A Suggested E-Mentoring Model to Develop EFL Student-Teachers’ Self-Efficacy and Emotional Intelligence

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ABSTRACT

The present study aimed at investigating the effect of an e-mentoring model on developing EFL student teachers’ self-efficacy and emotional intelligence. The study adopted the pre-experimental one group pre-post administration design. Study was conducted on a voluntary group (N = 19) from third year, English Language Department (basic education), Faculty of Education, Ain Shams University during their practicum in three different public schools. The following instruments were used in the study: Teacher’s Sense of Efficacy Scale, Trait Emotional Intelligence Questionnaire (Short Form), and teaching performance observation checklist. The sessions of the e-mentoring model were developed with student’s booklet and mentor’s guide. The e-mentoring model was implemented in a ten-week period (60 hours). Paired Samples Wilcoxon Test was used to compare between the mean scores of the study participants’ before and after the administration of the e-mentoring model. Also, Fritz, Morris and Richer’s equation was used to measure the effect size of the e-mentoring model on developing self-efficacy and emotional intelligence. Results of the study revealed that the e-mentoring model was effective in developing pre-service teachers’ self-efficacy as well as emotional intelligence. Eventually, recommendations and suggestions for further research were presented.

Key words: Mentoring, E-Mentoring, Self-Efficacy, Emotional Intelligence, EFL Student-Teacher, Egypt.
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مستخلص البحث

يهدف البحث إلى دراسة أثر تطبيق نموذج توجيه إلكتروني على تنمية الكفاءة الذاتية التدريسية والذكاء العاطفي لدى الطلاب المعلمين بقسم اللغة الإنجليزية. تتبنت الدراسة التصميم شبه التجريبي ب grupa بحث واحدة مع احترار قبل و بعد. تضمن البحث عينة تطوعية من 19 طالبة من الفرقة الثالثة بقسم اللغة الإنجليزية (تعليم أساسي) بكلية التربية، جامعة عين شمس. إعتمدت الدراسة على مجموعة من الأدوات وهي: مقياس الكفاءة الذاتية التدريسية، استبيان الذكاء العاطفي للنساء، بطاقات ملاحظة الأداء التدريسي. تم تصميم نموذج توجيه إلكتروني على موقع إدمودو بحيث تضمن كتيب للمتدربين و تم تصميم كتيب للمدرب. تم تنفيذ برنامج التوجيه الإلكتروني على مدار عشرة أسابيع في الفصل الدراسي الأول للعام الجامعي 2019-2020 و بالتزامن مع التدريب الميداني للطلاب المعلمين كما تم تنفيذه في مدة 60 ساعة. كما تم تطبيق اختبار ويلكوكسون للرتب للمجموعة الواحدة للكشف عن دلالة الفروق بين التطبيقين القبلي و البعدي. أوضحت النتائج أن البرنامج ذو فاعلية كبيرة في تطوير الكفاءة الذاتية التدريسية والذكاء العاطفي لدى الطلاب المعلمين و ذلك لوجود فروق دالة إحصائياً بين التطبيقين القبلي و البعدي لكل من مقياس الكفاءة الذاتية التدريسية، مقياس الذكاء العاطفي، و بطاقات الملاحظة للأداء التدريسي. اختتم البحث بمجموعة من التوصيات و المقترحات لأبحاث مستقبلية.

الكلمات المفتاحية: التوجيه، التوجيه الإلكتروني، الكفاءة الذاتية، الذكاء العاطفي، الطلاب المعلمين، مصر.
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1. Introduction

The over-growing body of knowledge and its perpetual availability for younger generations on social media and online resources makes teachers’ job more challenging. Besides their ordinary tasks: teaching and assessment, they need to be efficient in dealing with students, parents, supervisors, and colleagues of different beliefs and attitudes with the ability to manage difficult situations and demotivated students as well as to believe in their ability to keep successful under such harsh circumstances.

Consequently, an extra burden is put on the teacher training institutions; they need to exceed the level of providing pre-service teachers with knowledge to the level of equipping them with the practical skills related to situations that happen in the real classroom (Bajrami, 2015). In order to balance between knowledge and practical skills, pre-service teachers need to formulate positive self-efficacy beliefs and high level of emotional intelligence along with their knowledge of language and how to teach it.

2. Theoretical Background

Self-efficacy is defined in positive psychology as the optimistic belief in one’s competence or ability to succeed in accomplishing a given task with the best outcome (Akhtar, 2018). Self-efficacy is originally rooted in Albert Bandura’s Social...
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Cognitive Theory. Based on social cognitive theory, it is not enough for the individual to acquire the necessary knowledge for performing a task; rather that individual needs to believe in his ability to successfully perform this task even under challenging circumstances (Artino, 2012). Individuals’ perceptions of opportunities from the outer world, their choice of activities to make progress, and the duration of their effort exertion in facing obstacles are all determined by their self-efficacy beliefs (Bandura, 2006, as mentioned in Nikoopour et al., 2012).

In the context of education, a teacher’s efficacy refers to his own judgment of his own abilities to bring about the intended results of students’ learning and engagement even among difficult or unmotivated students. It has been found out that a teacher’s positive beliefs of self-efficacy are positively correlated with his students’ achievement and motivation (Mojavesi & Tamiz, 2012). Moreover, Kim and Seo (2018) found a mutual relationship between teachers’ self-efficacy and students’ performance; for him, self-efficient teachers lead to improvement in their students’ performance, which, in turn, increases teachers’ level of efficacy.

For Nugroho (2017), many pre-service teachers lack the needed level of self-efficacy to start the practicum experience or to live real classroom teaching for the very first time in their life. This insufficient self-efficacy is not actually attributed to shortage of knowledge or skills; rather it is due to the lack of exposure to real teaching experience, lack of practical knowledge, and the absence of a supportive community that provides encouragements for them (Swanson, 2013). That is why teacher training institutions need to pay more attention to providing communities of support for pre-service teachers to help build their self-efficacy beliefs early in their career life as teachers (Liaw, 2009).

