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Development and Evaluation Efficacy Enhancement Module for Teaching English among Early Childhood Teachers

Nur Nazuha Beevi Abdul Aziz
Institut Pendidikan Guru Kampus Tengku Ampuan Afzan KM 10, Jln Padang Tengku, 27200, Kuala Lipis, Pahang.

Abstract
This study aimed to develop and evaluate the Efficacy Enhancement Module for Teaching English / PEMBI Module among early childhood teachers. This study used the Design and Developmental Research (DDR) method with three phases of the study. Phase I was the need analysis phase where a total of 90 KEMAS Preschool teachers were given the questionnaire and interviewed. Phase II was the phase of module design and development where the validity of the module content was assessed by nine expert panels. Phase III which was the implementation and evaluation phase was conducted on 66 KEMAS Preschool teachers who were divided into treatment group (n=33) and control group (n=33) at random. Module content development used the Self Efficacy Theory, Keller ARCS model and Andrology Learning Theory. The instruments consisted of the English Teaching Efficacy Level Questionnaire and the English Teaching Anxiety Level Questionnaire. The findings of the Phase I study showed that teachers believe they are weak in managing their emotional development (M=3.47, SD=6.55), lack self-modelling (M=3.38, SD=0.47), lack knowledge in teaching English (M=3.17, SD=0.43) as well as have relatively low self-assessment (M=2.59, SD=4.62). Therefore, they supported the need for a built module to improve the self-efficacy of teaching English (M=4.04, SD=0.62). The findings of the Phase II study showed that the level of experts’ agreement on the usability of the module exceeded 84.6 percent. The findings of the Phase III study showed that there was a significant difference between the mean scores of pre-test and post-test in terms of self-efficacy belief \([t(32) = -7.66; p<0.05]\); self-efficacy practice \([t(32) = -8.58; p<0.05]\); and anxiety level \([t(32) = 4.128; p<0.05]\). The results of the interview found some strengths of the module, namely the suitability of the module material, improvement of knowledge and skills, self-change and the quality of teaching. The main disadvantage of the module is that it lacks of practical activities and time. In conclusion, this PEMBI Module is effective in improving the knowledge, skills and self-efficacy to teach English. The implication of the study shows that this module can be used for teacher professional development training to improve the quality of English teaching especially from the psychological aspects of teachers including self-efficacy and anxiety of teaching English. 

Keywords: Design and Developmental Research (DDR), Self-Efficacy, Anxiety, Efficacy Enhancement Module for Teaching English & Preschool Teachers.
Introduction
In a culture surrounded by scientific and technical breakthroughs, the importance of English literacy among students is heavily emphasised. This is reflected in the Malaysia Education Development Plan 2013–2025, which lists mastery of multilingual abilities as one of the six student objectives, implying that every child must be able to communicate in Bahasa Malaysia and English at the very least, and is encouraged to learn additional languages. As a result, pupils' mastery of bilingual skills has been emphasised beginning in preschool. The 2017 National Preschool Standard Curriculum, which established a 50:50 ratio for teaching and learning Bahasa Malaysia and English, exemplifies this (KSPK, 2017). English competence is just as important as Malay fluency, according to the criterion, and it should be prioritised. To explore the world of knowledge and compete at the national and international levels, every child must be able to communicate effectively in English (Mustafa & Ahmad, 2017).

As a result, beginning in preschool, a focus on students' mastery of bilingual skills has been implemented. This can be seen in the 2017 National Preschool Standard Curriculum, which established a 50:50 split for Bahasa Malaysia and English teaching and learning (KSPK, 2017). The requirement has shown that English proficiency is just as important as Malay proficiency, and that it should be taught to children as young as five or six years old. To explore the world of knowledge and compete at the national and international levels, every child must be able to communicate effectively in English (Mustafa & Ahmad, 2017).

As a result, early childhood education teachers play an important role in ensuring that children have a strong command of the English language. To teach English, teachers must have a high level of English proficiency. This is because a teacher's English proficiency is an important aspect of English instruction (Faez et al., 2019). Teachers with a high level of English teaching ability can conduct lessons effectively and motivate students to complete their work. Teacher self-efficacy is an important factor in determining an English teacher's level of competence (Serrano et al., 2021). Teacher self-efficacy has been identified as an important factor in the success of English teaching and learning (Hoang, 2018). This is consistent with Yilmaz's (2011) findings, which found a substantial link between teacher self-efficacy and teacher competency in teaching English.

