their own. Choosing to ignore it during the teaching methods courses and hoping that the preservice teachers will on their own volition “teach against the school-grain” will only perpetuate the theory-practice divide that currently exists. As discussed by Mok and Welch (2003),
many of the educational systems in Asia are heavily influenced by the performativity discourse. Hence, it is imperative that teacher education programmes embed strategies to guide the future teachers circumvent the politics of performativity in their school systems (Loh & Hu, 2014). Day, Kington, Stobart and Sammons (2006) express concern that if such performativity pressures are not addressed, either some of the best teachers will leave, or “their energy, commitment and sense of purpose” (p.614) will be lost if they stayed on. This is indeed what had happened to Henry.

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Teaching Social and Emotional Skills to Students in Vietnam: Challenges and Opportunities

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Abstract

This study explores the challenges and opportunities of teaching social-emotional skills in classroom settings in Vietnam. Semi-structured interviews were conducted with middle school students and teachers involved in the Ephata Summer Program in Ho Chi Minh city. This program promotes social-emotional learning in primary and secondary school students. In this study, we focus on learning about emotion and empathy, important aspects of social-emotional learning (SEL). The results indicate that students and teachers have been recognized the importance and helpfulness of social-emotional learning taught in school settings. However, student’s assessment of their empathy was relatively low. They realized that there were difficulties and obstacles from themselves and others, and proposed their own ways to overcome it. The findings add to the growing empirical evidence regarding the critical role of SEL in student’s social life and academics in non-occidental social and cultural country, and the needs to implement it in school curricula.

Keywords:

Social-emotional learning (SEL), Emotion identification, Empathy.

Authors’ Notes

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Introduction

Research findings showed that socio–emotional competence and academic achievement played the significant role in maximizing students’ potential to succeed in school and further in their lives (Wang, Haertel, & Walberg, 1997; Elias et al., 1997). SEL thus promotes personal traits like responsibility, grit, honesty, integrity, self-regulation, optimism, empathy, compassion, and cooperation. One needs these characters to survive and flourish in a complex and competitive world. Today’s students face an even more challenging, competitive and rapidly changing world.

Most recently, SEL has gained increasing attention because it has a positive impact on students’ personal, social and academic lives (Payton et al., 2008). SEL influences classroom management, teacher-student relationships, and effective instructions. Payton et al. find out that “SEL programs are among the most successful interventions ever offered to school-aged youth”. The role of so-called noncognitive factors is in detail analysed in a review of the University of Chicago Consortium on Chicago School Research (Farrington et al., 2012). Self-discipline/self-regulation plays an important role in the classroom/academic performance (Duckworth & Seligman, 2005; Duckworth & Carlson, 2013).

Therefore, it is very important for young people to develop the character traits that will help them learn and achieve better in school, perform successfully in the workplace, and build and maintain positive, trusting relationships.

Unfortunately, Vietnamese education has based heavily on academic standards. The human aspect with which schools are primarily concerned is that of the intellect. Yet it is not enough to focus only on student’s academic and intellectual competence while ignoring all other aspects of their development. It is necessary to address the education of the whole child. Education must be concerned with the development of every person’s physical, intellectual, emotional, social, creative and spiritual potentials. Social and emotional education has been integrated into the curriculum of Early Childhood Education in Vietnam. However, at primary, secondary and high school, students “have to” learn social and emotional skills by themselves through the problematic situation in which they may success or not to solve the problems.

Social-Emotional Learning

Psychologists explain that “social-emotional competence is the ability to understand, manage, and express the social and emotional aspects of one’s life in ways that enable the successful management of life tasks such as learning, forming relationships, solving everyday problems, and adapting to the complex demands of growth and development.” (Elias M et al. 1997. p. 2). This definition implicates the self-awareness and other’s relationships. The emotional aspect of this competency relates to self-knowledge, focusing on the emotion and feelings, but also including thoughts and perception, which are linked to emotion. In the other hand, the social aspect refers to the dimension of interpersonal relationship. In the initial book of Daniel Goleman (1995), Emotional Intelligence, social and emotional intelligence was described as the complex and multifaceted ability to be effective in all the critical domains of life, including school. Emotional competency is described as having the knowledge and skills to direct “behaviors toward a positive end . . . whether it be in controlling impulse and putting off gratification, regulating our moods [and emotions] so they facilitate rather than impede thinking, motivating ourselves to persist and try, try again in the face of set-backs, or finding ways to . . . perform more effectively” (p. 95). So that, he insisted that it cannot be separated from social intelligence, as all emotions are embedded in social relationships: “You can’t separate the cause of an emotion from the world of relationships—our social interactions are what drive our emotions” (Goleman, 2006, p. 83). Social competency helps us to navigate in the world of relationships, whereas emotional competency enables us to regulate our feelings and behaviors evoked by social interactions, to obtain positive results.

The Collaborative for Academic, Social and Emotional Learning (CASEL) defines social and emotional learning as the process of acquiring knowledge, attitudes and skills to:

- Recognize and manage their emotions
- Set and achieve positive goals
- Demonstrate caring and concern for others
- Establish and maintain positive relationships
• Make responsible decisions
• Handle interpersonal situations effectively (Payton et al., 2008, p. 6)

Research on social and emotional competencies found that these skills enable children to calm themselves when angry, initiate friendships and resolve conflicts effectively and respectfully, make smart choices and contribute fruitfully to their community (Zins & Elias, 2006).

Educators argue that emotional and social skills can be taught and learned through instruction, practice and feedback. Therefore, this learning involves school or other educational settings, and by implication, the notion that specific instructional activities, assessment tools and curricula may be used to promote these aims. Social and emotional learning can be defined as follows: “Through developmentally and culturally appropriate classroom instruction and application of learning to everyday situations, SEL programming builds children’s skills to recognize and manage their emotions, appreciate the perspectives of others, establish positive goals, make responsible decisions, and handle interpersonal situations” (Greenberg et al., 2003, p. 468).

Evidence-Based Research

Since the publication of Emotional Intelligence (Goleman, 1995) and Multiple Intelligence (Gardner, 1993), SEL largely evolve from research on prevention and resilience (Zins and Elias, 2006). A high level of interest continue today, with research finding an increasing positive outcomes of SEL, not only on academic issue, but on several principal domains of life (Payton et al., 2008; Durlak et al., 2011).

Research evaluate impact of SEL programs across different school times and setting (during school day and after-school) and for two different types of student populations those without any identified problems (Durlak et al., 2010; 2011) and those with early signs of social, emotional, behavioral, or learning problems (Payton et al., 2008). The results indicated strong and consistent positive impact of SEL programs. Students in SEL programs showed significantly enhanced social-emotional skills, attitudes and behaviors, reduced misconduct behaviors and emotional distress, and specially improved their academic performance (Durlak et al., 2011).

Besides the universal SEL program, some programs focus on students with special needs. Students participating in such programs usually display conduct problems such as aggression or bullying; accompanied by emotional distress like anxiety or depression. The study showed positive results. Students improved significantly in five out of six categories evaluated: social & emotional skills, attitudes toward self and others, positive social behaviors, conduct problems and emotional distress, except academic performance (Payton et al., 2008).

In addition, the quality SEL programs provide students with opportunities to contribute to their class, school, and community and gain satisfaction, sense of belonging, and enhanced motivation (Hawkins, Smith, & Catalano, 2004).

Teaching Social-Emotional Skills

Within school contexts, social and emotional skills are processed, integrated and applied in the curricula in contextually and culturally appropriate ways. The Collaborative for Academic, Social and Emotional Learning (2005) defined five key components of effective SEL as follows:

• Self-awareness: Identification and recognition of one’s own emotions, of strengths in self and others, sense of self-efficacy, and self-confidence.
• Social awareness: Empathy, perception taking and respect for others.
• Self-management: Impulse control, stress management, persistence, goal setting, and intrinsic motivation.
• Relationship skills: Cooperation, communication
• Responsible decision-making: Making smart decision based on responsibility, respect of others.
Through systematic instruction, SEL skills may be taught, modeled, practiced, and applied to diverse situations so that students practice and use them as part of their daily repertoire of behaviors (Weissberg, Caplan, & Sivo, 1989). SEL curricula can be integrated into daily school programs, but also in after-school programs.

Schools adopting the SEL programs were recommended to follow four practices for teaching skills (Payton et al., 2008):

- **Sequenced**: the program applies a planned set of activities to develop skills sequentially in a step-by-step way.
- **Active**: lessons delivered with active method such as role-plays, class discussion, behavioral rehearsal with feedback.
- **Focused**: sufficient time for developing social and emotional skills.
- **Explicit**: targeting specific social and emotional skills.

Results of the review showed that program followed these four recommended practices were more effective than those who did not follow these procedures (Payton et al. 2008). Researchers and practitioners examined also the ways to integrate, implement successfully SEL in school curriculum. Brandt (1999) noted that “when instruction is incidental rather than deliberate, it is difficult to determine the effects on students” (p.178). In other words, if schools engage in a planful process of teaching students social and emotional skills, the impact of instructional efforts will be better determine. Aware of Brandt remarks and his own experiences in character education, Jonathan Erwin (2010) added some characteristics of a successful SEL program:

- **Professional development**: teachers need to be sufficient trained to implement the program.
- **Direct instruction**: the program includes direct delivery of the curriculum.
- **Curriculum integration**: the program is integrated into the academic curriculum.
- **Models and mentors**: the program provides to student opportunities to observe and/or work with positive role models and adult or peer mentors.
- **Parent and community involvement**: The initiative involves parents and community members and organizations in a coordinated approach to character development.
- **Intrinsic motivation**: the program appeals to students’ intrinsic motivation to learn, instead of relying on rewards. (p.13)

Erwin (2010) emphasized that the most important factor for success in character education or SEL program is building positive and trusting relationship with students. Ryan and Deci’s (2002) research supports this view: “children who securely connected to, or cared for by… teachers [are] the ones who more fully internalize… positive school related behaviors” (p.19). Having a good relationship with the teacher also makes student have pleasure to do activities with him or her. Class meeting to formulating expectations, rules and procedures, sharing personal interests, team building games, class discussion about students’ interesting topics are tools for building and deepening relationships.

In addition, using active pedagogy and helping students understand the benefits of engaging in learning activities promote intrinsic motivation. Examples from students’ daily lives and role-plays and discussions are strongly suggested as strategies to make the learning relevant and reinforcing (Joseph & Strain, 2003). Taking daily practices to perform skills under a variety circumstances (e.g. talking in front of class, feeling nervous…) is crucial for improving students’ skills and attitudes. These practices also show students the benefits of SEL, which reinforce their intrinsic motivation. Moreover, recognition and positive, specific teacher feedback are important to student motivation (Marzano, Pickering, & Pollock, 2001).

Finally, modeling SEL is critical to its success. Teacher naturally becomes a model. Students are always watching their teacher, and what he or she model is what they learn. Perricone’s main message to every educator is that students may not learn any of the lessons’ content, but one thing they are always learning is who the teacher is (Perricone, 2005).
Methodology

A qualitative approach has been used to explore challenges and opportunities of teaching social skills to middle school student in the Ephata Summer Program in Ho Chi Minh city. In this program, social skills have been taught to primary and secondary students. The last one was chosen for this study because the lessons designed for them explore more deeply their own experiences, challenges their own perception and behaviors.

Semi-structured interviews were conducted with five students and their teachers. Students were asked about their experiences on emotional identification and empathy through the share and discussion in the classroom, about their own situation where they experience or practice emotional identification and empathy. The interest of students in learning social skills was investigated. Also the difficulties and obstacles faced students in practicing empathy were investigated in the interviews. The involvement of teachers in this study deepened an understanding of opportunities and challenges in teaching social skills at school.

Data Analysis

Data collected from interviews was analyzed by Interpretative Phenomenological Analysis (Pietkiewicz & Smith, 2014) which considered the participants’ perception about emotion identification and empathy. The data were investigated to identify the emerging themes, and then cluster them with descriptive labels.

Social Emotional Learning in Ephata Summer Program

Ephata education program is designed to promote social and emotional learning, life skills and STEM competence in primary and secondary school students. The 7-week program for social and emotional learning includes 35-40 lessons per grade. Each lesson lasts 40 minutes. Lessons follow a common structure - 5E model (Engage, Explore, Explain, Extend and Evaluate). The “explain and extend” steps have the “define, personalize and challenge” format. There is “define questions”, “personalize questions”, and “challenging questions”.

Lessons are divided into five units. The first unit is about freedom, choice, and responsibility. The second unit helps to explore thoughts and perceptions. The third unit is for understanding emotions, body signals and actions. The fourth teaches choosing values, choosing goals and actions, mindful listening, empathy, and being assertive. The fifth unit consist of lessons for character education such as compassion and acceptance, honesty, grit, self-control, gratitude, curiosity. Those character lessons are distributed among seven weeks.

The program also includes mindfulness-based activities and visualization. They are integrated throughout the course.

Lessons of life skills, for example team building, group works, offer students “great” occasions to practice and live what they have learn from SEL.

Although this is a 7-week summer program, it is ready and can easily be integrated into standard curriculum.

Student’s Experiences in Emotion Identification and Empathy

Students have been showed their knowledge about feelings. Some of them have been engaged in the program for three or four years, they have already had knowledge about feelings and perception. They didn’t talk about what they learned in these lessons but the benefits that SEL provided. One of them reported that:

Learning about emotion identification and empathy helps me to understand others and to express sympathy towards them.

Another student said that:

It helps me to understand, caring, be friendly and close to others. So that, I can help people more easily.
The lesson helped students realize the benefits of recognizing other people’s feelings, taking others’ perspectives and showing empathy and sensitivity to others’ feelings. Students were interested in exploring their own feelings and the others’ ones. Recognizing their own emotion lead them to cope with negative feelings, to control and master their behaviors. One student said that:

It helps me to realize that I have hurt my friend, and I could stop it.

Especially, two students demonstrated their interest and concern for others in the discourse. They argued that with these skills, they can help people having positive feelings, or don’t do anything hurting others. Their score of empathy (self evaluation) was high: 8.5 and 9 (on a scale of 1 to 10). Whereas, two others students mentioned this social and emotional ability helping them to become nice and to be loved by others. They realize that their social and emotional skills were limited and needed to improve. They rated themselves at 5 and 6.5. All of students showed their willingness to increase their score and they proposed what to do:

I have to observe people carefully.

I should be willing to ask, talking, comforting, and sharing with people.

I should sympathize more with people.

In my opinion, each student is different and each individual school to Recognize emotions Empathy and help them get a learning environment with good correlation (with teachers, friends,...). The children will understand their own feelings and the feelings of those around them. From there, you understand the differences of each person, said open to receive people, expressed sympathy for others and for their own...

Students’ Interest in Learning Social and Emotional Skills

Active pedagogy has been used in these classes. Students gave definition of empathy according to their own point of view and experiences. They had opportunities to confront different points of view, to discuss how to take others’ perspective, to share their true story. Students appreciated activities of sharing their own story about empathy. One student said:

I like very much the moment that we shared our stories. It was fun and helped us to understand each other.

The personalized questions and the true story or real situation mentioned in sessions have really affected students. They were motivated to tell their stories, to show sympathy, and also to seek support from friends. One of teachers talked about her class when she taught empathy:

The mention of a real situation they are experiencing drew their interest to share thoughts, to make questions. When students put themselves in the shoes of others, they have to understand why people made such action and open heart and mind to accept them by the very specific actions.

As Erwin (2010) has emphasized in his book titled “Inspiring the Best in Student”, positive and trusting relationship with and among students is the critical factor for success in SEL program. Class meetings and sharing circles were used throughout the program to build and improve the sense of community. Classroom with safety and opportunity for expression fosters the growth of respect, empathy and stimulates students sharing thoughts, feelings and experiences. The teacher confirmed this argument when a student in her class talked about her parents’ quarrel.