Since emotional support is considered one of the factors that contribute to the existence of positive self-efficacy beliefs, pre-service teachers need also to acquire a high level of emotional
intelligence (EQ). EQ is defined as the ability to recognize the meaning of emotions and the relationships between them. This involves reasoning and problem-solving based on emotions as well as understanding and managing the information of those emotions (Mayer et al. 2009). In the 90s, scholars reached different taxonomies of EQ that included the ability to understand and process emotions. Mayer’s (2009) definition refers to the ability model of EQ which is based on reasoning in four areas: perceiving emotions, facilitating thought, analyzing emotions, and managing emotions. In 1995, Goleman identified five domains of EQ: a) knowing one's emotion, b) managing emotions, c) motivating oneself, d) recognizing emotions in others, and e) handling relationships. Based on his taxonomy, a person with a higher EQ is more likely to be happy, optimistic, self-motivated, and outgoing.

Moreover, Nikoopour (2012) illustrated that EQ could be divided into two main trends: ability EQ and trait EQ. Ability EQ is defined as “the ability to perceive accurately, appraise and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth”. Trait EQ, on the other hand, is defined as a person’s own perceptions of emotional abilities (Saeidi, 2012).

For many scholars (e.g. Bar-On, 2002, Nelson, Law, 2005), teachers with high level of EQ have the following characteristics:

- Physical and mental health (stress management): This will help EFL teachers overcome the stress they face at the beginning of their career as teachers.
- Productivity and personal satisfaction (self-esteem and self-confidence): This will make EFL pre-service teachers able to manage challenging situations with confidence, have a better self-image, and, consequently, transfer this to their students.
- Maintaining positive communications in personal and work relationships (assertion): This will enable pre-service teachers to form positive relationships with their colleagues and supervisors as
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well as build rapport with their students, which will create a secure learning atmosphere.

- Anxiety management: Throughout this, pre-service teachers will manage difficult situations and surprising situations wisely and professionally.

- Understanding and accepting differences in others (empathy): This will help pre-service teachers accept different viewpoints from the outer world, not personalizing issues and work effectively on conflict resolution.

- Planning and implementing problem solving procedures in stressful situations (decision making): since teachers make decisions many times every day, this will help pre-service teachers make the right decisions without getting stressed.

- Positively impacting, persuading, and influencing others (leadership): since teachers are not only knowledge transmitters, they need to be equipped with the skills that would make them positive influencers in their classrooms and schools to promote positive values and attitudes.

- Time management: that will help pre-service teachers manage their time and regulate their tasks within the allocated time.

Besides the positive attitudes towards teaching and learning that teachers can build throughout reaching high level of trait EQ, Mercer and Gkonou (2017), mentioned that EQ is a fundamental skill especially for EFL teachers because of the interpersonal and communicative nature of contemporary foreign language learning and teaching. Nevertheless, they argued that EQ is rarely addressed in teacher training programs and is notably absent from the research landscape with respect to second/foreign language teaching and learning.

As the first step towards emerging pre-service teachers into real teaching context, practicum has gained much attention since the past decade. For teachers in general and EFL teachers in particular,
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practicum is considered a critical stage in their preparation. This is because it is the first exposure to dealing with real students and real challenges. It is also the first time for them to deal with supervisors and parents. Stress and anxiety are expected results of being evaluated and assessed in real teaching context while using English as a means of communication all the time (Nguyen, 2013). For the crucial role of practicum as a transitional period in the life of teachers, scholars interested in teacher preparation have approached many ways to support and empower pre-service teachers before and during their practicum. One of these ways is mentoring.

According to Asuo-Baffour, Daaye and Agyemang (2019), research on the area of mentoring is relatively recent; it has started in the eightieth with Kram’s article that was published in the Academy of Management Journal in 1983 and is still being cited in many studies that tackle the concept of mentoring. Broadly, mentoring is defined as a process in which a more experienced person (mentor) helps and supports a less experienced person (mentee) in a given field. The main aim of the mentoring relationship is to develop the mentee’s skills throughout the mentor’s constant guidance and advice. More specifically, and according to Simon (2004), mentoring is a relationship in which a senior (the mentor) provides two functions for a junior (the protégé): one function is related to the career in terms of providing advice or modeling about career development behaviors, and the second function is psychological by being offering support defined with intimacy and friendship.

In teacher education, mentoring occurs during practicum in which student teachers are assigned to classroom teachers to learn, develop and practise teaching knowledge and skills thought observation (Ambrosetti & Dekkers, 2010). In the past, mentors were called supervisors and considered the experts who use showing and modeling as ways to help novices master teaching techniques. In so doing, novices gained knowledge throughout observation and practice. In this model, novices were required to follow their supervisor’s
instructions in planning and conducting lessons. This process left no space to the novices to think or act in a flexible way; nevertheless, the prescribed steps they had to follow were not applicable in different teaching contexts (Malderez, 2009). This approach to mentoring was criticized for offering a one-size-fits-all model of training and not catering for novices’ needs and challenges nor having a noticeable impact on their professional growth (Blase, 2009).

Thus, the supervision approach to teacher education has been changed to a collaborative approach that is more related to Vyotsky’s social constructivism (Vygotsky, 1980), where learning happens and knowledge is constructed through social interactions. Unlike the traditional approach to teacher education, this approach enables student teachers to own their profession (learning) throughout reflection that deepens their awareness of their teaching practices and gives them the chance to develop their performance and their beliefs about teaching profession and about themselves as teachers (Hamiloğlu, 2017). According to Hobson, Malderez, Tracey, and Pell (2006), this change in teacher education gives the teacher educator a new title “mentor” and defines it with new roles that differ from the roles in the traditional teacher education approach.