According to Sabokrouh (2014), teacher self-efficacy has a significant impact on a variety of dimensions of English teaching and learning. Teacher self-efficacy is a critical factor in influencing English as a second language teachers' teaching practises and emotions (Hoang, 2018). As a result, in order to provide high-quality English teaching and learning, early childhood education teachers must have a high level of self-efficacy. can be implemented and, as a result, children's English proficiency can be increased. Teachers' self-efficacy in teaching English is related to their ability, self-confidence, and self-assurance in applying English in the classroom. Teachers with high self-efficacy can boost their students' self-efficacy and encourage a positive attitude toward English (Gens et al., 2016).

According to Bandura (1997), various factors influence self-efficacy, the first of which is individual experience (Mastery Experience). It is a term used to describe a person's evaluation of previous achievements. The experience of other people's accomplishments (vicarious experience), which is the process of imitating a role model or learning from others, is the second factor that influences self-efficacy. The third factor is verbal persuasion (Verbal Persuasion). It refers to the verbal influence exerted by specific individuals that may promote self-efficacy. The fourth factor is an individual's physiological and emotional state (physiological and affective state), which will be considered when assessing the abilities, strengths, and weaknesses of bodily dysfunction. The emotional state of a person influences
his or her confidence in performing a task. Most early childhood education teachers experience fear, embarrassment, palpitations, insecurity, sweating, and worry when implementing English-language instruction (Aziz & Mamat, 2017).

Bandura's (1997) four sources of effectiveness formation are important concepts for teachers to understand in order to improve self-efficacy in English teaching. The Malaysian Ministry of Education (MOE) and other organisations have made various efforts to improve early childhood education teachers' English proficiency. Among them are the English Professional Development Course for Preschool Teachers in 2013 and 2014, the "English for Preschool Teachers" (EPT) 2019, the Workshop on Improving the Quality of Teaching and Learning of English Subjects (2014 & 2018), the Head Coach Workshop for English Subjects (2015), the English Phonics Course (2016 & 2017), and the District Religious Office English Teaching Improvement Workshop (2018). However, efforts have been made only to improve the first source of effectiveness formation, which is to increase teachers' knowledge and experience in improving the quality of English teaching and learning.

The MOE and early childhood education agencies' efforts to provide English courses or workshops to early childhood education teachers place a lower priority on improving teacher competence in terms of content knowledge and pedagogy. From 2010 to 2019, this can be seen in the Malaysian Ministry of Education's preparation of courses or the preparation of English workshops for the improvement of English teaching quality. (Ministry of Education, 2019) Professional development for early childhood education teachers has taken place in order to improve the quality of English instruction. However, there is a lack of external and internal motivation that can boost teachers' confidence in teaching English after they have attended English courses or workshops (Epstein & Willhite, 2015; Almuhammadi, 2017). Priority should be given to the other three sources of self-efficacy formation, namely the experience of others' success, verbal persuasion, and the individual's physiological and emotional state. The most important thing is to increase teachers' motivation and confidence in teaching English.

Several studies have concluded that English teachers should be exposed to motivation and confidence as well (Ghasemboland, 2014; Thompson, 2016). Apart from teacher competence, psychological factors such as self-efficacy, self-confidence, motivation, and self-resilience have an impact on a teacher's ability to teach English. Self-efficacy has a strong relationship with teaching strategies and classroom management, according to Epstein and Willhite's (2015) study. According to Sabokrouh (2014), teachers' self-efficacy has a significant impact on various aspects of teaching and learning. According to Anyadubalu (2010), motivation, in addition to language factors, will determine whether or not teachers interact in English successfully. According to the findings of Mustafa and Ahmad (2017), one of the most important factors in improving teachers' ability to interact in English is self-confidence.

In addition to the content knowledge and pedagogy in English factors that influence teacher competence in English, motivation is another key element that might influence teacher competence in English. As a result, the study is interested in seeing teachers' confidence in their abilities to teach English, and self-efficacy factors are the study's key enablers. Because self-efficacy is founded on motivating conceptions, this is the case (Ghasemboland, 2014). Apart from subject and pedagogy expertise in English, this study seeks to explore the aspects that must be present as training for early childhood education teachers in order to improve the quality of English teaching.

As a result, the idea evolved to create a training programme that would boost instructors' self-efficacy in teaching English while also lowering their anxiety. The PEMBI
Module stands for "Efficacy Enhancement Module for Teaching English for Early Childhood Education Teachers." This module was created using the results of a needs assessment, the Bandura Self-Efficacy Theory (primary theory), the Keller ARCS Model, and the Andragogy Learning Theory (side theory). Module creation techniques are followed by PEMBI modules to assure their validity, reliability and usability.