She said that she felt be safe and trusted teacher and classmates, and decided to share her situation.

Challenges Facing Students and Teachers in Teaching and Learning Social Skills

Students realized theirs difficulties and obstacles when they practice these skills. Some of them mentioned external obstacles; others talked about the internal ones. They said:

People don’t want to share thoughts and feelings.
It's difficult to empathize or sympathize if this is a person that you hate.

I want to be friend with them, but they teased me.

Stubborn! I know that if I do that, I will hurt them, but I want to follow my desire.

Teachers recognized the students’ difficulties in the developmental perspective:

They have not yet taken the initiative to put themselves in the shoes of other to think and act.

Sometimes, they have difficulty to find solutions.

In the other hand, teachers also faced difficulties in teaching SEL. They mentioned the time limited, lack of follow up after 7-weeks program, lack of cooperation and support from parents.

Besides the obstacles, school setting has shown conditions facilitating the implementation of SEL program. Real-life situations during the school day provide many opportunities to exhibit self-control, express feelings, or engage in problem solving. By exploiting teachable moments, teachers provide support when it is actually needed, enabling students to make considered choices about their behavior and making it less likely they will be overrun by strong feelings.

Discussion

This study explored the challenges and opportunities of teaching social and emotional skills in the context of the summer program. The findings showed that i) Even in the 7-weeks summer program, school setting presented convenient opportunities to SEL intervention; ii) While implementing SEL, students and teachers identified difficulties and obstacles in teaching, learning and practicing social and emotional skills.

Teachers and students recognized the importance and benefits of social and emotional learning taught in school, especially for the middle school students. Adolescence is the time that the individual moves from the state of childhood to enter the state of adulthood. This is the period that prepares a transition from a child who has to live in a family to the adult living in society (Grazzini, 1996). Social and emotional competences must be stimulated, developed and improved. Another characteristic of this stage is a growing capacity for reflectiveness. The ability to articulate “Who am I?” in terms of strengths and weaknesses is also included in this capacity. There is an interest in learning about one’s own and other’s thoughts and feelings.

Students had opportunities to share thoughts, express feelings, sympathy with peers. In school daily life, students were embedded in all social relationships. The daily situations are extremely challenging emotionally. How students could cope with peers’ tease about their appearance, physical talent or mental competence? When one feel anxious, angry, or sad, his or her ability to solve problems or to control his/herself diminishes (Forgas, 1994 cited in Elias, 1997). This is good chance of social and emotional skills’ practices guided and supported by teachers. Social and emotional skills must be strengthened through practice in the wide range of contexts. The results are consistent with research’s findings that indicated the effectiveness of SEL incorporated into routine educational practice (Payton et al. 2008).

While students were convinced that social-emotional skills are important and helpful. They knew what they must act in the frustrated moment, but they could not choose the appropriate behaviors. Students who have shown improvements in their behavior may revert to earlier, more dominant habits when emotions are strong (Elias, 1997). Practicing SEL is most important; the skills will improve and become more fluent and polished. Encouraging this process within the confines of a summer program is challenging. Seven weeks for learning and practicing SEL were relatively short. The best way to increase and sustain SEL that students continue to practice these skills in other situations including families. Involving parents in the process of social and emotional learning is important. They need information about SEL to help their children practice at home and in the community: create “link letters” that highlight the content of SEL lessons and send them home, send reports, feedbacks on students’ progress. A positive relationship with school motivates parents supporting education.
Conclusions and Recommendations

This study has expressed the challenges and opportunities experienced by students and teachers in social and emotional learning. This study was limited to the case of Ephata summer program. However, from the in-depth examination of this case, three recommendations were made for implementing SEL program in such summer program, or universal school setting:

- **Teacher training is key.** Training teachers about new concepts on SEL, familiarizing teachers with the materials by working with them ahead of time. Teacher training is the key element for SEL success. This process will help polish their skills and show areas that they should improve. They become, consciously or not, role models for students in social and emotional practices.

- **Practice, Practice and Practice.** Social and emotional competences are formed by daily practices. Finding frequent and regular opportunities and encouraging students practicing skills across settings and over time.

- **Family involvement is key for sustainable SEL success.** Finding ways of including families in SEL programming. Providing information related to the content of SEL lessons, sending feedbacks on students’ performance, creating activities to involve families.

References


Teachers’ Perceptions on Principals’ Instructional Leadership Behaviors in Vietnam

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Abstract

While there are a lot of studies on principal instructional leadership from other countries, there is far less known about Vietnamese principalship. This article employs a sample of 569 public elementary school teachers in Ho Chi Minh City perceived instructional leadership of elementary school principals. Both descriptive and inferential statistics were used to analyze data. From the perceptions of elementary school teachers, principals were perceived as active instructional leaders. There are significant differences between teacher groups in rating principal instructional leadership based on teacher gender, teaching experience, and years working together with the current principal. The article suggests further studies need to be carried out.

Keywords:
Instructional leadership behaviors, Teachers’ perceptions, Elementary school, Vietnam

Authors’ Notes

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Introduction

The principal’s role has become an interested topic of research in educational leadership field (Lineburg, 2010). There were ninety four percent of studies on educational leadership topic from 1967 to 1980 focused on public school administrators (Bridges, 1982). The role of principal was the focus of numerous studies because it has been identified as a key aspect of an effective school (Cotton, 2003; Goodwin, Cunningham, & Childress, 2003; Hallinger & Heck, 1996).

Regarding playing an important role in effective schools, principals are often considered essential to the success of schools, and have a discernible effect on a school’s level of productivity (Hallinger & Murphy, 1985), as well as playing a critical role in effective instructional interventions (New York City Department of Education, n.d.). Principals exert this influence primarily as instructional managers or leaders (Hallinger & Murphy, 1985) even though they have many roles to serve in schools’ business. They are thus motivated to become more active as instructional leaders and must have strong instructional skills
and extensive knowledge of teaching and learning (Lineburg, 2010).

In Vietnam, elementary education is the foundation for formation, development of the comprehensive human personality, and quality of elementary education is the basis for ensuring educational quality at all levels. This has put pressure on elementary school principals to enhance teaching and learning and create powerful learning environments for their students as well as to ensure students’ achievement every school year. How elementary school principals demonstrate their instructional leadership behaviors in the context of Vietnam’s education. This article investigates elementary school principals’ instructional leadership behaviors as perceived by teachers. Two research questions will be answered in the article:

1. How do elementary school teachers perceive their principals’ instructional leadership behaviors?

2. Are there significant differences in teachers’ perceptions of principals’ instructional leadership behaviors in terms of teacher demographic variables?

Overview of Instructional Leadership

Behaviors Literature

According to Sheppard (1996), there are two perspectives of instructional leadership: one is “narrow” while the other is “broad”. Instructional leadership in the narrow view reflects those actions that directly affect teaching and learning, such as curriculum supervision, teacher instruction, learning appraisal. In the broad view, principal instructional leadership is defined as all activities that have an impact on student learning (Donmoyer & Wagstaff, 1990; Murphy, 1998).

As for the narrow view of instructional leadership, the essential role of principals as instructional leaders emphasizes the behaviors that promote teaching and learning. Many researchers define instructional leadership as a series of principals' behaviors that influence classroom instruction and instruction programs in their schools to promote student achievement (Babb, 2012; Hallinger, 1992; Leithwood, 1994; Whitaker, 1998). As a result, it requires principals to spend a great deal of time, show a lot of concern in classrooms and regularly provide suggestions to improve learning and teaching.

This study uses a comprehensive model of instructional leadership behaviors composed by Hallinger and Murphy (1985). This model consists of three dimensions for the instructional leadership role of the principal: Defining the school mission; managing the instructional program; and promoting a positive school learning climate (Hallinger & Murphy, 1985). These three dimensions are delineated into the ten instructional leadership functions: Frame the school goals; communicate the school goals; supervise and evaluate instruction; coordinate the curriculum; monitor student progress; protect instructional time; maintain high visibility; provide incentives for teachers; promote professional development; and provide incentives for learning (Hallinger, 1982).

The dimension of defining the school mission includes framing school goals and communicating school goals. It refers to the principal’s role in determining the central goals of the school and working with staff to ensure that the school has clear, measurable, time-based goals which focus on the academic progress of students. It is also concerned with the ways in which the principal communicates the school’s important goals to the school community. The principal can use formal or informal communication, such as handbooks, staff meetings, school assemblies, conversations with staff or students, bulletin boards, and teacher and parent conferences.

The dimension of managing the instructional program involves the coordination and control of instruction and curriculum. The functions of this dimension include three leadership activities: supervising and evaluating instruction; coordinating the curriculum; and monitoring student progress. This function requires the principal to be deeply engage in stimulating, supervising, and monitoring teaching and learning in the school. Furthermore, the principal must have expertise in teaching and learning, as well as a commitment to the school’s improvement.

The third dimension, developing the school learning climate encompasses principal behaviors that protect instructional time; promote professional development; maintain high visibility; provide incentives for teachers; and provide incentives for learning. This dimension is broader in scope and
These functions include mostly indirect behaviors that create high standards and expectations for students and teachers (Hallinger & Murphy, 1985).

**Methodology**

This study was conducted in Ho Chi Minh City, the largest metropolitan area in Vietnam in terms of economy, culture, education, and population. The target population for this study was public elementary school teachers who had worked with the principal at the current school at least one academic year. Working with current principals for one year creates chance for teachers have enough information to understand the principal’s instructional leadership behaviors.

The study employed a survey for generalizing from a sample of teachers’ perceptions. In order to collect demographic information, questions on the following were added to the teacher survey: gender, years of teaching experience and years working with the current principal. The demographic information was collected to determine characteristics of the respondents. These demographic variables served as independent variables of the study.

By employing stratified sampling, the study selected 600 teachers from 120 elementary schools in HCMC. Of the 600 questionnaires distributed, 569 questionnaires were returned for a 94.8 percent response rate.

SPSS 16.0 software was used for analyzing data to obtain descriptive and inferential statistics. Descriptive statistics measure both the central tendency and the dispersion of the data, including means and standard deviations. The mean (M) and standard deviation (SD) for each of the ten job functions were obtained to determine teachers’ overall perceptions of principal instructional leadership behaviors. Finally, teacher perceptions were also analyzed based on gender, years of teaching experience, and years of working with their current principals. In generating an overall picture of participants in the study, frequency and percentage were utilized to describe demographic profile of the sample.

For the second research question, the independent variables for ANOVA analysis included years of teaching experience, and years of working together with current principal.

**Results and Discussion**

**Teachers’ Demographic Profile**

Demographic information collected for teachers included three variables: gender, teaching experience, and years working with the current principal. Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>102</td>
<td>17.9</td>
</tr>
<tr>
<td>Female</td>
<td>467</td>
<td>82.1</td>
</tr>
<tr>
<td>Teaching Experience</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>2-4 years</td>
<td>34</td>
<td>6.5</td>
</tr>
<tr>
<td>5-9 years</td>
<td>126</td>
<td>22.1</td>
</tr>
<tr>
<td>10-15 years</td>
<td>228</td>
<td>40.1</td>
</tr>
<tr>
<td>16 years or more</td>
<td>178</td>
<td>31.3</td>
</tr>
<tr>
<td>Years Working with the Current Principal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>90</td>
<td>15.8</td>
</tr>
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<td>2-4 years</td>
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<td>5-9 years</td>
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</tr>
<tr>
<td>10-15 years</td>
<td>77</td>
<td>13.5</td>
</tr>
<tr>
<td>16 years or more</td>
<td>18</td>
<td>3.2</td>
</tr>
</tbody>
</table>
presents a demographic profile of teacher sample used in this study.

As Table 1 shows, 82.1% of teachers were female, male teachers composed only 17.9% of the sample. Table 1 also shows 40.1% of the teacher sample had 10-15 years of teaching experience; over 30% of those respondents had more than 16 years of teaching experience while only 22.1% of teachers had 5-9 years of teaching experience. Only 7% had 1-4 years of teaching experience. According to respondents received, about 39.4% had 2-4 years working with the current principals, 28.1% had 5-9 years, 15.8% had 1 year, and 13.5% of teachers had 10-15 years. Only 3.2% of teachers had 16 and more years working with the current principals.

Elementary School Teachers Perception on Principals’ Instructional Leadership

Respondents were asked to answer the questionnaire using a Likert scale: with 1 as “almost never”, 2 as “seldom”, 3 as “sometimes”, 4 as “frequently” to 5 as “almost always”. Descriptive statistics were used to describe teachers’ response on each job function of the PIMRS. Table 2 shows the overall statistics of the survey responses for the ten job functions described by the PIMRS. For the purpose of providing further descriptive data, each of the 48 items in teacher survey (see appendix A) is described by mean and standard deviation.

Table 2 shows that (1) framing the school goals had the highest mean (4.41). These were followed by (4) coordinating the curriculum (4.36), (2) communicating the school goals (4.22), (8) providing incentives for teachers (4.19), (9) promoting professional development (4.16), (10) providing incentives for learning (4.10), (3) supervising and evaluating instruction (4.05), (5) monitoring student progress (4.00), (7) maintaining high visibility (3.64), and (6) protecting instructional time (3.50).

The teachers gave relatively high scores in rating their principal’s instructional leadership behaviors across the 10 job functions compared with the results of other studies. The means of ten job functions fall between 3.50 and 4.41. In the study on secondary school principals’ instructional leadership in Thailand, Hallinger et al. (1994) found that the scores of teachers’ ratings fell between 3.42 and 2.45. Similarly, the study of Saavedra (1987) on instructional leadership behaviors of secondary school principal in Malaysia also showed that teachers’ scores for their principal instructional leadership were not high. Their rating scores were between 3.13 and 3.58.

The second finding of this research question is that the pattern of teachers’ ratings of their principal instructional leadership in this study is relatively consistent with the pattern of studies in Malaysia conducted by Saavedra (1987) and in Thailand conducted by Hallinger et al. (1994). The three highest rated job functions among Vietnamese principals rated by their teachers are: (1) framing the school goals, (4)
coordinating the curriculum, and (2) communicating the school goal. In addition, three lowest rated job functions include (6) protecting instructional time, (7) maintaining high visibility, and (5) monitoring student progress. Saavedra’s (1987) findings showed the following patterns of Malaysian principals with three highest rated job functions: (10) providing incentives for learning, (2) communicating the school goals and (1) framing the school goals. The three lowest rated job functions included (7) maintaining high visibility, (8) providing incentives for teachers, and (5) monitoring student progress. In addition, the study of Hallinger et al. (1994) demonstrated Thai principals’ instructional leadership pattern with three highest scores on job functions (10) providing incentives for learning, (6) protecting instructional time, and (1) framing the school goals. The three lowest rated job functions were (7) maintaining high visibility, (3) supervising and evaluating instruction, and (5) monitoring student progress. The same two highest rated job functions in Vietnam study and Malaysia study are (1) framing the school goals and (2) communicating the school goals. Vietnam study and Thailand study just share only one highest rated job function, which is (1) framing the school goal. The same two lowest rated job functions in three countries are (7) maintaining high visibility and (5) monitoring student progress.

The 10 job functions in this study fall from moderate to high level of teachers’ ratings suggest that elementary school principals are active instructional leaders assessed by the PIMRS when compared with scores obtained in the mentioned studies.

**Perceptions of Instructional Leadership Behaviors Based on Demographic Variables.**

In this section, we will discuss on the findings of teachers’ perceptions of instructional leadership behaviors for each job function based on demographic variables.