The first formal mentoring pre-service teachers receive is that offered to them in their practicum-as mentioned previously. During their practicum, student-teachers first experience teaching in real classrooms, learn about teaching techniques, and get to know students’ challenges and needs. In this stage, student-teachers needs help and support to link theory to practice and teach effectively in the new context (Hudson & Hudson, 2011). Here comes the role of the formally assigned mentor.

Portner (2003) as cited in (Asuo-Baffour, Daaye & Agyemang, 2019”), explained that the most crucial role of the mentor is that of a coach. That is to say, a mentor helps the mentee to best understand the subject matter and collect resources that will
assist in teaching. To do so, a mentor does not only share his teaching experience; rather, he elicits the mentee’s self-reflection throughout knowledge-based feedback to enable him become an autonomous learner. Oetjen and Oetjen (2009) share with Portner the same perspective of mentor’s role and add that a mentor needs to develop awareness of how mentees build knowledge and generate skills to help them in building this knowledge.

Despite the efforts to define mentor’s roles and responsibilities, finding mentors who can play the defined roles to establish a collaborative mentoring model is still challenging for a number of reasons, some of which are related to the mentor and others are related to the mentee. There is a scarcity in the programs that are formally sought to develop mentors’ skills and knowledge (Chan, 2020). Consequently, mentors fall short of the needed skills that enable them to carry out their roles. Additionally, Mentees’ beliefs and attitudes that may cause their unwillingness to be mentored or receive feedback are other obstacles for building a professional mentoring model (Asuo-Baffour, Daaye & Agyemang, 2019). Also, the mismatch of role expectations between mentors and mentees makes the process of mentoring vague (Hamel and Jaasko-Fisher, 2011).

Teacher preparation in many countries - including Egypt - typically includes university-based course work with focus on the theoretical part of teaching followed by school-based student-teacher training (practicum) on teaching in real educational setting (Nguyen, 2013). Professional development, reflectivity, and self-confidence are the expected outcomes of student-teachers’ practicum. However, the practicum represents an intimidating experience for pre-service teachers in general and for EFL pre-service teachers in particular. Many pre-service teachers reported feelings of isolation, anxiety, stress, and vulnerability before and during the practicum (Paris, Boston & Morris, 2015). This is attributed to the fact that student-teachers find themselves isolated from the learning environment they are familiar with (their
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Moreover, the teaching methods curriculum is not interlinked to the practicum experience as reported in a study on the experience of practicum on 456 students in Ain-Shams and Minia Faculties of Education (Kochok & El Mufty, 2008) as cited in (El-Kerdany, 2012). At the same time, pre-survive teachers face the challenge of being responsible for applying what they have learnt in real context, dealing with students, supervisors, and parents from different backgrounds. In addition, they have to use English as a means of instruction in the classroom while being, observed, evaluated, and judged all the time (McLoughlin, Bardy, Lee & Russell, 2007).

It was also mentioned in El-Kerdany’s (2012) study that (Hamidosh, 1996) conducted a study on the evaluation of the practicum program involving 240 year three and four students and 20 supervisors from four Faculties of Education in Cairo. The study puts forward that 80% of the students in year three indicated that the practicum administration was not aware of the problems they faced. As for year four, 70% of the students stated that the administration only sent their names to schools but did not follow up afterwards.

Likewise, English major pre-service teachers at the Faculty of Education, Ain-Shams University suffer from the same feelings of anxiety before and during their practicum for the same reasons, which reports low levels of self-efficacy and emotional intelligence. This is due to the lack of support and guidance before and during the practicum. This status-quo conforms to Wang and Odell’s (2002) analysis of the problems that confront pre-service teachers when exposed to real school settings: (1) emotional and psychological stress, (2) the lack of support, and (3) conceptual struggles about teaching and learning. Close observation to student-teachers in Faculty of Education, Ain Shams University, interviews, and pilot study proved that they suffer from the problems Wang and Odell’s (2002) mentioned in their study. Herein and for the paucity of research in this area - to the researcher’s best knowledge - , the
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researcher finds it necessary to implement an e-mentoring model to develop EFL pre-service teachers’ self-efficacy and emotional intelligence especially at the beginning of their practicum experience.

3. Statement of the problem

The English Language Department student-teachers have low levels of self-efficacy and emotional intelligence that would make them unable to be effective, confident, and emotionally smart English language teachers. This problem may be attributed to the absence of emotional support and empowerment of pre-service teachers in their practicum and neglecting building community of support among them. For that and for the paucity of research in this area - to the researcher’s best knowledge - , the researcher finds it necessary to implement an e-mentoring model to develop EFL pre-service teachers’ self-efficacy and emotional intelligence.

4. Research Questions

The researcher attempted to answer the following main question: “What is the effect of implementing an e-mentoring model on developing EFL pre-service teachers’ self-efficacy and emotional intelligence?”

To answer the above main question, the following sub-questions were also answered:

1. To what extent will the e-mentoring model develop EFL pre-service teachers’ self-efficacy?
2. To what extent will the e-mentoring model develop EFL pre-service teachers’ emotional intelligence?

5. Hypotheses

1. There would be statistically significant differences between the study participants’ mean scores in the pre-post administration of the teacher self-efficacy scale in overall efficacies of the scale in favor of the post administration.
2. There would be statistically significant differences between the study participants’ mean scores in the pre and post administration of the teacher self-efficacy scale in each efficacy
of the scale in favor of the post administration.

3. There would be a statistically significant difference between the study participants’ mean scores in the pre-post administration of the teaching performance observation checklist in overall sections of the checklist in favor of the post observation.