The study's specific goals were to:

i) Design and construct training modules to improve instructors' self-efficacy in teaching English.

ii) Determine how the module's effectiveness and usefulness will be assessed.

**Methodology**

**Research Design**

In this study, the design and development research (DDR) approach has been adopted. (Richey & Klien, 2007). The development of this module is implemented in three phases namely (1) Needs Analysis Phase, (2) Design and Development Phase, and (3) Implementation and Evaluation Phase.

The needs analysis stage is the process of determining and identifying the problem by looking for the causes or factors related to the problem. Data obtained via needs analysis is used in the Design and Development Phase. At this stage, several aspects are determined, namely objectives, content selection, strategy selection, and selection of relevant materials based on the findings of needs analysis, Self-Efficacy Theory, Keller's ARCS Model, and Andragogy Learning Theory. Once the content of the draft module has been developed, the validity of the module content is determined by asking several experts in the relevant field to make assessment and provide feedback so that the content can be improved prior to the Implementation and Evaluation Phase. Furthermore, in the implementation stage, this module is tested for its effectiveness and usability.

**Research Samples**

Nine experts were selected to review and evaluate a set of the draft PEMBI Module for the purpose of validating the module content in the Design and Development phase. In the Implementation and Evaluation phase, purposive sampling was adopted to determine the effectiveness of the PEMBI Module. A total of 66 KEMAS Kindergarten teachers were selected to participate in the quasi-experiment. Then, 33 teachers were assigned to the treatment group, in which they had to participate in all activities provided in the PEMBI Module via training workshop while the remaining 33 in the control group did not receive any treatment.

**Research Instrument**

The Design and Development Phase involves a questionnaire according to Russell (1974) and an activity-based validity questionnaire by (Arip, 2018). The evaluation of all questionnaire items used a rating scale of 0 (strongly disagree) and 10 (strongly agree). In this phase, the scale reliability was obtained through the PEMBI Module Reliability Questionnaire. The items in the questionnaire were prepared based on the implementation steps of the PEMBI Module activities. It aims to assess the level of understanding of the teachers involved in all activities of the PEMBI Module workshop. The Self-Reflection Form was also used to assess the experience and feelings of the training participants. In the Evaluation Phase, the English Teaching Effectiveness Scale and the English Teaching Anxiety Scale were used in the quasi-experiment to obtain pre-test and post-test data. The
actual questionnaires used for field work were translated and modified from the “Teachers’ Sense of Teacher Efficacy Scale” by Tschanne-Moran and Woolfolk Hoy (2001) and the “Foreign Language Classroom Anxiety Scale” by Horwitz, Horwitz, and Cope (1986). The English Teaching Effectiveness Scale has a high validity value i.e. the coefficient index of .87 and the Cronbach’s Alpha value of .89 for reliability. Meanwhile, The English Teaching Anxiety Scale has a high validity value i.e. the coefficient index of .90 and the Cronbach’s Alpha value of .95 for reliability. Besides, the Module Evaluation Feedback Form, KEMAS Kindergarten teacher interview protocol and facilitator interview protocol were employed.

Data Collection Procedures
In the design phase, the PEMBI Module was determined based on the findings of the needs analysis, Bandura’s Self-Efficacy Theory, Keller’s ARCS Model, and Andragogy Learning Theory. The theories and models selected are to shape the content and activities of the module besides the choice of relevant strategies and materials. The panel of experts were given two to three weeks to review the draft of the PEMBI Module and complete the two questionnaires to validate the module content. Experts can provide feedback on the strengths, weaknesses, and suggestions for improvement of the module. Upon completion of reviewing and evaluating the draft of the PEMBI Module, the panel of experts can submit the questionnaires to the researcher using the express mail envelope provided by the latter. The Implementation and Evaluation Phase requires permission from the Perak Social Welfare Department (JKM) before the training workshops using the PEMBI Module could be carried out. The researcher explained the objectives of the workshop, the content of the workshop, the number of teachers who would get involved, the implementation date, the duration, the implementation schedule, and the materials used in the workshop. The researcher also made a request to JKM to provide facilities and equipment to carry out the workshop. JKM had approved the researcher’s application provided that all costs of workshop implementation such as food and beverage for the participants as well as material preparation are fully borne by the researcher.