Descriptive statistic on teachers’ perceptions of principal instructional leadership behaviors based on the teacher demographics will be shown in Table 3. Table 3 shows that female teachers rated their principals’ instructional leadership higher than male teachers in the following job functions: (1) framing the school goals, (2) communicating the school goals, (3) supervising and evaluating instruction, (4) coordinating the curriculum, (5) monitoring student progress, (8) providing incentives for teachers, and (9) promoting professional development. Male teachers rated their principals’ instructional leadership higher in the following job functions: (6) protecting instructional time, (7) maintaining high visibility and (10) providing incentives for learning.

For the variable of teachers’ teaching experience, teachers with one year of teaching experience and teachers with 16 or more years of teaching experience rated their principals lowest in instructional leadership. Teachers with 2-4 years of teaching experience rated their principals highest in (10) providing incentives for learning. Teachers with 5-9 years of teaching experience rated their principals highest scores in eight of the ten job functions, including: (1) framing the school goals, (2) communicating the school goals, (3) supervising and evaluating instruction, (5) monitoring student progress, (6) protecting instructional time, (7) maintaining high visibility, (8) providing incentives for teachers, and (9) promoting professional development. Teachers with 10-15 years of teaching experience rated their principals highest score in (4) coordinating the curriculum.

For the variable of years working with the current principal, teachers who had one year with their current principal gave the lowest scores for instructional leadership. Teacher who had 2-4 years with their current principal gave the highest scores in (5) monitoring student progress, and (7) maintaining high visibility. Teachers who had 5-9 years with their current principal gave the highest score in (3) supervising and evaluating instruction. Teachers who had 10-15 years with their current principal gave the highest score in (4) coordinating the curriculum. Lastly, teacher who had 16 years or more with their current principal gave the lowest scores for instructional leadership. Teacher who had 2-4 years with their current principal gave the highest scores in six out of ten job functions, included: (1) framing the school goals, (2) communicating the school goals, (5) monitoring student progress, and (7) maintaining high visibility. Teachers who had 5-9 years with their current principal gave the highest score in (3) supervising and evaluating instruction. Teachers who had 10-15 years with their current principal gave the highest score in (4) coordinating the curriculum. Lastly, teacher who had 16 years or more with their current principal gave the highest scores for instructional leadership. Teacher who had 2-4 years with their current principal gave the highest scores in six out of ten job functions, included: (1) framing the school goals, (2) communicating the school goals, (3) supervising and evaluating instruction, (4) coordinating the curriculum, (5) monitoring student progress, (6) protecting instructional time, (7) maintaining high visibility and (10) providing incentives for learning.
teachers. Teacher gender was independent variable and ten job functions were dependent variables in the test. This test allows us to compare the difference between female and male teachers’ ratings. Table 4 reports the result of independent samples t-tests.

Table 4 shows that there were statistically significant differences between male and female teachers’ ratings of their principals in five job functions: (1) framing the school goals, (2) communicating the school goals, (3) supervising and evaluating instruction, (4) coordinating the curriculum, and (10) providing incentives for learning.

There were no statistically significant differences between male and female teachers’ ratings of their principals in the remaining five job functions: (5) monitoring student progress, (6) protecting instructional time, (7) maintaining high visibility, (8) providing incentives for teachers, and (9) promoting professional development.
Among five job functions showing significant differences between female and male teachers there are four functions in which female teachers give significantly higher scores than male teachers do. These job functions include (1) framing the school goal, (2) communicating the school goals, (3) supervising and evaluating instruction, and (4) coordinating the curriculum. There are at least three possible explanations for this difference. First, it is necessary to note that more than 80 percent of the teachers in this study were female. This may be one reason that in Vietnamese culture, female teachers perceive their principals to be more active in instructional leadership than male teachers do. Principals may also find it easier to communicate, to understand, and pay attention to female teachers than male teachers. Through the conversations they understand each other and this kind of informal communication impact on female teachers’ appreciation their principals’ instructional leadership.

Second, compared with men, women tend to overestimate their leaders’ ability and performance. Men’s evaluations on their principal instructional leadership may be stricter, resulting in lower scores for principals. Third, Vietnamese elementary school principals may give more support and attention to their female teachers who influence on school quality. Since, in Vietnam, female teachers in elementary schools are assigned to be classroom teachers while male teachers are responsible for other tasks as physical education and extra-curricular activity.

It is surprising that male teachers rate their principals significantly higher than female teachers do for function (10) providing incentives for learning. It is difficult to find an explanation for this. Typically, teachers are responsible for motivating and inspiring students in terms of learning. Hallinger and Murphy (1985) found that in elementary schools, the scores for this function were lower than for other instructional leadership functions. This point needs to be examined more closely in a further study.

To determine whether there were any differences in ratings of principals between teachers who worked shorter or longer periods with the principal, a one-way ANOVA was used. Another reason is that groups was conducted to compare mean scores for instructional leadership behaviors of teachers who worked with their principals for (1) 1 year, (2) 2-4 years, (3) 5-9 years, (4) 10-15 years, (5) 16 or more years.

<table>
<thead>
<tr>
<th>Job Functions</th>
<th>Male</th>
<th>Female</th>
<th>Mean Difference</th>
<th>t</th>
<th>ρ</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Frame the School Goals</td>
<td>4.30 .56</td>
<td>4.43 .43</td>
<td>-.13</td>
<td>-2.18</td>
<td>.031*</td>
</tr>
<tr>
<td>(2) Communicate the School Goals</td>
<td>4.08 .59</td>
<td>4.25 .51</td>
<td>-.17</td>
<td>-2.7</td>
<td>.009**</td>
</tr>
<tr>
<td>(3) Supervise and Evaluate Instruction</td>
<td>3.94 .41</td>
<td>4.08 .51</td>
<td>-.14</td>
<td>-2.94</td>
<td>.004**</td>
</tr>
<tr>
<td>(4) Coordinate the Curriculum</td>
<td>4.10 .58</td>
<td>4.41 .96</td>
<td>-.31</td>
<td>-3.16</td>
<td>.002**</td>
</tr>
<tr>
<td>(5) Monitor Student Progress</td>
<td>3.93 .73</td>
<td>4.02 .59</td>
<td>-.09</td>
<td>-1.09</td>
<td>.276</td>
</tr>
<tr>
<td>(6) Protect Instructional Time</td>
<td>3.55 .89</td>
<td>3.49 .92</td>
<td>.05</td>
<td>.53</td>
<td>.598</td>
</tr>
<tr>
<td>(7) Maintain High Visibility</td>
<td>3.66 .61</td>
<td>3.63 .63</td>
<td>.03</td>
<td>.43</td>
<td>.669</td>
</tr>
<tr>
<td>(8) Provide Incentives for Teachers</td>
<td>4.12 .57</td>
<td>4.21 .59</td>
<td>-.09</td>
<td>-1.36</td>
<td>.173</td>
</tr>
<tr>
<td>(9) Promote Professional Development</td>
<td>4.17 .50</td>
<td>4.15 .49</td>
<td>.01</td>
<td>.26</td>
<td>.798</td>
</tr>
<tr>
<td>(10) Provide Incentives for Learning</td>
<td>4.29 .43</td>
<td>4.06 .64</td>
<td>.23</td>
<td>3.45</td>
<td>.001**</td>
</tr>
</tbody>
</table>

Note. *ρ<.05, ** ρ<.01, two-tailed; N=569
Table 5. ANOVA Results of Instructional Leadership Job Functions among Five Groups of Years Working Together with the Current Principal

<table>
<thead>
<tr>
<th>Job Functions</th>
<th>F</th>
<th>Sig.</th>
<th>Post Hoc Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Frame the School Goals</td>
<td>5.87</td>
<td>.000***</td>
<td>(1), (2), (3), (4) &lt; (5)</td>
</tr>
<tr>
<td>(2) Communicate the School Goals</td>
<td>5.57</td>
<td>.000***</td>
<td>(1) &lt; (2), (3), (5)</td>
</tr>
<tr>
<td>(3) Coordinate the Curriculum</td>
<td>3.05</td>
<td>.017*</td>
<td>(2), (3) &gt; (4)</td>
</tr>
<tr>
<td>(4) Coordinate the Curriculum</td>
<td>3.06</td>
<td>.016*</td>
<td>(1), (2), (3) &lt; (5); (2) &lt; (3)</td>
</tr>
<tr>
<td>(5) Monitor Student Progress</td>
<td>4.61</td>
<td>.001**</td>
<td>(1) &gt; (4)</td>
</tr>
<tr>
<td>(6) Protect Instructional Time</td>
<td>5.14</td>
<td>.000***</td>
<td>(1), (2), (3), (4) &lt; (5); (1), (2) &gt; (4)</td>
</tr>
<tr>
<td>(7) Maintain High Visibility</td>
<td>4.69</td>
<td>.001**</td>
<td>(1), (2), (3) &gt; (4)</td>
</tr>
<tr>
<td>(8) Provide Incentives for Teachers</td>
<td>4.78</td>
<td>.001**</td>
<td>(2), (3), (5) &gt; (4)</td>
</tr>
<tr>
<td>(9) Promote Professional Development</td>
<td>2.88</td>
<td>.022*</td>
<td>(1) &gt; (4)</td>
</tr>
<tr>
<td>(10) Provide Incentives for Learning</td>
<td>15.42</td>
<td>.000***</td>
<td>(1), (2), (3), (5) &gt; (4)</td>
</tr>
</tbody>
</table>

*Note. *p<.05, **p<.01, ***p<.001, two-tailed; N=569*

On the basis of these results, it is interesting to note that except the group with 10-15 years of working with the current principal, the more years working with the principals, the higher ratings on their principals’ instructional leadership behaviors they give. Specially, teachers with at least 16 years of working with the current principal give significantly higher ratings for six of the ten job functions than the other groups do. These job functions include (1) framing the school goals, (2) communicating the school goals, (4) coordinating the curriculum, (6) protecting instructional time, (8) providing incentives for teachers, and (10) providing incentives for learning. One possible explanation for why teachers who have worked with their leaders for longer periods generally give higher ratings is that they have known their principals long enough to fully understand them. Another reason which could be taken into account is that these principals with more years of principalship experiences actively demonstrated their instructional leadership behaviors. Experienced principals can find effective and confident approaches to define the school mission, manage instructional programs, and develop instructional climate.

One characteristic of Vietnamese culture is that the longer time people are together, the more like family members they become. Thus principals and teachers who work together long enough will feel free to interact informally and formally in order to improve teaching and learning. This creates more opportunities for principals to talk with teachers and get suggestions, feedback and supporting collaboration or give praise for effective teaching as well as provide professional development.

Ratings for seven job function are lower for teachers who had worked 10-15 years with their principals. The three functions that were not rated lower are (1) framing the school goals, (2) communicating the school goals, and (4) coordinating the curriculum. It is difficult to explain why teachers who worked such a long time under their principals give significantly lower ratings. Further research is needs to investigate these statistically significant discrepancies.

To determine whether there were any differences in ratings of principals between teachers who had shorter or longer ranges of teaching, a one-way ANOVA between groups was conducted to compare mean scores for instructional leadership behaviors of teachers who had teaching experience of (1) 1 year, (2) 2-4 years, (3) 5-9 years, (4) 10-15 years, (5) 16 or more years.
Table 6. ANOVA Results of Instructional Leadership Job Functions among Five Groups of Years of Teaching Experience

<table>
<thead>
<tr>
<th>Job Functions</th>
<th>F</th>
<th>Sig.</th>
<th>Post Hoc Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Frame the School Goals</td>
<td>3.06</td>
<td>.016*</td>
<td>(1)&lt; (3), (4), (5)</td>
</tr>
<tr>
<td>(2) Communicate the School Goals</td>
<td>4.27</td>
<td>.002**</td>
<td>(1)&lt; (3), (5)</td>
</tr>
<tr>
<td>(3) Supervise and Evaluate Instruction</td>
<td>4.22</td>
<td>.002**</td>
<td>(1)&gt; (4)</td>
</tr>
<tr>
<td>(4) Coordinate the Curriculum</td>
<td>1.28</td>
<td>.277</td>
<td>-</td>
</tr>
<tr>
<td>(5) Monitor Student Progress</td>
<td>3.33</td>
<td>.010*</td>
<td>(1)&lt; (3)</td>
</tr>
<tr>
<td>(6) Protect Instruction Time</td>
<td>3.80</td>
<td>.005**</td>
<td>(3), (5)&gt; (4)</td>
</tr>
<tr>
<td>(7) Maintain High Visibility</td>
<td>2.87</td>
<td>.023*</td>
<td>(3)&gt; (4)</td>
</tr>
<tr>
<td>(8) Provide Incentives for Teachers</td>
<td>3.31</td>
<td>.011*</td>
<td>(2)&lt; (3)</td>
</tr>
<tr>
<td>(9) Promote Professional Development</td>
<td>3.95</td>
<td>.004**</td>
<td>(1), (5)&lt; (3)</td>
</tr>
<tr>
<td>(10) Provide Incentives for Learning</td>
<td>2.06</td>
<td>.084</td>
<td>-</td>
</tr>
</tbody>
</table>

Note. *ρ<.05, **ρ<.01, two-tailed; N=569.

The numbers given above denote following years of teaching experience (1)=1 year, (2)=2-4 years, (3)=5-9 years, (4)=10-15 years, (5)=16 or more years.

Examining how the variable of years of teaching experience influence teachers’ perceptions of their principals’ instructional leadership behaviors shows somewhat same finding with above variable years of working with the current principal. With the exception of the group with 10-15 years of teaching experience, it seems that the more experience in teaching they have, the higher ratings teachers give on their principal instructional leadership behaviors.

It is also clear that teachers with 5-9 years of teaching experience gave consistently higher ratings for all eight job functions than teachers with more or less experience. One possible explanation for this is that teachers in this group are usually in the age range of 26-31. At this career stage, they have matured in teaching but they are also young enough to be full of energy and enthusiasm to contribute to teaching. With this enthusiastic perspective, they are enthusiastic in rating their principals’ instructional leadership as well.

Similarly, teachers with one year of teaching experience gave significantly lower ratings for four out of eight job functions. Compared to other teachers, one-year teachers seem to underestimate principals ability to (1) framing the school goals, (2) communicating the school goals, (4) monitoring student progress, and (9) promoting professional development. One explanation for this discrepancy may be that in their first year of teaching, novice teachers are sometimes overwhelmed by their teaching tasks and need more time to adapt themselves to their new circumstances. That may be why they do not perceive principal instructional leadership. Another possible explanation is that principals usually ask experienced teachers to be responsible for providing support and help to novice teachers. This may limit the instructional leadership role of principals to novice teachers.

As for function (6) protecting instructional time, teachers with at least 16 years of teaching experience give significantly higher rating than teachers with 10-15 years of teaching experience do. One possible explanation for this difference is that the more experienced teachers are, the higher ratings they give their principals for protecting instructional time. With many experiences in teaching, senior teachers tend to control and manage their students well and as a result, they have earned their principals’ trust. Therefore, their instruction time has not been interrupted by other activities from school principals.
As explained above, function (10) providing incentives for learning requires classroom teachers to inspire and motivate their students. Principals must ask teachers to inspire students without external incentives.

Conclusions

This study provides data-based findings drawn from the local context that could support educational authorities and elementary school principals making decisions regarding instructional leadership. The reasons for this statement could be found in the below implications. Results of the study could be listed as follows:

First, teachers give high scores on eight out of ten instruction leadership functions, excepting Protect instructional time and Maintain high visibility. It reveals that elementary school principals in Vietnam demonstrate actively with the role of instructional leaders.