4. There would be statistically significant differences between the study participants’ mean scores in the pre-post administration of the teaching performance observation checklist in each observed efficacy in favor of the post administration.

5. There would be a statistically significant difference between the study participants’ mean scores in the pre-post administration of the trait emotional intelligence questionnaire in favor of the post administration.

1. **6. Delimitation**

This study was delimited to:

1. A group of 19 third-year, English major students (basic education) at the Faculty of Education, Ain Shams University.
2. The following teaching efficacies:
   - Classroom management
   - Student engagement
   - Instructional practices
3. Emotional intelligence traits based on the Trait Emotional Intelligence Model (Petrides, 2009).
5. Teaching Performance Observation Checklist (designed by the researcher).
6. Trait Emotional Intelligence Questionnaire (short form) (Petrides, 2009).
7. The first semester of the academic year 2019-2020 (10-week practicum block, 60 hours).
8. Three public schools where practicum was conducted.
7. Significance of the Study
The significance of this study stems from the fact that it:
1. could help in preparing well-qualified English language teachers who have high level of self-efficacy and trait emotional intelligence;
2. would provide EFL researchers with theoretical foundation as well as recommendations for further research in the area of teacher preparation;
3. might draw the attention of the developers and designers of EFL pre-service teachers’ preparation courses to implement e-mentoring as an integral part of their practicum;
4. could draw the attention of stakeholders in Ministry of Education to establish training programs for school supervisors so that they can train pre-service teachers using e-mentoring and blended mentoring, which is expected to save time and efforts for both supervisors and trainee teachers.

8. Procedures of the Study
The present study followed these procedures:
2. Conducting pilot study and group discussion to determine pre-service teachers’ needs before and during their practicum.
3. Reviewing related studies in the areas of self-efficacy, teaching-efficacy, mentoring, electronic mentoring, and emotional intelligence.
4. Selecting, editing, and designing study instruments (Teacher Sense of Efficacy Scale, Trait Emotional Intelligence Questionnaire, and Teaching Performance Observation Checklist).
5. Submitting the newly designed study instrument (Teaching Performance Observation Checklist) to jury members for ensuring its validity and reliability.
6. Designing an e-mentoring model for developing EFL pre-service teachers’ self-efficacy and emotional intelligence in English Language Department.
7. Randomly selecting study participants from third year basic
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education student-teachers.
8. Administering study instruments prior to the intervention.
9. Implementing the e-mentoring model on Edmodo platform
   and in 10-week practicum block.
10. Administering study instruments after the intervention.
11. Analysing the quantitative data collected from the teaching
    performance observation checklist, the self-efficacy scale, and the
    trait emotional intelligence questionnaire.
12. Interpreting and discussing the quantitative results.
13. Presenting recommendations and suggestions for further research.

9. Methodology

9.1. Design and Sample

The current study implemented quantitative instruments to
investigate the effect of a suggested e-mentoring model on
developing EFL pre-service teachers’ self-efficacy and emotional
intelligence. Quantitative method focused on the statistical analysis
of participants’ responses to the pre-post Teacher’s Sense of
Efficacy Scale and the Trait Emotional Intelligence Questionnaire
as well as the analysis of the data the researcher obtained from the
pre-post observation checklist. The participants comprised one pre-
post experimental group; 19 females from English language
Department, third year (basic education) distributed on three schools
for practicum. The e-mentoring model was implemented on
Edmodo.com in 60 hours during ten-week practicum block (the first
semester of the academic year 2019-2020).

9.2. Instruments

a. The Teaching Performance observation checklist is one of the
   instruments that helped in answering the first sub-question of the
   study: “To what extent will the e-mentoring model develop EFL
   pre-service teachers’ self-efficacy?” The researcher designed an
   observation checklist to compare participants’ performance in the
   class before and after the implementation of the e-mentoring model.
   Each sentence in the observation checklist required one of three
To ensure the observation checklist is statistically reliable, Cronbach’s alpha (a measure of scale reliability) was calculated. The value of Cronbach’s alpha of the observation checklist is (0.84), a high value that refers to the reliability of the observation checklist.

To test the validity of the three dimensions the observation checklist measures, the correlation coefficients between the score of each (dimension) and the overall score of the observation checklist have been calculated after deducting the score of the dimension (subskill) from the overall score. Table (1) shows the correlation coefficients:

**Table (1):** The correlation coefficients between the score of each (dimension) and the overall score of the observation checklist

<table>
<thead>
<tr>
<th>Observation Checklist Dimensions</th>
<th>Correlation Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation Checklist</td>
<td>0.84</td>
</tr>
<tr>
<td>Observing classroom management efficacy</td>
<td>0.71**</td>
</tr>
<tr>
<td>Observing student engagement efficacy</td>
<td>0.69**</td>
</tr>
<tr>
<td>Observing instructional practices efficacy</td>
<td>0.74**</td>
</tr>
</tbody>
</table>

**Significant at the level of 0.01**

The above table shows that all of the observation cehcklist dimensions are statistically related to the overall score, which proves the internal validity of the observation cehcklist.

b. Teacher’s Sense of Efficacy Scale (long form) (TSES) is another instrument that aims at answering the study first sub-question: “What is the effect size of the e-mentoring model in developing EFL pre-service teachers’ self-efficacy?” The scale was adapted from Tschanneken-Moran and Woolfolk Hoy (2001) who developed it with a group of researchers in Ohio State University. This form of TSES consists of 24 questions ranked on 9-point Likert scale was used. The responses ranged from 1 (nothing), 5 (some influence), to 7 (quite a bit), and 9 (a great deal). Table 2 below shows reliability data of TSES:
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Table (2): Reliability of Teacher’s Sense of Efficacy Scale

<table>
<thead>
<tr>
<th></th>
<th>Correlation Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Form</td>
<td></td>
</tr>
<tr>
<td>TSES</td>
<td>0.94</td>
</tr>
<tr>
<td>Observing efficacy</td>
<td>0.87**</td>
</tr>
<tr>
<td>student engagement</td>
<td></td>
</tr>
<tr>
<td>Observing efficacy</td>
<td>0.91**</td>
</tr>
<tr>
<td>instructional practices</td>
<td></td>
</tr>
<tr>
<td>Observing classroom management efficacy</td>
<td>0.90**</td>
</tr>
</tbody>
</table>

**Significant at the level of 0.01
The above table shows that all of the TSES dimensions are statistically related to the overall score, which proves the internal validity of the observation checklist.