Data Analysis Method
The expert validity data in the Design and Development Phase were analysed manually on a scale of 1 (very unsatisfactory) to 10 (very satisfactory). When majority of the scales are between 7 and 10, the items are deemed to have high validity. To determine the validity of the questionnaire, the total expert score (x) was calculated and divided by the total actual score (y) and multiplied by 100.

The implementation and evaluation phase data were obtained through questionnaires analysed using “Statistical Packages for the Social Sciences” (SPSS) while the interview data were analysed using thematic analysis. In this study, the paired sample t-test inferential statistics was used to analyse the pre-test and post-test data.

Research Finding
Research Objective 1:
To design and develop training modules to enhance teachers’ self-efficacy in teaching English

The main theory in this study is the Bandura’s Theory of Self-Efficacy (TEKB), which consists of four sources of individual self-efficacy namely knowledge and achievement, experience of other people’s success, verbal persuasion, as well as physiological and emotional states.
Another theory is the Andragogy Learning Theory (TPA) which sets out the key characteristics of adult learning namely self-directed, experiences, goal-oriented, relevance, problem-centred, and practical. Meanwhile, the Keller’s ARCS Model (ARCS) is used to increase individual motivation in learning which outlines four main principles namely attention, relevance, confidence, and satisfaction.

The combined findings of TEKB, TPA, and ARCS have contributed to the key content of the PEMBI Module as illustrated in Figure 1.

**Figure 1. Content of PEMBI Module**
Research Objective 2
To evaluate the module in terms of effectiveness and usability
Table 1 presents the research findings in terms of the effectiveness and usability of the module

Table 1
Mean Scores of Self-Efficacy Belief Before and After 6 Weeks of the PEMBI Module Treatment

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean (Difference)</th>
<th>Test</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before treatment vs</td>
<td>66</td>
<td>-0.447±0.474</td>
<td>Pair T-Test</td>
<td>0.000</td>
</tr>
<tr>
<td>After treatment</td>
<td></td>
<td></td>
<td>t = 7.665</td>
<td></td>
</tr>
</tbody>
</table>

*Significant level<0.05

Based on Table 1, it shows that $p = 0.000$, i.e. $p < 0.05$, so there is a significant difference in terms of self-efficacy belief after six weeks of the PEMBI Module treatment. There was a significant difference between the mean scores of pre-test and post-test in the aspect of self-efficacy belief $[t(32) = 7.66; p < 0.05]$. It can be seen that the mean score after treatment is greater than the mean score prior to treatment. The improved mean score of self-efficacy belief indicate that the teachers have higher confidence in English teaching after undergoing the PEMBI Module treatment.

Table 2
Mean Scores of Self-Efficacy Practice Before and After 6 Weeks of the PEMBI Module Treatment

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean (Difference)</th>
<th>Test</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before treatment vs</td>
<td>66</td>
<td>-0.611±0.578</td>
<td>Pair T-Test</td>
<td>0.000</td>
</tr>
<tr>
<td>After treatment</td>
<td></td>
<td></td>
<td>t = 8.585</td>
<td></td>
</tr>
</tbody>
</table>

*Significant level<0.05

Table 2 demonstrates $p = 0.000$, i.e. $p < 0.05$, so there is a significant difference in terms of self-efficacy practice after six weeks of PEMBI Module treatment. There was a significant difference between the mean scores of pre-test and post-test in the aspect of self-efficacy practice $[t(32) = 8.58; p < 0.05]$. In fact, the mean score after treatment is greater than the mean score prior to treatment. The improved mean score of self-efficacy practice indicate that teachers have better practice in teaching English after undergoing the PEMBI Module treatment.

Table 3
Mean Scores of Anxiety Level Before and After 6 Weeks of the PEMBI Module Treatment

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean (Difference)</th>
<th>Test</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before treatment vs</td>
<td>66</td>
<td>-0.350±0.689</td>
<td>Pair T-Test</td>
<td>0.000</td>
</tr>
<tr>
<td>After treatment</td>
<td></td>
<td></td>
<td>t = 4.128</td>
<td></td>
</tr>
</tbody>
</table>

*Significant level<0.05
Table 3 shows that $p = 0.000$, i.e. $p < 0.05$, so there is a significant difference in terms of anxiety level after six weeks of the PEMBI Module treatment. There was a significant difference between the mean scores of pre-test and post-test in the aspect of anxiety level [$t(32) = 4.128; p < 0.05$]. It was demonstrated that the mean score after treatment is smaller than the mean score prior to treatment. The reduced mean score shows that the anxiety level among teachers in teaching English has reduced after undergoing the PEMBI Module treatment.