Second, female teachers rate their principals' instructional leadership higher than male teachers.

Third, there are significant differences in ratings between teacher groups based on teacher gender, teaching experience, and years working together with the current principal.

There are two implications should be drawn from the results of the study. The first is Vietnamese elementary school principals should set up more time for their instructional leadership role, especially pay attention on protecting instructional time and maintaining high visibility. The second is the school district keeps a principal in one school as long as possible in order to enhancing their instructional leadership effectiveness.

Although this article mentions principal instructional leadership as perceived by teachers, it provides some evidences about the current situation of instructional leadership in Vietnam. For clear picture of principal instructional leadership in Vietnam, further studies need to be done.

References


Preparing Teachers for the 21st Century

Lim Kam Ming & Tay Eng Guan
National Institute of Education, Nanyang Technological University, Singapore

Abstract

The quality of any education system is significantly dependent on the quality of teachers in that system. A 21st century teacher professionalism requiring specialist knowledge and skills is essential for ensuring the quality of teachers. This paper will describe the key features of the teacher education model used in Singapore. In addition, the paper will discuss some key challenges for the teaching profession in the 21st century and possible ways to prepare teachers for the 21st century. Since its establishment as the Teacher Training College in 1950, the National Institute of Education (NIE) has served as the national teacher education institute in Singapore. NIE provides all levels of teacher education, from initial teacher education programmes to professional development programmes as well as higher degree programmes. The NIE’s Teacher Education Model for the 21st Century (TE21) and how this model addresses several key challenges for teacher education are explained in this paper. NIE’s TE21 Model revolves around the Values, Skill and Knowledge (V3SK) model which focus on three value paradigms: Learner-centredness, Teacher Identity, and Service to the profession and community. Finally, the paper will outline some possible issues relevant for the improvement of teacher education.

Authors’ Notes

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Preparing Teachers for the 21st Century

This paper will start with the often-quoted statement that the quality of any education system is significantly dependent on the quality of teachers in that system (Barber & Moursheh, 2007). It is also accepted that 21st century teacher professionalism requires specialized knowledge and skills essential for ensuring the quality of teachers (Darling-Hammond, 2010). These are but two of the challenges of preparing teachers for the 21st century. Teacher education programmes are essential for the preparation of teachers for the opportunities and challenges of preparing children for the unknown future (Goodwin, 2015).

As teachers are often cited as the 2nd most important source of socialization for children other than the children’s families, a clear paradigm and purpose of a values curriculum within the teacher education programmes (e.g., service learning) is essential for encouraging student teachers to reflect and develop a value-based teaching philosophy (Boland, 2009; NIE, 2009).

Teachers are responsible for the education for the whole-child (morally, intellectually, physically, socially & aesthetically) (NIE, 2009).

Teacher education programmes that aspire to develop 21st century teacher professionalism among its
graduates need to be cognizant of the need for a 21st century curriculum which is interdisciplinary, project-based, research-driven, connected to the community and collaborative, embraces technology, authentic assessments and service learning, and nurtures higher order thinking skills, multiple intelligences and 21st century literacy (Lim, 2013, 2014).

As teachers are key to the quality of any education system (Harris, 2011; McKinsey, 2010), a constant challenge for Singapore is to ensure that its teacher education system is relevant, responsive and produces quality teachers able to cater to the needs of learners (National Institute of Education, 2007, 2012). The new paradigms for learning and teaching in a rapidly changing 21st century environment add to the challenges of teacher education.

This paper describes the key features of the teacher education model currently used by the National Institute of Education (NIE) in Singapore. The description of the main characteristics of the characteristics required of teachers in the 21st century was based on the NIE Model of Teacher Education.

### Teacher Education System in Singapore

As the main teacher education institute in Singapore, the National Institute of Education (NIE) provides all levels of teacher education, from initial teacher education programmes to professional development programmes for in-service teachers and executive leadership programmes for Principals, Departmental Heads and other school leaders.

Since its establishment as the Teacher Training College in 1950, NIE has since developed into one of the leading teacher education institutes in the world (Chen & Koay, 2010). NIE’s initial teacher education programmes prepare teachers for all government schools ranging from primary schools to Junior Colleges in Singapore.

There are various pathways for qualified candidates to complete initial teacher education at NIE to complete their qualifications to be teachers in Singapore. NIE’s initial teacher education programmes include the Diploma in Education, Bachelor of Science (Education), Bachelor of Arts (Education) and the Postgraduate Diploma in Education (PGDE) (see Table 1). The Bachelor of Education programme is designed

<table>
<thead>
<tr>
<th>Programme</th>
<th>Level for Teaching</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma in Education</td>
<td>Primary /Secondary</td>
<td>2 years</td>
</tr>
<tr>
<td>Bachelor of Arts (Education)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor of Science (Education)</td>
<td>Primary &amp; Secondary</td>
<td>4 years</td>
</tr>
<tr>
<td>Bachelor of Education</td>
<td>Primary</td>
<td></td>
</tr>
<tr>
<td>PGDE (Primary) PGDE (Secondary) PGDE (Junior College)</td>
<td>Primary, Secondary Junior College</td>
<td>1 year (2 years for Physical Education)</td>
</tr>
<tr>
<td>Diploma in Special Education</td>
<td>Special Education/Allied Educators</td>
<td>1 year</td>
</tr>
</tbody>
</table>

### Table 1. Type and Duration of NIE’s Initial Teacher Education Programmes
to help primary school teachers to achieve their goals of completing a degree.

On average, the total intake for NIE’s initial teacher education programmes is about 2000 student teachers per academic year (AY) (e.g., 1656 for AY2013-14, 2019 for AY2012-13, 2066 for AY2011-12, and 2320 for AY2010-11).

NIE administers postgraduate programmes that lead to the award of higher degrees (i.e., Master of Arts, Master of Science, Master of Education, Master of Teaching, Ph.D. and Doctor in Education). In addition, NIE also provides the Management and Leadership in Schools (MLS) and Leaders in Education (International) (LEPI) for overseas education leaders, as well as the joint Master of Arts in Leadership and Educational Change programme between NIE and Teachers College, Columbia University. NIE also supports the Singapore Ministry of Education through evidence-based advice gleaned through education research to inform education policies and school curriculum. Working in partnership with the Ministry of Education (MOE) and schools, NIE plays an integral role in the development and improvement of the education service in Singapore.

In terms of organizational structure, NIE is an autonomous institute of the Nanyang Technological University (NTU). NTU is a comprehensive university with colleges of Engineering, Business, Science, Humanities, Arts, & Social Sciences, an Interdisciplinary Graduate School, a medical school (set up jointly with Imperial College London), and autonomous institutes such as the S. Rajaratnam School of International Studies, Earth Observatory of Singapore, Singapore Centre on Environmental Life Sciences Engineering and NIE.

NIE’s Model of Teacher Education for the 21st Century (TE21)

Globalisation and the increasing pervasiveness of digital technologies are the defining characteristics of our world at the turn of this century. As boundaries blur due to the swiftness of information transfer, knowledge becomes power. With governments gearing up to prepare their citizens for the knowledge-based economy, greater responsibility has been placed on education institutions to meet the challenges brought by this new landscape.

Apart from the ultimate objectives of education and the desire of teachers to help each child to achieve their fullest potential, a good education system is also important for economic growth. A good and efficient education system has been linked to the basis for developing and sustaining strong economic growth and progress (e.g., Economic Review Committee, 1986). A well-funded and efficient public education system in Singapore has contributed to significant improvements in a number of aspects. For example, between 1970 and 2013 literacy rates has improved from 68.9% to 96.5% (Department of Statistics Singapore, 2014a). Between the same timeframe, the percentage of university graduates within the population has increased from 1.9% to 27.3% (Department of Statistics Singapore, 2014b).

Educators must be cognizant of what 21st century learners need to learn and how 21st century learners learn. As such, 21st century learners call for 21st century teachers. This provided the impetus for the Programme Review and Enhancement 2008-2009 for NIE. Based on extensive literature review, understanding of existing and emerging trends, local profile, changing landscape in policies and initiatives, and research data, NIE explored possible and viable avenues for enhancements – the culmination of these efforts is a new Model for Teacher Education for the 21st Century (TE21) at NIE.

NIE’s Model of Teacher Education for the 21st Century (TE21) revolves around the Values, Skills and Knowledge (V3SK) model which focuses on three value paradigms (NIE, 2009, 2012):

“Learner-centredness puts the learner at the centre of teachers’ work and the teacher must be aware of learner development and diversity, believe that all youths can learn, care for [the learner], strive for scholarship in content teaching, know how people can learn best, and learn to design the best learning environment possible (Lim, 2013, pp. 2-3).

Developing a strong sense of teacher identity refers to upholding the highest standards in teaching and being a teacher...
and possessing a strong drive to learn in view of rapid changes in the education milieu and to being responsive to students’ needs (Lim, 2013, pp. 2-3).

Service to the profession and community focuses on teachers’ commitment to growing beginning teachers within their profession through active collaborations and striving to become better practitioners in order to benefit the teaching fraternity as a whole” (Lim, 2013, pp. 2-3).

The TE21 V3SK Model also stresses that it is important for good teachers to have skills such as reflective skills and thinking dispositions, pedagogical skills, people- and self-management skills, administrative and management skills, communication and facilitative skills, technological skills, innovation and entrepreneurship skills, as well as social and emotional intelligence. At the same time, teachers capable of nurturing the learning needs of 21st century learners should possess knowledge related to self, pupil, community, subject content, curriculum and pedagogy, educational foundation and policies, global and environment awareness as well as multicultural literacy (NIE, 2009, 2012). NIE’s values-driven teacher education programmes help student teachers to reinforce their beliefs in the learner, take pride in being a teacher and remain committed to the teaching profession (Tan, 2012).

The Values, Skills and Knowledge components of NIE TE21 Model are closely aligned with MOE’s desired outcomes of preparing students to be collaborative learners, confident persons, active contributors and concerned citizens (Masagos, 2011). In addition to the V3SK model, NIE’s Graduand Teacher Competency (GTC) framework articulates the types of competencies at the beginning teachers’ level. Based on the three performance dimensions (professional practice, leadership and management) and personal effectiveness stated in the MOE competencies framework for beginning teachers, NIE’s GTC and V3SK Model provide the framework for a teacher education curriculum that is relevant for Singapore’s needs.

As values are the key characteristics of a true teacher, NIE has worked hard to incorporate both formal curriculum and experiential learning such as service learning in its teacher education programmes to promote the essentials of values. All student teachers at NIE take part in two core mandatory programmes: the Group Endeavours in Service Learning (GESL) and the Meranti Project (a personal and professional development 2-day non-residential workshop).

“GESL provides hands-on opportunities for student teachers to engage with a community partner of their choice and to contribute towards furthering the cause of that community and in so doing, helps student teachers to hone values such as team-work, resilience, empathy, service to the community to name a few. Service learning has been used as a pedagogical tool at NIE since 2004 to develop teachers who will be able to lead, care, and inspire the young people and forge trusting partnerships with the community.” (Lim, 2013, p.3).

“The Meranti Project facilitates student teachers to develop better self-awareness; clarify their role in nurturing National Education; understand how to better work with diversity in the classroom; develop strategies for coping; and affirm their choice of teaching as a career.” (Lim, 2013, p.4).

As is true for most teacher education programmes around the world, the teaching practicum is one of the key components for preparing new teachers. This is when student teachers put into practice in a real life classroom the skills and knowledge they have acquired from the teacher education courses. Coherence in the links between courses and teaching practicum or clinical practice is essential for the effectiveness of any teacher education programme (Darling-Hammond, 2010).

NIE has implemented several key enhancements to its practicum structure to build a stronger theory-practice link. One key change is the introduction of Focused Conversations (FC) which allows student teachers to share with their school mentors about their learning in NIE, issues encountered during the practicum on classroom management and motivating pupils, and about their learning in school towards developing teaching competencies” (Lim, 2013, p.4). The use of a Reflective Practice framework has proven effective in facilitating the development of the reflective teacher.
Research has shown that courses such as Educational Psychology and Social Context of Teaching and Learning have a positive influence on the development of strong and positive teacher identity. Teacher identities that reflected notions of “teaching with heart” and “being reflective” have been demonstrated by NIE student teachers. The use of the e-portfolio that help student teachers integrate and reflect on their learning across various courses such as Educational Psychology and Social Context of Teaching and Learning has been found to be useful in helping student teachers strengthen their positive teacher identity (Zhou, Chye, Koh & Liu, 2013).

Changes in the curriculum may not be sufficient to support the effective enhancement of a teacher education programme. For this reason, NIE has transformed the physical infrastructure in NIE, such as the collaborative tutorial rooms, the model Primary English Language classrooms and Teachers’ Language Development Centre, to support the new pedagogical approaches designed to achieve the desired teaching and learning outcomes. The collaborative tutorial rooms are equipped with technology-driven learning tools and designed with learning spaces that allows student teachers to conduct collaborative activities.

Challenges for the National Institute of Education

Although the teaching profession in Singapore is respected and has received positive evaluations and Singapore students’ performance in recent international standardized assessments (e.g., Organisation for Economic Co-operation and Development (OECD) Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS)) (e.g., Ministry of Education Singapore, 2012, 2014a), NIE is aware that its teacher education programmes need to be constantly reviewed and revised to ensure that they remain relevant in preparing teachers to work effectively in meeting the learning needs of 21st century learners.

NIE works closely with relevant stakeholders, mainly the Ministry of Education and schools to address these issues. For example, NIE has worked with the Ministry of Education and other agencies to incorporate a systematic series of key events within the initial teacher education programmes to enhance student teachers’ sense of professional ethos. These events include dialogue sessions with key leaders, workshops, and a reflective teacher model during the teaching practicum in schools.

Challenges and Opportunities for Teacher Education and the Teaching Profession

The challenges and opportunities for teacher education and the teaching profession are likely to be common across different countries. A number of factors that may be of concern for teacher education and the teaching profession include:

1. Processes to improve recruitment of candidates
2. Curriculum within teacher education programmes to enhance professional values and ethos among student teachers and beginning teachers
3. Improving mutual understanding of teacher education among relevant stakeholders such as teacher educators, policy-makers and teachers
4. Alignment of teacher education with education system
5. Coherence within teacher education programme (course and practicum)
6. Strengthening theory-practice nexus through evidence-based teacher education programmes
7. Ensuring relevancy of professional development for in-service teachers
8. Processes to retain good teachers in education system
9. Enhancing trust and support among parents and community for education system

By working together, it is possible to find common strategies to address the challenges and problems. A platform such as the AsTEN conference is a good example of how we can work together to improve teacher education and the teaching profession.
References


Critical Thinking Skills and Brain Dominance of Post-Graduate Students

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Abstract

The objectives of this study were to investigate the post-graduate students’ critical thinking skill and examine their brain dominance. The design of this study was cross sectional in nature. Both qualitative and quantitative approaches were used in this study. The total of 326 post-graduate students from YUOE and SUOE participated in this study. Most of the participants were prospective teacher educators by profession. In addition, some of them were in-service teacher trainees and some were pre-service teacher trainees. Critical Thinking Skill Test (CTST) and Brain Dominance Test (BDT) were used as the research instruments. Alpha reliability for CTST, and BDT revealed at 0.64 and 0.86, respectively. Regarding the critical thinking, 25.8% were found to be advanced skilled thinkers, 46.9% were skilled thinkers, and the rest 27.3% can be classified as unskilled thinkers. Moreover, differences in level of education were found on overall test as well as interpretation sub-scale. Concerning the brain dominance, 27.9% of post-graduate students were whole brain thinkers, whereas 65.6 % were left-brain thinkers, and the rest 6.4% were right-brain thinkers.