To examine the validity the 24-item scale (TSES), scale developers assessed the correlation of this scale and other existing measures of teacher efficacy (Kerlinger, 1986). In their study, participants responded to the OSTES as well as to the Rand Items and the Hoy and Woolfolk (1993) 10-item adaptation of the Gibson and Dembo Teacher Efficacy Scale (TES) (1984). Total scores on the OSTES (24-item long form) were positively related to both the Rand items \((r = 0.18 \text{ and } 0.53, p < 0.01)\) as well as to both the personal teaching efficacy (PTE) factor of the Gibson and Dembo measure \((r = 0.64, p < 0.01)\) and the general teacher efficacy (GTE) factor \((r = 0.16, p < 0.01)\). Positive correlations with other measures of personal teaching efficacy proved the validity of TSES.

c. The Trait Emotional Intelligence Questionnaire (TEIQue) - short form was adopted from Petrides (2009) to answer the second sub-question of the study: “What is the effect size of a suggested e-mentoring model on developing EFL pre-service teachers’ emotional intelligence?” The short form of TEIQue comprises 30 items and is based on the full form but only two items of each of the 15 facets of TEIQue were selected for inclusion, based primarily on their correlations with the corresponding total facet scores. Both full
form and short form have 7-point likert scale for responses (1 = completely disagree and 7 = completely agree). The short form can be used in studies where EI is a peripheral variable (as the current study) or with studies with limited experimental time (Cooper & Petrides, 2010; Petrides & Furnham, 2006).

According to Petrides (2009), the internal consistencies of the 20 TEIQue variables (15 facets, 4 factors, global trait EI score) are all satisfactory for both males and females. Of particular interest to many users is the robustness of the alphas, which remain strong (especially at the factor level and, without exception, at the global level) even in small sample research (N < 50). Additionally, Petrides illustrated that his team’s experience of scoring over seven dozen datasets from many countries suggests that users of the inventory can expect reliable measurement in a wide range of contexts.

**9.3. Study Results**

Paired Samples Wilcoxon Test was used to compare the mean scores of the study participants’ before and after the administration of the e-mentoring model on teaching efficacy scale, teaching performance observation checklist, and trait emotional intelligence questionnaire. Also, to measure the effect size of the e-mentoring model on developing self-efficacy and emotional intelligence, Fritz, Morris and Richer’s equation was used as follows:

\[ \eta = \frac{Z}{\sqrt{N}} \]

where;

- \( \eta \) = effect size
- \( N \) = number of participants
- \( Z \) = value of Paired Samples Wilcoxon Test

The value of the effect size can be traced from the following table:

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Small size</th>
<th>Medium size</th>
<th>Large size</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \eta ) value</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
</tr>
</tbody>
</table>
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**Table (3):** Paired Samples Wilcoxon Test results comparing the pre-post administrations mean scores of the participants’ grade ranks in the teaching efficacy scale and its three dimensions:

<table>
<thead>
<tr>
<th>Instrument and its dimensions</th>
<th>N (19)</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>M Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Z</th>
<th>Sig. level</th>
<th>Effect Size η</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSES Positive ranks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>17</td>
<td>10.88</td>
<td>185</td>
<td>25.8</td>
<td>31.4</td>
<td>4.4</td>
<td>2.6</td>
<td>3.627</td>
<td>0.00</td>
<td>0.83</td>
</tr>
<tr>
<td>Engagement</td>
<td>17</td>
<td>10.9</td>
<td>171</td>
<td>27.9</td>
<td>32.2</td>
<td>5.1</td>
<td>2.6</td>
<td>3.088</td>
<td>0.00</td>
<td>0.70</td>
</tr>
<tr>
<td>Instruction Instruction</td>
<td>19</td>
<td>10</td>
<td>190</td>
<td>26.5</td>
<td>32.0</td>
<td>3.9</td>
<td>3.828</td>
<td>0.00</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>

The above table shows that the positive ranks are 19 in the overall TSES and the instructional practices efficacy, while the positive ranks are 17 in both classroom management and student engagement efficacies. Effect size is high in both the overall TSES and in each of its dimensions. Additionally, Z value of the self-efficacy scale is (3.32), which is significant at the level of (0.01). Also Z value distributed on the three efficacies of the scale varied from each other but confirmed to be significant at the level of (0.01). The “Z” value of each of the first, second, and third efficacies of the scale are; (3.627), (3.088), and (3.828) respectively is significant at the level of (0.01). Therefore, there is a statistically significant difference between the study participants’ mean scores on the pre and post administration of the teacher self-efficacy scale as one construct and in each efficacy of the scale in favor of the post administration.