Based on the interviews, it was found that the PEMBI Module benefits teachers by helping them to have better personality, improved knowledge and skills, English teaching becomes more interesting, positive emotional growth towards English teaching, and the module is suitable to guide teachers in teaching English. From the facilitator perspective, this module has advantages in terms of its usability with the main objectives of the module and it does include supporting materials and strategies or methods to implement the activities. The facilitator also stated that the module can help to improve teachers’ knowledge and skills from various aspects such as to be more positive from the psychological aspect, can identify the way to improve self-efficacy, and have the knowledge of more effective and interesting teaching strategies or methods. The modules are also easy to follow and compelling, so the teachers can improve their knowledge and skills easily. However, according to the feedback of some teachers, the module has some weakness in terms of activities, that it requires more hands-on activities in lieu of theories. But the time allocated is quite tight because the module users have no time to calm themselves down as there are too many activities. Besides, the facilitator highlighted that some teachers are less responsible in completing the exercises or assignments. Therefore, the facilitator suggested some improvements to the module implementation such as offering rewards by the kindergarten administrators, ongoing monitoring by the administrators, the need to create a Whatapps or Telegram group to facilitate any queries, give opinion to the teachers, and encourage two-way communication.

Discussion and Research Implication
The level of success stories among the teacher is moderate because the teachers in this study do not seek opportunities to see other teachers’ effective teaching styles, they need English mentors as the role models, and they do not know to observe and apply themselves to the techniques used by other teachers. In the study conducted by Clark and Newberry (2019) as well as Starine and Kurniawati (2019), the success stories of others significantly influence the development of teachers’ self-efficacy in teaching English. Low level of verbal persuasion in English teaching are attributed to teachers being less rewarded, less record of their own teaching on video to be evaluated by other teachers, and less feedback related to English teaching. Besides, the low physiological and emotional states in teaching English cause teachers to feel depressed, panicked, scared, embarrassed, not eager to teach English, as well as stuttering and sweating. Anxiety is a factor that influences the teaching of second language (Horwitz et al., 1986; MacIntyre & Gardner, 1989). Starine and Kurniawati (2019) found that psychological factors such as physiological and emotional reactions are the most important factors in determining the effectiveness of English teaching.

Thompson (2016) has incorporated the self-efficacy construct into the training and development of English teachers in Japan because self-efficacy is closely associated with the teaching of second language such as English. Likewise, Chaves and Guapacha (2016) conducted a study on teacher development training to improve the quality of English
teachers. According to him, the success of professional development is not solely focused on content knowledge and methodology but shall also focus on attitude and factors such as motivation, commitment, willingness to change, and open-mindedness to try new things.

Overall, the mean scores of self-efficacy belief and self-efficacy practice have increased upon attending the training workshop using the PEMBI module. Meanwhile, the mean score for the level of anxiety has reduced after attending the training workshop using the PEMBI module.

**Research Implications**
The findings of the effectiveness of teachers who have followed all the PEMBI module activities in terms of cognitive, affective, and behavioural changes are shown in Figure 3.

![Diagram](image)

*Figure 3. Module PEMBI is indeed a vehicle to the Development of Teacher Professionalism.*

In terms of cognitive, teachers can enhance their knowledge of the subject content and pedagogy of teaching English. In terms of affective, teachers can increase their motivation, self-efficacy beliefs, self-confidence in teaching English as well as reduce their embarrassment and anxiety in teaching English. Meanwhile from the behavioural aspect, teachers need to improve the self-efficacy practice to aim for effective teaching of English. Environment is a training platform for the professional development of the early childhood education teachers, utilising the PEMBI Module as well as feedback or response of the school administrators, kindergarten teachers or their peers can apply the teaching practices implemented in the module.

**Conclusion**
Overall, the PEMBI Module can help to improve teachers’ self-efficacy and reduce anxiety in the core teaching of English. Implications and theoretical recommendations to this module
can help to change the attitude of teachers especially from the cognitive, affective, and behavioural aspects. The study findings also confirmed that the conceptual framework of the study adapted from several theories and models can be implemented in the field of early childhood education, specifically to teacher development training to improve self-efficacy in English teaching. The implications and practical recommendations in this study are extended to the Ministry of Education Malaysia, the Department of Social Welfare, the Islamic Religious Department, and all agencies that are in charge of the early childhood education teachers. In the future, more methods shall be adopted, besides involving other group of respondents as the study samples and increasing the sample size.

References