Keywords:
Critical thinking skill, Brain dominance, Whole brain thinking

Author’s Notes
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Introduction

In this new millennium, teachers could no longer foresee exactly what kinds of knowledge and skills will assist their learners’ lifespan. There are diverse kinds of challenges that teacher educators today would have to handle. Teachers should react to these challenges by encouraging students’ thinking skills rather than rote memorization of facts. According to Tsui (2002), higher-order cognitive skills, such as the ability to think critically and creatively, are invaluable to students’ future; individuals should be prepared to tackle a multitude of challenges that they were likely to face in their personal lives, careers, and duties as responsible citizens. Moreover, by instilling critical thinking in students, they will become independent lifelong learners. According to Porritt (2005), education is not a matter of transmission of knowledge or concepts or ideas. To be exact, education seeks to increase the intellectual capital of this world. Therefore, brilliance thinking must be systematically cultured.
Significance of the Study

John Dewey (1933) stated that learning to think is the central purpose of education. There is an urgent question which needs to answer: Are school administrators and teachers being prepared to think critically and to guide students how to think? Concerning this, in 1997, Kishore Mahbuani, a senior official in Singapore, posed a challenging question at a conference; Can Asians think? It was a remarkable moment of self-doubt. Asians have always been proud of how well they educate their children. Although, Asians score highest in science and mathematics in worldwide comparisons, Asian students were too busy memorizing deadening answers to learn to think. But from Tokyo to Taipei and Singapore, governments were, now, realizing that their children were so overstressed and over tested that they were ill equipped for the information age, where thinking and creativity hold a premium (Elliott et al, 1999).

In addition, Michael Scriven (1987) stated that training in critical thinking should be the primary tasks of education. Educators are not alone in recognizing the importance of critical thinking. The demands of employment in a global economy, and personal decision making in a complex and rapidly changing society require people who can reason well and make good judgments (as cited in Scriven and Paul, 1987). So, it is the clearly time for the educators in Myanmar to be aware of the need to inculcate the habit of critical thinking in every academic discipline and at every level of education.

Although several critical thinking studies have been conducted in previous years throughout the world, research related to critical thinking and brain dominance was relatively rare, especially in the field of teacher education and teacher training. The fields of neuroscience and cognitive science are helping to satisfy the fundamental curiosity about how people think and learn (Bransford et al, 2000). On the thinking front, the brain’s interconnected cells allow people to speak, describe, argue, create, articulate, organize, decide, and dream (LoCicero et al, 2005). The whole concept of right and left-brain thinking was borne out of research conducted by American Nobel Prize Winner Roger Wolcott Sperry (LoCicero et al, 2005).

According to Roger W Sperry (1960), the human brain has two very different ways of thinking. Anatomically speaking, the brain is split into two halves or -- more technically – hemispheres. These halves are commonly called the right brain and left brain, but should more correctly be termed hemispheres. Each hemisphere seems it should be completely identical to each other, but they’re not really. The left side of brain actually controls the action of right side of the body and vice versa (as cited in Bransford et al, 2000).

According to Hopkins (1984), education system is mainly the region of the left hemisphere of the brain and that the functions of the right hemisphere are little understood and perhaps neglected in education system. A balanced brain makes a balanced person - combining sequential thinking with a holistic approach, or linear thinking with intuition, enables him/her to fully comprehend issues and solve problems. Whole-brained people have the best of both hemispheres. Truly critical thinkers will find ways to incorporate the talents of both brain hemispheres to maximize their personal effectiveness (Wagner, 2009). Thinking is a process of formulating knowledge and understanding which involves mental activities in the human brain (Mok Soon Sang, 2003).
Operational definition of critical thinking is described here as the ability to explain, evaluate, analyze, and interpret via logico-inferential modes of reasoning.

From the time of Socrates to contemporary concerns about the need for an educated citizenry and quality work-force, the ability to think critically and to reason well has been regarded as an important and necessary outcome of education. In this regard, during the last decades, a blossoming body of research concerning critical thinking at every level of education in every academic discipline has been accumulated.

Facione (1997) conducted a longitudinal aggregate study of undergraduate nursing programs wherein students demonstrated gains on the CCTST with each year of college. Changes were examined between freshmen and sophomores, then freshmen and juniors, then freshmen and seniors; the largest gains occurred between the freshmen and sophomore years.

**Purpose of the Study**

The objectives of this study are to investigate the post-graduate students’ critical thinking skills and examine their brain dominance.

**Methodology**

Design of this study is cross sectional in nature. Both qualitative and quantitative approaches were used in this study. In addition, for purposes of empirical exploration, the ten research questions motivating this study should be expressed as follows.

**Research Questions**

1. Is there any difference in Brain Dominance of post-graduate students from two Universities of Education?
2. Is there any difference in CTS of post-graduate students from two Universities of Education?
3. Is there any difference in CTS among post-graduate students by grade level?
4. Is there any difference in CTS among post-graduate students by discipline?
5. Is there any difference in CTS among post-graduate students by gender?

**Sample of the Study**

Two Universities of Education such as Yangon University of Education (YIOE) and Sagaing University of Education (SIOE) were purposefully selected for this study. All students who enrolled in post-graduate classes during 2010-2011 AY at the selected Universities were included in the sample. The total of 326 post-graduate students participated in this study. Among the sample, 87 (26.7%) were drawn from Educational Administration and Supervision, 42 (12.9%) from Pedagogic Methodology, 42 (12.9%) from Educational Guidance and Counselling, 29 (8.9%) from Educational Test and Measurement, 22 (6.75%) from MA (TEFL), 14 (4.29%) from Dip. in ELTM, and 90 (27.6%) from PGDMA program.
Data Collection Procedures

With the permission of administrative personnel of two Universities of Education, two questionnaires were administered to the participants during 2010-2011 AY at two Universities of Education. Then, descriptive statistics and inferential statistics were applied to the data set by using SPSS software. Specifically, t-test, ANOVA, Post-Hoc Analysis and cross tabulation analysis were used in order to interpret and report the results.

Critical Thinking Skill Test and Brain Dominance Test (BDT) were used as the research instruments. The instrument to measure critical thinking skills of post-graduate students in this study was developed by researcher. This process was undertaken by the guidance of existing standardized critical thinking skills tests such as California Critical Thinking Skills Test (sample) (CCTST), Thinking Skill Assessment (TSA) (University of Cambridge Local Examinations Syndicate, 2007), Critical Thinking Instrumentation Manual developed by University of Florida, (Irani et. al, 2007) and Critical Thinking Test in Sociology Item Development Manual of Michigan State University, Keesler (2006). After studying the above mentioned critical thinking skills tests, researcher developed Critical Thinking Skills Test. Critical Thinking Skills Test consists of 21 items and five sub-scales such as evaluation, explanation, analysis, inference and interpretation. Critical thinking skill of post-graduate students was identified as three types such as unskilled thinker, skilled thinker, and advanced skilled thinker. Candidates who earned the scores less than 50th percentiles are identified as unskilled thinkers, the ones whose scores lie between 50th percentiles and 75th percentiles are classified as skilled thinkers, and those whose scores are greater than 75th percentiles are referred to as advanced skilled thinkers.

In addition, to assess the brain dominance of post-graduate students, Brain Dominance Test (BDT) was adapted from Hough Brain Dominance Test developed by David Hough, Missouri State University. The BDT is composed of 50 items. Brain Dominance Test is a 5 points Likert scale, with 1= never, 2=sometimes, 3=often, 4= usually, to 5=always. The BDT is composed of 50 items among them, 25 items stand for left-brain dominance and other 25 items stand for right-brain preference. In order to get the total score for left brain as well as right brain dominance, add the score for each 25 items of BDT. The lowest total score for either hemisphere is 25 and highest possible total score is 125. After that, subtract smaller total score from greater total score of particular hemisphere either left or right to find the degree to which an individual tends to favor whether the left brain over the right brain or the right brain over the left brain. The greatest difference is 100 which indicate a strong preference on one side of brain, while the smallest degree of difference is 0 which indicates no preference or integrated mind (Hough, 1987). A person has an integrated mind can be referred to as a whole brain thinker. Such kind of person uses both sides of brain fairly. Brain Dominance Test was administered during 2010-2011 AY at two Institutes of Education. Alpha reliability for CTST, and BDT revealed at 0.64 and 0.86, respectively.

Results and Discussions

After developing the instruments, differences in critical thinking skills, and differences in brain dominance of post-graduate students were examined at two Universities of Education. In addition, differences across disciplines, difference between Universities, gender related difference, differences between grade level, and differences between types of trainee were further investigated. And then, inter-correlation among critical thinking skills, and brain dominance were also explored.

Brain Dominance of Post-graduate Students

Concerning brain dominance, 27.9% of post-graduate students were found to be whole brain thinkers, 65.6% were left-brain thinkers, and the rest 6.4% were right-brain thinkers.

Looking across the disciplines, 58.62% of students from Educational Administration and Supervision cluster can be said to be left-brain thinkers, 5.74% were right-brain thinkers, and the rest 35.6% were whole brain thinkers. Similarly, percentage of students who prefer left-brain mode of thinking from each disciplinary cluster was larger than that of whole-brain mode and right-brain mode. Again, the participant students in both Universities were provided with more learning opportunities that enable them to develop left side of the brain.
Concerning gender, nearly 65% of students were found to be left brain thinkers. It can reasonably be said that both male and female were provided same learning opportunities that enable them to enrich more left hemisphere style thinking. The results evidently showed that the participant students in this study were provided with less learning opportunities that enable them to develop right side of the brain.

Critical Thinking Skills of Post-graduate Students

Looking across the discipline, Table 1 shows the differences of students’ response on five sub-scales and overall scale of Critical Thinking Skills Test (CTST). Despite a slight variation of mean score exists, no significant difference was found among post-graduate students’ overall score as well as sub-scale score on critical thinking skill test by different discipline ($F=0.731, p=0.601$). Significant difference was found only on the interpretation sub-scale of CTST ($F=5.6, p=0.000^*$).

In addition, to examine the highly significant differences across disciplines, Post-hoc Test was executed by Tukey HSD method and it became apparent that the mean score of Multimedia Art cluster was significantly lower than that of other clusters in interpretation sub-scale. It can reasonably be said that participant students from Multimedia Art cluster have limited ability to make explicit, through the contextual meanings of words, ideas, and events, to make a reasonable judgments (See Table 2). Concerning the across disciplinary effects on critical thinking, McDonough (1997) found that there was no disciplinary effects on critical thinking test scores.

**Table 1. Mean Comparison of Post-graduate Students’ Critical Thinking Skill across Discipline**

<table>
<thead>
<tr>
<th>Attributes /Discipline</th>
<th>AS</th>
<th>ETM</th>
<th>GC</th>
<th>PM</th>
<th>ELT</th>
<th>DMA</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Whole Test (21items)</td>
<td>18.31</td>
<td>18.34</td>
<td>18.82</td>
<td>18.3</td>
<td>18.1</td>
<td>17.44</td>
<td>.731</td>
<td>.601</td>
</tr>
<tr>
<td>Evaluation Sub-scale (3items)</td>
<td>4.8</td>
<td>4.8</td>
<td>4.7</td>
<td>4.5</td>
<td>4.5</td>
<td>5.1</td>
<td>1.85</td>
<td>.102</td>
</tr>
<tr>
<td>Explanation Sub-scale (4items)</td>
<td>5.3</td>
<td>5.4</td>
<td>5.6</td>
<td>5.5</td>
<td>4.9</td>
<td>5</td>
<td>0.83</td>
<td>.529</td>
</tr>
<tr>
<td>Analysis Sub-scale (3items)</td>
<td>1.25</td>
<td>1.35</td>
<td>1.44</td>
<td>1.56</td>
<td>1.55</td>
<td>1.23</td>
<td>0.81</td>
<td>0.51</td>
</tr>
<tr>
<td>Inference Sub-scale (6items)</td>
<td>5.2</td>
<td>5.1</td>
<td>5.3</td>
<td>5.2</td>
<td>5.7</td>
<td>5</td>
<td>1.72</td>
<td>0.12</td>
</tr>
<tr>
<td>Interpretation sub-Scale (5items)</td>
<td>2.8</td>
<td>2.9</td>
<td>3</td>
<td>3</td>
<td>2.8</td>
<td>2.3</td>
<td><strong>5.6</strong></td>
<td><strong>0.000</strong></td>
</tr>
</tbody>
</table>

** The mean difference is significant at the $P < 0.001$

AS=Educational Administration & Supervision, ETM= Educational Test& Measurement, GC= Educational Guidance & Counselling, PM=Pedagogic Methodology, ELT= English Language Teaching, DMA= Multimedia Art
Table 2. Post-Hoc Analysis of Post-graduate Students’ Critical Thinking Skill across Discipline by Tukey HSD Method

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>(I) Discipline</th>
<th>(J) Discipline</th>
<th>Mean Difference (I-J)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation</td>
<td>DMA</td>
<td>AS</td>
<td>-0.57*</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>ETM</td>
<td>-0.61*</td>
<td>.034</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GC</td>
<td>-0.73*</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PM</td>
<td>-0.68*</td>
<td>.002</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ELT</td>
<td>-0.52</td>
<td>.062</td>
<td></td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level

Table 3. Mean Comparison of Post-graduate Students’ Critical Thinking Skill by Gender

<table>
<thead>
<tr>
<th>Sub-scale</th>
<th>Male</th>
<th>Female</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Whole Test (21 items)</td>
<td>18.76(4.03)</td>
<td>18.00(4.34)</td>
<td>1.15</td>
<td>0.25</td>
</tr>
<tr>
<td>Evaluation Sub-scale (3 items)</td>
<td>4.8(1.5)</td>
<td>4.8(1.2)</td>
<td>0.32</td>
<td>0.74</td>
</tr>
<tr>
<td>Explanation Sub-scale (4 items)</td>
<td>5.6(2.6)</td>
<td>5.2(2.3)</td>
<td>1.11</td>
<td>0.26</td>
</tr>
<tr>
<td>Analysis Sub-scale (3 items)</td>
<td>1.5(0.6)</td>
<td>1.6(0.6)</td>
<td>-0.27</td>
<td>0.78</td>
</tr>
<tr>
<td>Inference sub-scale (6 items)</td>
<td>5.3(1.3)</td>
<td>5.2(1.3)</td>
<td>0.28</td>
<td>0.78</td>
</tr>
<tr>
<td>Interpretation sub-Scale (5 items)</td>
<td>2.9(0.9)</td>
<td>2.7(1.0)</td>
<td>1.5</td>
<td>0.12</td>
</tr>
</tbody>
</table>

Parenthesis show the standard deviation (SD).

Looking across the overall scale and five sub-scales, gender related difference was not found in post-graduate students’ critical thinking skills. It can reasonably be said that male and female participants were provided the same learning opportunities that enable to enhance their critical thinking cognitive skill.

Concerning the type of thinker, 17 out of 50 (34%) of male students and 67 out of 276 (25%) of female students can be said to be the advanced skilled thinkers whereas 23 out of 50 (46%) of male and 130 out of 276 (47%) were referred to as skilled thinkers. On the other hand, 20% of male and 28% of female were unskilled thinkers. This may be due to the fact that both male and female students in this study were provided with some degree of learning experiences and opportunities that enable them to develop the critical thinking skills.