**Table (4):** Paired Samples Wilcoxon Test results comparing the pre-post administration mean scores of the participants’ grade ranks in the teaching performance observation checklist and its three dimensions:

<table>
<thead>
<tr>
<th>Instrument and its dimensions</th>
<th>N (19)</th>
<th>Mean Rank</th>
<th>Sum of Ranks</th>
<th>M Pre</th>
<th>Post</th>
<th>Pre</th>
<th>Post</th>
<th>Z</th>
<th>Sig. level</th>
<th>Effect Size η</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSES Positive ranks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>17</td>
<td>10.88</td>
<td>185</td>
<td>25.8</td>
<td>31.4</td>
<td>4.4</td>
<td>2.6</td>
<td>3.627</td>
<td>0.00</td>
<td>0.83</td>
</tr>
<tr>
<td>Engagement</td>
<td>17</td>
<td>10.9</td>
<td>171</td>
<td>27.9</td>
<td>32.2</td>
<td>5.1</td>
<td>2.6</td>
<td>3.088</td>
<td>0.00</td>
<td>0.70</td>
</tr>
<tr>
<td>Instruction Instruction</td>
<td>19</td>
<td>10</td>
<td>190</td>
<td>26.5</td>
<td>32.0</td>
<td>3.9</td>
<td>3.828</td>
<td>0.00</td>
<td>0.88</td>
<td></td>
</tr>
</tbody>
</table>
The above table shows that the positive ranks are 19 in the overall observation checklist and its three dimensions. Effect size is high in both the overall observation checklist and in each of its dimensions. Additionally, Z value of the observation checklist is (3.826), which is significant at the level of (0.01). Also Z value distributed on the three efficacies of the checklist slightly varied from each other but confirmed to be significant at the level of (0.01). The “Z” value of each of the first, second, and third efficacies of the scale are; (3.838), (3.832), and (3.829) respectively is significant at the level of (0.01). Therefore, there is a statistically significant difference between the study participants’ mean scores on the pre and post administrations of the observation checklist as one construct and in each of its dimensions in favor of the post administration.

Table (5): Paired Samples Wilcoxon Test results comparing the pre-post administrations mean scores of the participants’ grade ranks in the Trait Emotional Intelligence Questionnaire:

<table>
<thead>
<tr>
<th>TEI Questionnaire</th>
<th>N</th>
<th>Mean Rank</th>
<th>Pre</th>
<th>Post</th>
<th>Sum of Ranks</th>
<th>M</th>
<th>S.D</th>
<th>Pre</th>
<th>Post</th>
<th>Z</th>
<th>Sig. level</th>
<th>Effect Size</th>
<th>η</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive Ranks</td>
<td>19</td>
<td>10</td>
<td>190</td>
<td></td>
<td></td>
<td>98.9</td>
<td>131.4</td>
<td>16.1</td>
<td>7</td>
<td>3.823</td>
<td>0.00</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Negative Ranks</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ties</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>98.9</td>
<td>131.4</td>
<td>16.1</td>
<td>7</td>
<td>3.823</td>
<td>0.00</td>
<td>0.87</td>
<td></td>
</tr>
</tbody>
</table>
A Suggested E-Mentoring Model to Develop EFL Student-Teachers’ Self-Efficacy and Emotional Intelligence

Table (5) above illustrates that positive ranks are 19, while there are no negative ranks or ties. Thus, all study participants had overall higher marks in the post administration of the trait emotional intelligence questionnaire than the pre-administration. Moreover, the level of significance of the questionnaire is less than 0.01, which means that there is a statistically significant difference between the participants’ mean scores in the pre-post administration of the trait emotional intelligence questionnaire at the level of (0.01) in favor of the post administration, where Z=3.823. Thus, the fifth hypothesis of the study is proven statistically valid. Moreover, the effect size of the e-mentoring model on developing trait emotional intelligence is 0.87, which means that the model has a large effect size on developing participants’ trait emotional intelligence.

9.4. Discussion of Study Results

1. Results of the Teacher Self-efficacy Scale

Results of the study showed that there is a statistically significant difference between the participants’ mean scores in the pre-post administrations of the teacher self-efficacy scale in favor of the post administration with large effect size of 0.76. Additionally, all study participants had overall higher marks in the post administration of the teaching performance observation checklist than the pre administration. Hence, it has been proven that the suggested e-mentoring model developed the participants’ overall teaching efficacy. This is due to the self-confidence participants gained from the constant help and support offered along the e-mentoring model. The mentor posted solutions to participants’ challenges on weekly basis and encouraged them to reflect on their performance every time they enter the classroom and to accept mistakes as paths to development.

Additionally, the solutions provided via the e-mentoring model were tailored according to participants’ needs and the reflective log helped them modify their performance over weeks, which made them gain positive beliefs about how they can engage
their students, manage their classes, and implement unusual activities in teaching. This result is closely related to the studies of Woolfolk Hoy and Davis (2005), Khan (2012), and Guo, McDonald Conner, Roehring, and Morrison (2012). According to their studies, there is a positive relation between high level of teaching efficacy and teacher’s quality of teaching represented in high-quality planning, actual performance in the classroom in terms of teaching, managing the classroom, and motivating students, as well as the belief in one’s ability to implement new instructional methods.

The e-mentoring model worked on three teaching efficacies: classroom management, motivating students, and instructional practices. As for classroom management and motivating students, 17 of the participants had higher marks in the post administration of the teacher self-efficacy scale in the efficacies of “classroom management” and “student engagement” than in the pre administration, while 2 of them had lower marks in the post administration of the teacher self-efficacy scale in the efficacies of “classroom management” and “student engagement” than in the pre administration.

2. Results of the Teaching Performance Observation Checklist

Unlike the results of the teacher self-efficacy scale, the results of the teaching performance observation checklist showed that all of the 19 participants had higher marks in the post administration of the teaching performance observation checklist in the observed efficacies of “classroom management” and “student engagement” than in the pre-administration. This discrepancy between the results of the teacher self-efficacy scale and the teaching performance observation checklist may be attributed to a number of factors.

First of all, the discrepancy might be due to different expectations of the researcher and the participants. The observation checklist expresses the researcher’s evaluation of participants’ performance that took place once at the beginning of the e-mentoring model and once at the end of the e-mentoring model and
it took place during one teaching period. And this observation
denotes that there is a noticeable development in participants’
classroom management and student engagement efficacies. On the
other hand, the teacher self-efficacy scale represents pre-service
teachers’ self-evaluation before and after the intervention. It is
possible that two of the participants expected more development
from the model in the areas of “classroom management” and
“motivating students” and that they needed longer time of training
on these areas. Secondly, the program was implemented in ten
weeks, which might be considered a short period of time. Extending
the e-mentoring model to the second semester was planned but it
could not be fulfilled due to the outbreak of Covid-19 which
resulted in the lockdown and school suspension. A third factor is the
level of commitment from the part of participants; not all the 19
participants were 100% committed to the e-mentoring sessions.
Probably the two participants did not attend the “classroom
management” and “student engagement” sessions or maybe they
have attended but were reluctant to apply the tips of managing the
class and motivating students.

Nevertheless, results showed that there is an overall statistically significant difference between the participants’ mean
scores in the pre-post administrations of the teacher self-efficacy
scale in the efficacies of “classroom management” and “student
engagement” in favor of the post administration with large effect
size of .083 and .070, respectively. Concerning the development of
classroom management efficacy conforms to how participants’
beliefs changed from the beginning to the end of the e-mentoring
model. In the semi-structured interview questions, participants
expressed their ideas about classroom management as a behavior of
control from the side of the teacher as the inly authority and they
mentioned physical and verbal punishment and embarrassment as
ways of managing the classroom.
However and by the end of the e-mentoring model, participants viewed classroom management as an act of preparing the class for learning without personalizing students’ misbehaviors. They mentioned using activities, games, one-to-one meetings, and rewards as ways of managing the classroom. According to Morris-Rothschild and Brassard (2006), trainee teachers’ strategies to manage their classrooms differ according to their self-efficacy beliefs. For Dibapile (2012), Gibson and Dembo (1984) and Ashton and Webb (1986) reported that teachers with low level of self-efficacy view management as a process of authority and control and they tend to personalize students’ behavioral issues, which make them use verbal or non-verbal violence to control students’ undesired behaviors while teachers with high level of teaching efficacy consider managing the classroom as a way of establishing a productive learning environment by building rapport with students throughout reaching the balance of respecting students while managing the classroom.

As for the efficacy of student engagement, it has been found out that students’ engagement is a construct of behavioral, emotional, and cognitive factors, which depend on the teachers’ decisions and actions in the classroom (Persinski, 2015). Speaking of the cognitive areas of student engagement, Hoffman et al. (2012) pointed out that it can be promoted by applying student-centered learning approach where cooperation, team building, critical thinking, and collaboration are keys to students’ success both in school community and in the outer community. Dotterer and Lowe (2011) further linked emotional and psychological engagement to cognitive achievement claiming that the positive psychological atmosphere impacts engagement because when students’ psychological needs are met, they become more cognitively engaged.

Based on the aforementioned studies, the development in the efficacy of student engagement can be attributed to a number of factors. Firstly, the session of student engagement in the
implemented e-mentoring model included tips on how to establish a positive learning environment and how to differentiate activities and teaching aids according to students’ learning styles and individual needs. Secondly, the two sessions of instructional practices offered variety of activities that depend on cooperation, collaboration, teamwork, and competition. Finally, the session on classroom management provided participants with different ways to deal with disruptive behaviors while keeping a positive learning atmosphere. Thus, the development in the efficacy of student engagement resulted from meeting students’ needs cognitively, emotionally, and psychologically.

“Instructional practices” is the third teaching efficacy the e-mentoring model focused on. Results of the study showed that there is a statistically significant difference between the participants’ mean scores in the pre-post administrations of the teacher self-efficacy scale in the efficacy of “instructional practices” and in the pre-post administration of the observation checklist in the observed efficacy of “instructional practices”. This result is because of the various activities offered in the sessions of teaching grammar and vocabulary, participants’ eagerness to try new ideas in teaching, and the feedback they received after trying out the new ideas. Continuous reflection and feedback made participants confident to use more communicative activities in teaching language as observed by the researcher. The high level of efficacy in “instructional practices” student-teachers reached by the end of the e-mentoring model complies with the results reached by a number of researchers who investigated the relationship between instructional practices and teacher self-efficacy.

For example, Wertheim and Leyser (2002) concluded that the more the teachers are confident about their teaching, the more willing they are to applying more creative and differentiated teaching practices. Also, Nishino (2012) conducted a study on Japanese EFL teachers and concluded that the higher teachers’
efficacy beliefs are, the more communicative language teaching practices they are likely to adapt in their teaching. Additionally, a study conducted on EFL Venezuelan and Iranian teachers by Chacón (2005) and Eslami and Fatahi (2008) indicated that teachers with strong sense of teaching efficacy were more comfortable with implementing activities conducive to L2 communication and interaction as compared to teachers with low teaching efficacy levels.

A study conducted by Choi and Lee (2018) on how secondary EFL teachers’ efficacy beliefs affected their teaching practices in South Korea revealed that classroom management beliefs are also significantly related to communicative teaching. Namely, teachers with higher efficacy beliefs in classroom management tend to use communication-based practices in their instruction. Hence, the high levels of efficacy participants of the current study have reached both in classroom management and instructional practices are interconnected.

3. Results of the Trait Emotional Intelligence Questionnaire

With reference to the second dependent variable, emotional intelligence, there is a statistically significant difference between the participants’ mean scores in the pre-post administrations of the trait emotional intelligence questionnaire in favor of the post administrations with a large effect size of 0.87. In other words, the e-mentoring model was successful in developing EFL student-teachers’ trait emotional intelligence. Petrides (2009) Trait Emotional Intelligence (TEI) was adapted and evaluated in the present study as one construct that can be featured by participants’ wellbeing (happiness, optimism, and self-esteem), self-control (emotion regulation, low impulsiveness, and stress management), sociability (Emotion management in others), emotionality (empathy), adaptability, and self-motivation.