Concerning the level of education, significant difference was found on the overall scale of CTST as well as interpretation sub-scale. Regarding the doctoral level candidates, inference skill, interpretation skill and the evaluation skills were high among five critical thinking cognitive skills. Again, doctoral level students’ mean score of interpretation skill was significantly higher than that of both master level students and diploma level students whereas the doctoral level students’ mean score on overall scale was significantly higher than that of diploma level students’. Similar result was found between students from master and diploma program. This may be due to the fact that doctoral level students were provided more learning opportunities and experiences in thinking concern with formulating the research hypothesis, planning and conducting various research, analyzing and interpretation of data, and making inferences than master level and diploma level students.

Parenthesis show the standard deviation (SD).
Figure 1. Mean Comparisons of Critical Thinking Cognitive Skill by Level of Education

Table 4. ANOVA Results of Post-graduate Students’ Critical Thinking Skill by Level of Education

<table>
<thead>
<tr>
<th>Attributes</th>
<th>PhD</th>
<th>Master</th>
<th>Diploma</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Whole Test (21 items)</td>
<td>20.28</td>
<td>18.32</td>
<td>17.41</td>
<td>3.46*</td>
<td>0.03</td>
</tr>
<tr>
<td>Evaluation Sub-scale (3 items)</td>
<td>4.57</td>
<td>4.72</td>
<td>5.06</td>
<td>2.78</td>
<td>0.06</td>
</tr>
<tr>
<td>Explanation Sub-scale (4 items)</td>
<td>6.35</td>
<td>5.37</td>
<td>4.95</td>
<td>2.73</td>
<td>0.06</td>
</tr>
<tr>
<td>Analysis Sub-scale (3 items)</td>
<td>1.65</td>
<td>1.64</td>
<td>1.55</td>
<td>1.51</td>
<td>0.22</td>
</tr>
<tr>
<td>Inference sub-scale (6 items)</td>
<td>5.78</td>
<td>5.31</td>
<td>5.04</td>
<td>2.42</td>
<td>0.09</td>
</tr>
<tr>
<td>Interpretation sub-Scale (5 items)</td>
<td>3.57</td>
<td>2.91</td>
<td>2.34</td>
<td>17.57**</td>
<td>0.000</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.
** The mean difference is significant at the 0.001 level.

Regarding the master level students and diploma level students, the mean score of master level students was significantly higher than that of diploma level students. It can reasonably be said that master level students were offered more learning activities and experiences in conducting research, analyzing and interpretation of data, making inferences and presenting the result in logical order than diploma level students.

Looking across the level of education, 42.8% of doctoral level students, 46.6% of master level students, and 48% of diploma level students can be identified as advanced skilled thinkers. In addition, proportion of skilled thinker across doctoral, master and diploma level were 42.8%, 46.6% and 48%, respectively. The percentage of advanced skilled thinkers from doctoral level students was greater than that of master level and diploma level. Therefore, it is evident that critical thinking skills of sample students in this study become more skilful, and advanced as their education level gets higher.

Looking across the institution level, the mean scores of participant students from YUOE were greater than those of SUOE on all five sub-scales as well as overall scale of Critical Thinking Skill Test. In addition, significant differences were found on overall test and three sub-scales such as explanation, inference, and
Concerning the evaluation skill, mean difference between two Universities was marginal, p=0.05. In addition, significant difference was not found to be only on the analysis skill.

It can reasonably be said that students from YUOE were provided more teaching learning activities which call for the development of critical thinkers than students from SIOE. Furthermore, post-graduate students from YUOE were offered more experiences in participating academic debate, group discussion, conducting small-scale research, projects and assignments concerned with academic writing focus on critical reasoning than that of post-graduate students from SUOE.

**Brain Dominance and Critical Thinking: Skill of Post-graduate Students**

Concerning the brain dominance and post-graduate students’ critical thinking skill, the mean score of whole-brain thinkers was higher than that of left-brain thinkers and right-brain thinkers. In other word, the mean score of right-brain thinkers was lower than that of whole-brain thinkers and left-brain thinkers. Although a slight variation of mean score exists, no significant difference was found among the left brain thinkers, right brain thinkers and whole brain thinkers. Whether a person is a left-brain thinker or a right-brain thinker, there is no better or winning side to be. These are two halves that make a much better whole (LoCicero et al, 2005).

### Conclusions and Recommendations

Myanmar, like other countries whether developed or developing, needs citizens who can evaluate and reason well, from different perspectives, regarding global issues, cultural diversity, social conflicts, political issues, and international affair.

The results revealed that critical thinking skill of doctoral level candidates was significantly higher than that of diploma level and master level students. Again, master level students’ mean score on interpretation sub-scale was significantly greater than that of diploma

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* The mean difference is significant at the 0.05 level.
** The mean difference is significant at the 0.001 level.

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**Table 5. Post-Hoc Analysis of Critical Thinking Skill among Level of Education by Tukey HSD Method**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>(I) Level</th>
<th>(J) Level</th>
<th>Mean Difference (I-J)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTST Total</td>
<td>PhD</td>
<td>Diploma</td>
<td>2.87*</td>
<td>0.049</td>
</tr>
<tr>
<td>Interpretation Sub-scale</td>
<td>PhD</td>
<td>Diploma</td>
<td>1.22**</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>Diploma</td>
<td>0.65*</td>
<td>0.034</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>Diploma</td>
<td>0.56*</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Table 6. Mean Comparison of Post-graduate Students’ Critical Thinking Skill between two Universities**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>SUOE</th>
<th>YUOE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Whole Test (21 items)</td>
<td>16.8</td>
<td>19.4</td>
<td>4.74**</td>
<td>0.000</td>
</tr>
<tr>
<td>Evaluation Sub-scale (3 items)</td>
<td>4.6</td>
<td>4.9</td>
<td>1.90</td>
<td>0.05</td>
</tr>
<tr>
<td>Explanation Sub-scale (4 items)</td>
<td>4.8</td>
<td>5.6</td>
<td>2.83*</td>
<td>0.005</td>
</tr>
<tr>
<td>Analysis Sub-scale (3 items)</td>
<td>1.5</td>
<td>1.6</td>
<td>0.16</td>
<td>0.87</td>
</tr>
<tr>
<td>Inference sub-scale (6 items)</td>
<td>4.8</td>
<td>5.6</td>
<td>3.20**</td>
<td>0.000</td>
</tr>
<tr>
<td>Interpretation sub-Scale (5 items)</td>
<td>2.5</td>
<td>2.9</td>
<td>3.85**</td>
<td>0.000</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.
** The mean difference is significant at the 0.001 level.
students. Similarly, Onwuegbuzie, (2001) conducted a study which compared the critical thinking skills of Masters-level and doctoral-level students. Findings revealed that the doctoral-level students obtained statistically significantly higher overall critical thinking skills than did the Master’s-level students. Results evidently show that the link between thinking and education is obvious.

Concerning the training effect, mean score of in-service teacher trainees on interpretation skill was greater than that of pre-service teacher trainee. Appropriate teaching strategies and learning environments facilitate their growth as student persistence, self-monitoring, and open-minded, flexible attitudes (King et al, n.d.).

To say exactly, one cannot learn well without thinking well. Here, no one can deny the fact that teachers play a crucial role in bringing about national development as they are responsible for producing well-qualified human resources necessary for national development. The task of teacher educators in the 21st century is not as straight forward as in the 20th century. In this new millennium, the world is changing rapidly in science and technology and the changes has the greatest influence on business, economic, educational, environmental, cultural and social trends of the future. Therefore, it is clearly the time for teacher educators to be aware that children should be provided with the learning opportunities that enable them to become thinking generation who can reasonably, wisely, confidently, and open-mindedly, face the challenges of 21st century.

Concerning the brain dominance, 65% of participants were found to be left-brain thinkers while minorities of participant students were found to be right-brain thinkers. Results evidently showed that both YUOE and SUOE geared more on left-brain modes of thinking. Concerning the brain-based learning; the brain has two quite distinct ways of processing information attributable to its two hemispheres. The complexity of the brain and the ways in which it processes information are much greater than the simplicity implied by the two hemispheres. However, an understanding of the processing modes of the two hemispheres serves as a useful starting point in understanding the nature of mental processing in learning (Atkin, 1999).

Brain-based learning has resulted from educators and researchers applying the findings of brain research to guide teaching practice. Brain-based teaching involves the implementation of carefully-designed principles with due consideration of their impact before, during, and after each lesson (Townsed, 2005).

Educators and teachers from worldwide must recognize that right hemisphere processing is as paramount importance as left hemisphere processing for learning. In practice, since meaningful learning for students is indispensable in this competitive world abundant with material and information, educators today should exert their effort to implement education system that mainly focus on developing the right hemisphere of the learners to enable them to make right decisions out of various alternatives and overcome the challenges of this complex world.

### Table 7. Post-graduate Students’ Critical Thinking Skills by Brain Dominance

<table>
<thead>
<tr>
<th>Brain Dominance</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Brain Thinkers</td>
<td>21</td>
<td>17.85</td>
<td>5.3</td>
<td>0.241</td>
<td>0.78</td>
</tr>
<tr>
<td>Whole Brain Thinkers</td>
<td>91</td>
<td>18.37</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Brain Thinkers</td>
<td>214</td>
<td>18.03</td>
<td>4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>326</td>
<td>18.11</td>
<td>4.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
References


Extent of Technology Integration in Mathematics Teacher Education Among State Institutions in Central Luzon

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Abstract

This paper reports the findings of a study which explored how ten state teacher education institutions in Central Luzon, Philippines implemented technology integration in mathematics classes in the Bachelor of Secondary Education – Mathematics (BSEd-Math) Curriculum for pre-service mathematics teachers. Descriptive survey data from teacher education supervisors, mathematics teacher educators (MTEs), and students were collected through questionnaires, interviews, classroom observations and related documentary sources. The MTEs reported high levels of technological pedagogical content knowledge (TPACK) as well as common reasons for integrating technology in their BSEd-Math classes. They typically indicated frequent use of scientific and graphing calculators, spreadsheets and graphics software, and the Internet but seldom use of computer algebra systems in their classes. The t-test indicated contrasting results for supervisors’ and students’ perceived mean ratings for MTEs’ extent of technology integration. Nevertheless, the corresponding ratings validated the MTEs’ extent of technology integration, which correlated positively and significantly with their level of technological pedagogical content knowledge (TPACK).

Keywords:
Technology integration, Mathematics, Teacher education, TPACK

Authors’ Notes

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Introduction

We are living in a world of fast-changing environments, technologies, and social conditions. More than ever, schools and teachers have a critical role in preparing the future citizens of a global society in our rapidly-changing world. In the Philippines, the recent implementation of the K to 12 Basic Education Program as well as the fast-approaching regional integration under the ASEAN Economic Community (AEC) demands a great deal of curriculum innovations. High school mathematics teachers in particular need to adapt to the changes in the mathematics curriculum, including integration of technology. Teacher education institutions in the country, therefore, have to make their curricular program offerings responsive to these developments in basic education (TPTE, n.d.). In the process, they are also complying with the Memorandum Order issued by the Commission on Higher Education (CHED) under the Office of the President of the Republic of the Philippines on the Revised Policies and Standards for Undergraduate Teacher Education Curriculum (CMO 30, s. 2004).

This study explored how the ten state teacher education institutions in Central Luzon (Region III, Philippines) implemented technology integration in the Bachelor of Secondary Education – Mathematics (BSEd-Math) Curriculum for pre-service mathematics teachers. Integrating technology in mathematics classes is one of the innovations specified in the course description of each suggested mathematics subject in the CHED model curriculum. Technology integration in the context of mathematics education refers to the application of calculators, computer hardware and software, the Internet, and related information and communication technologies in teaching and learning mathematics.

The study aimed to determine the extent of technology integration in mathematics classes handled by the mathematics teacher educators (MTEs) in the BSEd-Math Curriculum offered by the state universities and colleges in Central Luzon. Specifically, it sought answers to the following questions:

1. What is the level of TPACK of the MTEs handling mathematics classes in the BSEd-Math curriculum?
2. For what reasons do the MTEs use technology in their mathematics classes?
3. What technologies do the MTEs use in their mathematics classes?
4. How frequently do the MTEs integrate technology in their mathematics classes?
5. Do the MTEs, supervisors and students differ in their perceived extent of technology integration by MTEs in BSEd-Math classes?
6. Is there a relation between MTEs’ level of TPACK and use of technology integration in BSEd-Math classes?

Methodology

A combination of qualitative and quantitative approaches was used in this mixed-methods research study. Descriptive survey data were collected from 37 MTEs handling mathematics subjects in BSEd-Math. Data also came from the interview questionnaire for 32 students selected purposively from year levels with mathematics specialization subjects, and from classroom observations by 6 administrators who observed BSEd-Math classes of 21 mathematics educators, and related documentary sources. The content-validated research instruments, tried out in two satellite campuses of a multi-campus state university in Region III, consisted of survey questionnaires with 5-point rating scale items and open-ended questions, interview questionnaires, and a classroom observation checklist.

Permission from the heads of agencies, colleges and departments as well as consent of respondents was obtained before the actual data gathering -- survey, interview, classroom observation, and relevant documents. Rating scales, modified and adapted from existing instruments with established reliability, were also subjected to reliability analysis. Data from respective groups of respondents and from various sources were triangulated to establish the credibility of responses and authenticity of the information.

Qualitative data were coded using appropriate rubrics for quantitative treatment. Descriptive statistics were used to summarize and analyze the quantitative and coded data. The t-test was used to test for significant differences between pairs of group mean ratings. Qualitative data from various sources
were subjected to critical content analysis to explore the extent of technology integration from the three groups of stakeholders. Pearson correlation coefficient was computed to assess relationship between MTEs’ level of TPACK and use of technology integration. The SPSS software was used to facilitate tabulation, analysis and interpretation of quantitative data.

### Results and Discussions

Considered essential in technology integration in the classroom is the teacher’s level of TPACK, a framework for understanding the kinds of knowledge (content, pedagogy, and technology) needed by a teacher for effective pedagogical practice in a technology enhanced learning environment. Table 1 shows a summary of the MTEs’ responses to the 10 5-point self-rating scale items adapted from the TPACK Survey (Schmidt et al., 2009).

On a scale of 1 to 5, with 5 as the highest, the computed average ratings in the individual and combined items of the TPACK questionnaire are between 3.5 and 3.8 which indicate that the MTEs consider the descriptions of the TPACK items to be typically true of them. Hence, the MTEs consider themselves to be highly knowledgeable about content, pedagogy and technology considerations in integrating technology in teaching mathematics. The computed Cronbach alpha coefficient ($\alpha = 0.9645$) indicates very high reliability of responses to the TPACK items.