In the present study, participants’ wellbeing has developed due to the continuous support they received along the e-mentoring model. Whenever they felt down due to a challenge they met in
teaching or in maintaining good relations in their schools, they were
given the chance to express themselves, speak up, and seek for help.
For two times, they were invited to open discussions in the mentor’s
office. Every time, they expressed all the issues that caused them
self-doubt or pessimism, received advice on not to personalize any
problem they face in schools, and were told examples of successful
teachers who faced similar challenges to theirs.

Additionally, they were encouraged to cooperate during their
practicum both during their practicum. While teaching in schools,
student-teachers were put into teams and started dividing roles
among team members, e.g. someone will manage the classroom,
another person will conduct the activity, while a third person will
videotape the whole process for further reflection and feedback. On
the e-mentoring website, Edmodo, participants were also invited to
offer help by providing solutions to some problems posted by their
peers. This cooperative community of practice created a sense of
confidence, optimism, and the belief that every problem has a
solution. Moreover, participants’ learned to offer help and support
for each other, which helped increasing their empathy. In addition,
stressing on the idea that problem happen due to external factors
that participants learn to deal with and not due to their own
personalities increased their self-esteem. This, accordingly, has
contributed to raising their wellbeing as teachers.

The aforementioned reasons conform to the Yıldırım’s
(2014) study results which listed cooperation among staff, reflection
and constructive feedback, and professional help and support among
the main factors of teachers’ professional wellbeing and empathy.
Moorever, Zee and Koomen (2016) illustrated in their review of
the last 40 years of research on teacher self-efficacy (TSE) that there
is a positive correlation between TSE and wellbeing. Thus, the
development of TSE in the present study justifies the development
of pre-service teachers’ wellbeing and empathy.
The development of pre-service teachers’ self-control is due to the training they have received on classroom management. When trying the classroom management strategies offered in the e-mentoring model, reflecting on them, and reaching conclusions on the successful patterns of teacher behavior, student-teachers adapted different beliefs about classroom management. The new beliefs which helped them change their classroom management practices from using authority and punishment to dealing with every student as a separate case that has its own needs that need to be met. Maintaining good relations with students, establishing positive learning environment, and reaching the desired learning outcomes made pre-service teachers more successful in managing stress and controlling their emotions.

Speaking of the development of self-control, Sutton, Mudrey-Camino and Knight’s (2009) study results go in line with the results of the present study. In their study, they reviewed a series of studies on teachers’ attempts to control how their emotions are expressed in the classroom. Among the important findings is that there is a positive correlation between effective classroom management, discipline, and teachers’ relationships with students and teachers’ emotion regulation.

Training student-teachers on managing the classroom, student engagement, and instructional practices (teaching efficacies) plus offering ideas for overcoming challenges on the emotional and pedagogical levels helped them adapt to the new environment of the school. And they became able to avoid stressors, deal with challenging situations, and believe in themselves and their abilities to search for new ideas and solutions ideas, apply them, reflect on their application, and modify their performance accordingly. Thus participants’ self-motivation as teachers has increased as well.

In the same vein, Bilim (2014) conducted a study on 341 pre-service elementary teachers to investigate the relationship between their motivation to become teachers and their teaching efficacy beliefs. Results of the study revealed that teaching self-
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efficacy has positive related to pre-service teachers’ intrinsic motivation. Additionally, Barni, Danioni and Benevene (2019) carried out a study on 227 Italian high school teachers to find out about the relationship between their teaching efficacy beliefs and their values (i.e., conservation, openness to change, self-transcendence, and self-enhancement). Among their study results, it has been found out that the more self-efficacious teachers are, the more they are open to change and motivated to teach. Results of these studies explain why participants of the current study became more self-motivated after developing their teaching efficacy beliefs.

10. Conclusions

To the researcher’s best knowledge, there is no published study in Egypt that attempted to develop EFL student-teachers’ teaching-efficacy and trait emotional intelligence depending on an e-mentoring model. The current study investigated the effect of an e-mentoring model based on Edmodo platform on developing EFL student teachers’ teaching-efficacy and trait emotional intelligence at Faculty of Education, Ain Shams University.

The quantitative results of the study indicated that the e-mentoring model was effective in developing EFL student-teachers self-efficacy and emotional intelligence. Among the teaching efficacies, “Instructional practices” efficacy was the most developed efficacy, while “classroom management” and “student engagement” needed more training time to be more developed. Overall, the effect size of the e-mentoring model was high. It has been gleaned that there is a positive relation between the development of teaching efficacy and emotional intelligence traits. Results of the current study conform to previous studies in the same area (see for example Yıldırım, 2014; Zee & Koomen, 2016; Knight, 2009; Bilim, 2014; Barni, Danioni & Benevene, 2019).

However, there is still a need to investigate a number of issues; such as, the effect of developing each teaching efficacy on every emotional intelligence traits among student-teachers, the
Amira Mahmoud Mohammed Elsayed

challenges faced by school supervisors during practicum, and the attitudes of mentors and mentees towards e-mentoring as compared to blended mentoring and on site mentoring.

Stemming from the findings of the current study, it can be concluded that academic and emotional help should be offered to pre-service teachers especially before and during the start of their practicum. This can be throughout holding a number of orientation sessions before student-teachers’ practicum to highlight the challenges that they will face and provide guidance on how to deal with them. It will be also helpful to provide an online platform to best communicate with student-teachers during their practicum, receive their problems, and offer academic and emotional support. It is also recommended to initiate periodical meetings with student-teachers during their practicum where they can showcase their achievements, express their challenges, and receive feedback, encouragement, advice and support.
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