---

**Table 1. Means and Standard Deviations of Mathematics Teacher Educators’ Self-Ratings for Technological Pedagogical Content Knowledge**

<table>
<thead>
<tr>
<th>TPACK Indicator</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I choose technologies that enhance my teaching approaches.</td>
<td>3.78</td>
<td>0.85</td>
</tr>
<tr>
<td>I choose technologies that enhance my students’ learning.</td>
<td>3.70</td>
<td>0.85</td>
</tr>
<tr>
<td>I think critically about how to use technology in my classroom.</td>
<td>3.76</td>
<td>0.83</td>
</tr>
<tr>
<td>I adapt the use of technologies to different teaching activities.</td>
<td>3.70</td>
<td>1.02</td>
</tr>
<tr>
<td>I use technology for understanding and doing math.</td>
<td>3.73</td>
<td>0.84</td>
</tr>
<tr>
<td>I am able to teach lessons that combine math, technologies and teaching approaches.</td>
<td>3.70</td>
<td>0.85</td>
</tr>
<tr>
<td>I am able to select technologies to enhance what I teach, how I teach and what students learn.</td>
<td>3.65</td>
<td>0.92</td>
</tr>
<tr>
<td>I use strategies that combine content, technologies and teaching approaches.</td>
<td>3.70</td>
<td>0.97</td>
</tr>
<tr>
<td>I am able to help others about effective integration of technology in teaching math.</td>
<td>3.65</td>
<td>0.92</td>
</tr>
<tr>
<td>I easily cope with changing technologies in teaching math.</td>
<td>3.54</td>
<td>0.96</td>
</tr>
<tr>
<td>Overall Rating for Technological Pedagogical Content Knowledge in Mathematics</td>
<td>3.69</td>
<td>0.79</td>
</tr>
</tbody>
</table>

**Table 2. Mathematics Teacher Educators’ Frequency of Use of Technology Integration**

<table>
<thead>
<tr>
<th>Technology in Mathematics</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific and Graphing Calculators</td>
<td>2.69*</td>
<td>1.32</td>
</tr>
<tr>
<td>Computer Algebra Systems</td>
<td>1.91**</td>
<td>1.40</td>
</tr>
<tr>
<td>Spreadsheets and Graphics</td>
<td>2.71*</td>
<td>1.43</td>
</tr>
<tr>
<td>Internet &amp; Web Technologies</td>
<td>2.86*</td>
<td>1.44</td>
</tr>
<tr>
<td>Overall</td>
<td>2.54*</td>
<td>1.11</td>
</tr>
</tbody>
</table>

*Note: * sometimes or often  ** seldom
As asked about their purpose for integrating technology in their BSEd-Math classes, a number of mathematics teacher educators indicated various reasons. A total of 31 (84%) indicated numerical computation, 26 (70%) graphical presentation, 25 (68%) interactive learning, 23 (62%) tabular presentation, and 22 (60%) symbolic manipulation.

Specifically, they indicated that they have used the following technologies in their mathematics classes at any part of a given term: graphing calculators (71%), computer algebra systems (37%), spreadsheets and graphics software (66%), and the Internet (66%). However, there were also those who had not integrated technology in any of their mathematics classes, especially computer algebra systems (63%).

The teachers were also asked to indicate how frequently they integrated technology in their mathematics classes in the BSEd-Math curriculum. Responses were coded (1 for “Never” to 5 for “Always”) and descriptive statistics such as mean and standard deviation were computed from the coded responses. Table 2 shows the computed means and standard deviations for mathematics educators’ frequency of use of technology integration. With computed means between 2.5 and 3.0, the teachers typically indicated that they sometimes or often use technology in their mathematics classes such as scientific and graphing calculators, spreadsheets and graphics, and the Internet. Exception, however, are computer algebra systems which teachers indicated they seldom use in their classes.

The teachers were also asked to indicate what best characterizes their participation and of their students in the use of technology in their BSEd-Math classes. A total of 25 (68%) allow students to use technology during their mathematics classes while 23 (62%) indicated that, together, the students and the teachers make use of technology during their mathematics classes. However, 15 (41%) demonstrate use of technology in class but let students practice outside the class while 12 (32%) encourage their students to use technology but not during their class. Only two (5%) indicated that they and their students do not use technology in their mathematics classes.

**Students’ Perception about Technology Integration in Their Mathematics Classes**

Responses of the students generally indicated that mathematics teacher educators frequently use scientific calculators in their mathematics classes. However, corresponding average ratings by students indicate that mathematics teachers very seldom use graphing calculators (\(M = 1.47, SD = 0.98\)) and computer algebra systems (\(M = 1.28, SD = 0.58\)). They, however, indicated that teachers seldom use spreadsheets and graphics software (\(M = 2.31, SD = 1.26\)) and the Internet (\(M = 2.44, SD = 1.44\)), in their mathematics classes. Overall, the students indicated that mathematics teacher educators seldom use technology integration (\(M = 2.08, SD = 0.84\)) in their mathematics classes.

The t-test for independent-group means indicated no significant difference between the mean ratings of students and their mathematics teacher educators on the use of technology integration in their mathematics classes (\(t = 1.91, df = 67, p = 0.061\)). Nevertheless, students’ responses validated that their teachers do not always use technology integration in the classroom. When students were asked to describe how much they have learned from mathematics instructors/professors who integrated technology in their mathematics classes, they came up with a variety of answers. A total of 23 (72%) indicated that they had learned much while three (9%) have not learned much. Six (19%) have not learned at all because their teacher did not integrate technology in their mathematics classes.

The following responses by students indicate that they have learned much from their mathematics teachers who integrated technology in their mathematics classes from motivation to various phases of the teaching-learning process. According to one student, integration of technology in their mathematics class helps them to be motivated because “mode of instruction is more simplified and clear. It arouses our interest to learn more.”

Some students said they learned a lot from the use of scientific calculator, spreadsheets and other mathematical software to websites and other ICT-based resources and applications in the Internet. As one student said, “I’ve learned quite well. The use of scientific calculator simplifies the work so we learn easier.” Another student related, “When we are using technology we see the application of what we have
learned.” One student shared: “I learned techniques, concepts and other methods in solving mathematical problems with the integration of technology and I found out that it is easier when technology is integrated.” One student found “gold” in exploring: “I learned a lot about math software and websites because they make me and other students explore our topic.”

Some students were fascinated with the use of technology in actual teaching. According to one student, “I’ve learned a lot most especially in using ICT-based presentation in teaching.” Another student said, “It can help me as a future teacher. That’s why I have learned a lot.” And another concluded: “Through integration of technology learning math became more interesting and lively.” One student simply said, “So far, with a math instructor who integrated technology in my math class, I’m learning the lessons very well.”

For other students, use of some technologies in their mathematics classes limits their capacity to learn that they prefer traditional teaching with occasional use of technology. One student asserted: “Actually I prefer the discussion without integrating technology. . . somehow using [slide] presentation, for example, makes the students passive.” But for another student, “Sometimes it depends upon the topic that they are discussing. Although they don’t use technology more often except the calculator, we still learn from them.” One student even said, “It is better to use the traditional method especially in step-by-step solution, the chalkboard is more effective for us than PowerPoint presentation.”

Others, however, lack the opportunity for technology integration in their mathematics classes. Two students shared that their instructors are not using technology integration during math classes. Another asserted: “Our teachers only use the traditional way of teaching.” One reasoned that “Instructors did not integrate technology during math classes because of lack of facilities and support from the administration.” But one student claimed: “Honestly we lack integrated technologies but the ability and knowledge of our instructors is enough for us to learn and to understand every lesson.” Another also remarked, “Even though the instructors did not integrate technology in math classes, I learned more from them compared to our high school teachers.”

Problems met by students related to technology integration in mathematics subjects in the BSEd-Math curriculum include inadequate resources such as graphing calculators and limited access to Internet and web technologies. For effective teaching and learning of mathematics subjects in the BSEd-Math curriculum, students gave the following suggestions:

- “Technologies must be used in actual teaching. These may help the teachers to do their work more easily and the students to learn easily and quickly.”
- “Math instructors must often integrate technology in their discussions. It will be more effective than traditional methods of teaching math.”
- “Teachers should use technology in delivering the lessons so that students can adapt and know how to present the lesson using technology.”
- “Use more advanced technology that will help to mold us to be globally competitive math teachers in the future.”
- “Instructors will be more effective if the administration will provide and support the facilities and equipment needed in any subject especially integration of technology.”

**Classroom Observations**

Mathematics teacher educators have demonstrated the use of technologies in their mathematics classes as reported by administrators who observed classes in the BSEd-Math curriculum. A total of 21 MTEs were observed by administrators in their respective mathematics classes in the BSEd-Math curriculum. Using a Classroom Observation Checklist, the MTEs were rated from 1 (not observed) to 5 (very much observed) based on their observed use of technology in their mathematics classes. The last part sought over-all impressions and observations about the teachers, the students, and the lessons.

Based on the administrators’ observations of mathematics classes of the 21 mathematics teacher educators, equivalent scores were determined from the corresponding ratings on the observed indicators. Generally, mean ratings for the use of
technology ranged from 2.95 to 4.0. According to the administrators, mathematics teachers demonstrated much use of slide presentations ($M = 4.0, SD = 0.55$) but moderate use of Internet and web technologies ($M = 3.44, SD = 0.62$), scientific and graphing calculators ($M = 3.29, SD = 1.10$), electronic spreadsheets ($M = 3.19, SD = 1.03$), and computer algebra systems and mathematical software ($M = 2.95, SD = 1.20$). Overall, use of technology integration by mathematics teacher educators was moderately observed ($M = 3.44, SD = 0.58$).

Results of the t-test led to the rejection of the null hypothesis of no significant difference between the mean ratings by administrators and by mathematics teacher educators for use of technology in the mathematics classroom ($t = 3.95$, $df = 53.286$, $p < 0.01$). Hence, the administrators’ mean ratings significantly surpassed the mathematics teachers’ self-reported mean ratings.

Moreover, the administrators had very good remarks about their overall impressions and observations about teachers, students and lessons in BSED mathematics classes that they had observed:

- “There is evidence of planning. Activities are organized.”
- “The teacher utilized inquiry-based approach in teaching, used variety of activities related to the lesson.”
- “The teacher is very knowledgeable about the use of computer software related to what she is teaching.”
- “The teacher has mastery of the lesson and made use of technology in teaching.”
- “Students show willingness to learn. They are participative.”
- “They listen attentively and participate in classroom activities.”

These observations and impressions about the teachers, the students and the lessons complemented the corresponding ratings of administrators for the observed use of technology integration by mathematics teacher educators in their mathematics classes in the BSEd-Math curriculum. Somewhat expected, the MTEs seem to perform better in the presence of their supervisors thinking that the observations would be used in evaluating their teaching performance.

**Relation between MTEs’ Level of TPACK and Use of Technology Integration**

Using Pearson correlation coefficient, the MTEs’ level of TPACK had a moderate positive but significant linear correlation with extent of technology integration in mathematics classes ($r = 0.50$, $df = 35$, $p < 0.01$). This implies that the higher the MTEs’ level of TPACK, the more frequently they use technology integration in the mathematics classroom. Somehow, correlation analysis validated the MTEs’ typically high levels of technological pedagogical content knowledge, but occasional use of technology integration in their mathematics classes.

**Conclusions**

The following conclusions were drawn based on the results and findings of this quantitative-qualitative study:

1. The MTEs handling mathematics classes in the BSEd-Math curriculum have high levels of TPACK.
2. The MTEs make use of technology in their mathematics classes for numerical computation, graphical presentation, interactive learning, tabular presentation, and symbolic manipulation.
3. Graphing calculators, computer algebra systems, spreadsheets and graphics software, and the Internet are the technologies used by the MTEs in their mathematics classes.
4. Typically, the MTEs sometimes or often use technology in their mathematics classes. They seldom use graphing calculators and computer algebra systems but sometimes or often use spreadsheets, graphics software and the Internet.
5. The MTEs’ self-reported use of technology integration differed significantly with the supervisors’ but not with the students’ perception. Categorically, however, the
ratings provided some support for the MTEs’ extent of technology integration in their mathematics classes.

6. There is a significant positive relation between MTEs’ level of TPACK and use of technology integration in BSEd-Math classes.

**Recommendations**

This qualitative-quantitative study was able to describe the extent of technology integration in mathematics classes by mathematics teacher educators. However, further analyses in a more in-depth study could be done to explore other underlying factors that influence the teachers’ use of technology integration in the classroom.

The study should be validated in more teacher education institutions and other higher education institutions in the different regions in the Philippines. Other studies on technology integration, with a more comprehensive scope and not only in mathematics but also in other courses and disciplines, could be conducted in order to come up with a general statement about the status of implementation of technology integration in teacher education institutions and other higher education institutions in the country.

Follow-up studies on technology integration could look further into the policies and interventions such as professional development opportunities for faculty and staff, involvement and participation of stakeholders, provision and upgrading of facilities and resources, as well as strengthening linkages and collaboration with government agencies, other institutions and partners in the industry.

**References**


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− Heads and respondents of the 10 state TEIs in Central Luzon for their cooperation
Abstract

Education is an important agency in building the ASEAN community. It is the main vehicle to raise ASEAN awareness, inspire the “we feeling” and create a sense of belonging and understanding of the richness of ASEAN history, languages, culture and human values. Education among young people is seen as the fastest and most effective means to create awareness and pride in being part of ASEAN. The logical promoters of this consciousness are the teachers who will transmit this need to be nurtured by the institutions that shaped their identities as teachers. Are these institutions responsive to ASEAN’s demands for an integrated socio-cultural community?

An examination of the Vision Mission Goals (VMGs) of selected ASEAN teacher training institutions indicates their efforts towards national development and internationalization - recognition and leadership in the region. Their respective curricula, particularly in the Humanities and Social Sciences show a strong promotion of national identity and a moderate focus on ASEAN, even though co-curricular or extra-curricular activities on ASEAN are rare. Interviews and discussions with students show a low level of consciousness as members of an ASEAN community. The faculty however has a clear understanding of belonging due to their multilayered social experiences in the ASEAN. All the participants however expressed their openness to constructing an ASEAN identity given the time for familiarization and more people to people engagements and interaction.

Keywords:

ASEAN image, ASEAN identity, Culture, Heritage

Authors’ Notes

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Introduction

The Association of Southeast Asian Nations (ASEAN) was established on August 8, 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration by the Founding heads of state from Indonesia, Malaysia, Philippines, Singapore and Thailand (Lakrintis, 2011 p. 5). Then on January 7, 1984, Brunei Darussalam joined the association followed by Vietnam on July 28, 1995, Lao PDR and Myanmar on July 23, 1997, and Cambodia on April 30, 1999, making up what is today the ten member countries of ASEAN.

ASEAN became a successful organization throughout its existence specifically in when he said “...the fastest and most terms of economic cooperation and cultural exchange.”

During the 9th ASEAN Summit in 2003, the ASEAN Leaders resolved that an ASEAN Community shall be established. To accelerate the establishment of ASEAN Community by 2015, the ASEAN leaders signed the Cebu Declaration on the Acceleration of the Establishment of an ASEAN Community by 2015 (Severino, 2007). The ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community, ASEAN Economic Community and ASEAN Social-Cultural Community. Initiative for ASEAN Integration (IAI) Strategic Framework and IAI Work Plan Phase II (2009-2015), they form the Roadmap for the ASEAN Community 2009-2015 (www.asean.org).

In the 13th ASEAN Summit on November 20, 2007 the ASEAN Leaders signed the ASEAN Economic Community (AEC) Blueprint (ASEAN Economic Community Scorecard, 2012). This blueprint serves as the framework for ASEAN 2015. In the same summit, the ministers agreed to develop a blueprint on ASEAN Socio-Cultural Community (ASCC) (ASEAN socio-cultural community blueprint, June, 2012. The blueprint characterizes the cultural and societal values necessary to develop ASEAN citizens who will cooperate, collaborate, interact, and share in ASEAN Community.

To promote the ASEAN Socio-Cultural Community Blueprint, the ASEAN Education Ministries identified four priorities that ASEAN cooperation on education would address, namely: (i) Promoting ASEAN Awareness among ASEAN citizens, particularly youth; (ii) Strengthening ASEAN identity through education; (iii) Building ASEAN human resources in the field of education; and (iv) Strengthening ASEAN University Networking (ASEAN Education Ministers Meeting, 2012). Secretary Jesli Lapus, the former Secretary of the Department of Education, emphasized the importance of educating for ASEAN identity effective means towards integration is to build awareness and pride in being part of ASEAN among the young people, particularly those of school age.

A true ASEAN Community can only be realized if the citizens of each member state feel a sense of belonging. And that can happen, if we begin building forging the ASEAN community in school ...” (http://www.deped.gov.ph/cpanel/uploads/issuancelmg/may4-asean.pdf):

Certainly, the most effective conduit for developing awareness and eventually strengthening a feeling of being integrated into a community is through the teachers. In turn, these teachers have to be led towards the same by the institutions that trained them.

Cognizant of the need to contribute in defining the identity of the ASEAN community and the need to involve its people, this study explored how teacher education institutions construct ASEAN identity.

The Philippines’ commitment in making the ASEAN community successful is based on our cultural heritage as Asians. The past decade would also show that quite a number of Filipino professionals, artists, and technical workers are now working in major cities of ASEAN. ASEAN community projects the mobility of citizens from its member countries. Hence, there is the necessity of understanding ASEAN identity.

Conceptual Framework of the Study

The blueprint towards ASEAN identity has been established through ASEAN 2012 Roadmap. ASEAN Socio-Cultural Community (ASCC) Blueprint aims to achieve common identity and a caring and sharing society in ASEAN, lift the quality of life of ASEAN people, cultural regional resilience, respect diversity of cultures, and bridge the development gaps among member states (ASEAN socio-cultural community blueprint, June 2012).
To build the ASEAN identity, the ASEAN Socio-Cultural Community (ASCC) Blueprint provides specific strategies as follow (Blueprint for the ASEAN socio-cultural community (June 2012):

1. Promotion of ASEAN awareness and a sense of community

   Strategic Objective: Create a sense of belonging, consolidate unity in diversity and enhance deeper mutual understanding among ASEAN Member States about their culture, history, religion, and civilization.

2. Preservation and promotion of ASEAN culture heritage

   Strategic Objective: Promote the conservation and preservation of ASEAN cultural heritage to ensure its continuity to enhance awareness and understanding of the people about the unique history of the region and the cultural similarities and differences between and among ASEAN Member States as well as to protect the distinctiveness of ASEAN cultural heritage as a whole.

3. Promotion of Cultural Creativity and Industry

   Strategic Objective: Enhance ASEAN identity and togetherness through cultural creativity and the promotion and cooperation on cultural industry.

4. Engagement with the Community

   To inculcate an ASEAN identity and build a people-oriented ASEAN where people are at the centre of community building, through the participation of all sectors of society.

ASEAN is set to promote a common identity among its citizens. Is it possible for one region to have one framework of identity? Pertierra (2002) has this to say:

“While the forces of globalization often lead to homogenization of the world, these same forces also simultaneously encourage an awareness of cultural difference. Culture is generated by the modern condition. This is a manifestation of cultural paradox.”

Culture varies from one context over the other. Despite the dominance of English language in Information technology, cultures of countries have differently constructed ideas and concepts in the web. While it is true that some aspects of culture are universal, others were nationalized and localized (Bernardo, 2007, pp.1-26: Franco, 2007, pp. 189-229). Despite efforts to look for similarities of culture, it is as well recognized that there exist cultural differences (Pertierra, 2002, p. 21-4. 1-16).

Moreover, identity is a product of a process attached to individual context or experiences. For instance, a person of a specific cultural background, social class, birth order or gender will have varying construction of identity. This is further constructed by societal forces such as political, economic, and environmental forces. The first identity -biological and cultural background -is somehow static. But with the societal forces, communities go through constructing their identities in their everyday life.

C. Wright Mills (in David, 2002) clearly explained how identity can be understood through his idea of “sociological imagination”. According to him, an individual can view ones reality within the context of the biological circumstances, history and societal processes. Identity therefore in a product of interplay of oneself with societal, cultural, and historical processes from local, national, regional and international levels.

Hall (1994) expanded the concept of identity when he explained that:

“...rather

“...thinking of identity as an “already accomplished fact, which the new cultural practices then represent” (392), we should think instead of “identity as a ‘production’ which is never complete, always in process, and always constituted within, not outside, representation” (392).

Besides the traditional notion of cultural identity as shared culture which is anchored on shared historical experiences and cultural heritage, Hall (1994) points out that modern individuals “re- tell”
their identity or “position” themselves at a certain context. He further stressed that the second identity is the diaspora identity and this means that:

“...Diaspora identities are those which are constantly producing and reproducing themselves anew, through transformation and difference.”

Asians have varied layers of identities. Is it possible to have an ASEAN identity? How do schools shape their citizens as regards ASEAN identity? Is it possible for teacher education institutions to instill ASEAN identity where shared meanings may evolve?

Education is an important agency in building the ASEAN community. ASEAN expects education as the main “vehicle to raise ASEAN awareness, inspire the “we feeling”, and create a sense of belonging to the ASEAN Community and understanding of the richness of ASEAN’s history, languages, culture and common values” (ASEAN Education Ministers Meeting. 2012. Retrieved June 28, 2012).

Identity has different layers: biographical, cultural, political, and societal identities. The layers also include local, national and regional identity, in this case, the Asian identity. Another layer of identity refers to static and constructive identity-identity which is a result of biographical circumstances and identity as socially constructed. Since identities are constructed in these different layers, there is a possibility of hybridity of ASEAN identity. The Teacher Education Institutions in the region can contribute to ASEAN identity through the curriculum. Conscious effort to examine and integrate ASEAN culture, history, religion, and civilization, cultural heritage, creativity and industry, and engagement with communities will enhance the understanding of ASEAN identity (See Diagram below).

The Research Problem

This research looked into the 1). ASEAN identities which were are constructed in teacher education curriculum of selected Teacher Education Institutions (TEIs) in the Philippines and from countries of ASEAN in terms of the vision, mission, and goals, educational objectives of selected courses in the Humanities and Social Sciences, content standards, performance standards and expected outcomes; 2) homogenizing and differentiating ASEAN identities which were constructed in selected TEI curriculum from the selected countries of ASEAN; and 2) possible strategies to promote the ASEAN Community identity?

Methodology

This study utilized qualitative research using case study method. The vision, mission, and goals including the curriculum and activities on ASEAN integration of the Teacher Education Institutions were examined.
Four members of the National Network Of Normal Schools (3Ns) in the Philippines and two teacher education institutions in ASEAN (Vietnam and Indonesia) were selected as participating institutions. These Teacher Education Institutions were selected by convenience sampling. Results of this study are limited to the cases at hand.

**Methods of Data Collection**

Research methods used were content analysis of documents, interview, and focused group discussions. The social media was explored as initial step to gather information on the whereabouts of possible informants and respondents. Researchers in the field came from the participating institutions.

The documentary data included the VMGs and curricular offerings as well as syllabi and course outlines of the selected courses/subjects from the institutions. Interviews and discussions with students, alumni and faculty were likewise conducted.

Three (3) to four (4) university administrators were interviewed and five (5) to six (6) faculty members participated in the focused group discussions from selected TEIs. About 25 students and alumni from each TEI in the Philippines were interviewed either face-to-face or through social media. Students from two ASEAN TEIs were not interviewed since it was their summer break at the time of data gathering. However, accomplishment reports were analyzed to examine the students’ activities about pursuing ASEAN culture or heritage.

**Results and Discussion**

**Vision, Mission, and Goals**

The survey of the visions and missions of the selected institutions of the selected institutions show the presence of the word “national” which point to a need to strengthen national identity. Another word common to them is “international”, an indicator of the institutions’ conscious effort to participate in a larger community. All of the institutions envision a respected place in the global community, particularly, leadership in the region, hence an openness to another layer of identity that may be constructed-the ASEAN identity. Moreover, the goals also project the production of globally competitive graduates and generating knowledge through internationally recognized research.

**TEI Standards**

The 3NS standards are embodied in the CMO 30, S2004 issued by the Philippine Commission on Higher Education (CHED) it spells out the competency and content standards of teacher education in the country. The competency standards outlined into eleven criteria stipulates that graduates of the BEED and BSEd programs are teachers who have adequate learning tools and positive attitude and ethics for further acquisition of knowledge, skills, methodologies and approaches as well as ample knowledge of content on the subject matter they are to teach. The teachers are expected to pass the national Licensure examination for Teachers.

In the other ASEAN countries teacher training is largely geared towards supplying the local and national market. Teachers are also expected to be knowledgeable in their fields of specialization, professional, ethical and creative. They are expected to be competent and highly competitive in their fields of study.

The content standards in Philippine TEIs are likewise found in the same Commission on Higher Education Memorandum Order (CMO 30, S2004) which describes the curriculum as “designed to prepare professional teachers for practice in primary and secondary schools in the Philippines. The design features include various components that correspond to the basic and specialized knowledge and skills that will be needed by a practicing professional teacher: foundational general education, knowledge and skills, and professional and ethical values, and subject matter knowledge appropriate to the level of teaching.” Thus the teacher education curriculum must contain the following components (see Table 1).

Courses about ASEAN are found in the BSE program major in Social Science, History, Music and Literature. While culture and history were studied extensively in major courses among students who
specialize in Social Science and History, students in Music Education and Literature focused their studies solely in ASEAN Music and Literature.

For the other Southeast Asian countries, a liberal education grounding is taken along with their major fields of specialization which they have already chosen at enrolment. But these liberal education courses are freely elected depending on the student’s interests rather than prescribed. The focus is on the mastery of content courses before the student goes to professional education and pedagogy for specific levels they wish to specialize in. Similar to the Philippine standards, the selected teacher education institutions in ASEAN have very few standards on knowledge and understanding of ASEAN culture, religion, geography, music, dances and literature in the general education courses and those who specialize in Social Sciences. TEIs in the region usually limit their standards to study the culture and religion to neighboring countries with similar cultural background i.e. TEIs teaching Islam expose their students to culture of countries with the same religion.

**Educational Objectives of Selected Courses in the Humanities and Social Sciences**

A review of the objectives of selected courses in Humanities and Social Sciences reveal that there were attempts to instill knowledge, skills and values in relation to culture and society. Among the General education courses in the 3NS, the mandated courses such as Philippine History, Philippine Government and Constitution, Philippine Literature, Rizal Course (Jose Rizal is the Philippine national hero) and Economics and Sociology instill pride in being Filipino. BEEd students benefit from this segment of the curriculum. However, their specialization or content courses do not include even a slight familiarity with ASEAN culture.

Even among other ASEAN members, national identity is strengthened in mandated courses about their cultural and political systems. For example, Vietnam includes courses on the Vietnamese history and communist party. The same practice happens in Indonesia.

Major courses in the Humanities and social science cluster of specializations also enhance the construction of local and national and cultural identities. These are courses on Philippine Literature, Music, Theatre, Geography and Issues in Philippine History.

Courses that briefly touch on the ASEAN situations are World Literature, Afro-Asian Literature, World Theatre, Asian Studies, Asian Music, Comparative Cultural Studies, Panitikan ng mga Umuunlad na bansa (Literature in Developing countries). These courses introduce the students to literature, politics and societies of the world, with ASEAN nations receiving minimal focus.

Among the professional education courses, Multicultural education and Comparative Educational Management Systems may touch briefly on some ASEAN members’ systems. But then again, these are just a small part of a bigger subject matter that includes most of the Western systems.

The selected ASEAN teacher education institutions seem to be in a similar situation in terms of their curricular programs in relation to identity building. They are strong on promotion of national/local cultural identities but quite weak on ASEAN identity promotion. One thing noticeable is the language used for instruction: for the rest of ASEAN, it is the native language, while in the case of the Philippines, English is privileged. This research indicates that education plays an important source of information about ASEAN. The same findings was shown in the research of Thompson and Thianthai (2007, p.17).

**Homogenizing and Differentiating ASEAN Identities**

In the interviews with the 100 students from the selected institutions, it was revealed that their awareness of ASEAN lacked depth. Only a handful was able to identify the ten members of the organization. There was almost nothing they could cite about our common concerns of their country and the other members. Most have not had any personal encounter with peoples of ASEAN except from their own country. This data implies that with scant knowledge of students of ASEAN society and culture, the possibility of cultural differences will more likely to happen than homogenous culture. Since the focus of the TEIs were confined to local and national identities, future teachers will most likely acquire competencies in teaching their own culture rather than understanding ASEAN culture. For instance, discourses about culture in the Philippines revolve around artifacts (e.g. Salazar,
2004), language, texts and identity (e.g. Franco, Reyes, and Salonga in Tupas, 2007).

The discussion with faculty and some administrators on the other hand revealed their understanding of the goals of ASCC. They understand that the vision of their respective institutions is to obtain recognition and leadership in the region and therefore it is almost a mandate to pursue such. They are aware of the efforts made by their institution to link with their ASEAN neighbors. They have also participated in international conferences featuring ASEAN resource persons, participated in joint research endeavors with ASEAN partners, witnessed signing of memoranda of understanding or agreement with ASEAN member institutions, visited ASEAN member universities for benchmarking or just traveled to the countries as tourists. In other words, they had experienced people to people engagements. This sector was also responsible in integrating into their lessons some of the important information on ASEAN in their courses and was instrumental in pushing the awareness further in activities outside the classroom. Despite the limited curricular standards to various ASEAN culture and society, there are efforts from the faculty members to teach the goals of ASCC and integrate in their lessons society and culture of countries in ASEAN. This education practice will somehow forge commonalities among cultures in ASEAN despite diversity.

However, it is important as well to find identities that manifest homogeneity to satisfy the goal for ASEAN integration as shown in ASEAN blueprint and ASEAN Socio Cultural Community.

Grassroots level advocacy and research on pedagogy to develop ASEAN consciousness

Top Down and Bottom Up Strategy for Developing ASEAN Identity through Education

Respect for local and national identities is important and must be recognized by TEIs. This paper offers a strategy for Teacher Education Institutions to promote knowledge and understanding of ASEAN identity. A two-pronged strategy: bottom-up and top-down- to enhance ASEAN identity is proposed. The top-down process starts from the Ministry of Education of member countries where the ministry formulates policies on the integration of learning outcomes and standards based from ASCC. Policies on governance of TEIs using ASCC framework are important bases for action of school leaders. Moreover, research and community development agenda could be created integrating perspectives on ASEAN identity. On the other hand, the bottom-up process starts from the grassroots toward the school system. Here, faculty members may advocate ASEAN culture through projects in the communities. Research on scholarship of teaching that will develop ASEAN identity may be done. The results of research and advocacy may be integrated in the curriculum to raise the level of consciousness of future teachers about ASEAN. This two-way process may contribute to finding commonalities of ASEAN culture despite its diversity.

Conclusion

It is clear that from the VMGs of the institutions they are conscious of the need to make a mark in the ASEAN community. Their performance standards also try to measure up towards global competitiveness. Conscious effort to integrate ASEAN culture and other concerns in some subjects, particularly in some major subjects of the Humanities and Social Science specializations was also visible. These, however, do not impact deeply into the students’ consciousness since they are taken with all other international concerns. On the other hand, the teachers who have had ample layers of social experience with ASEAN issues and peoples have a high level of consciousness towards the ASEAN identity that they may be developing in their curricula.

It is important to note that awareness, familiarization and a conscious effort at internationalization are the requirements for constructing a multi-layered image as the ASEAN identity. A number of participants admitted that their programs are still very much focused on their respective national development agenda. All participants though, expressed an openness to welcome a sense of belonging to an ASEAN socio-cultural community. However they also expressed the need for more information, more familiarity and interaction and engagement with the peoples of ASEAN.
Such findings imply that there is need to enhance the curricular programs for teacher training in the ASEAN to include stronger focus on Regional situations and concerns so that teachers will have the competence and confidence to instill knowledge and attitude towards the construction of a hybridized nationalist-ASEAN image. In these countries where education is a mandate of the government, there is need for a meeting ground between policy makers and the people in the field to craft strategic actions in order to facilitate the realization of the strategic objectives. The top-down, bottom-up strategy may facilitate consciousness raising and development of the ASEAN identity.

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