Self-Efficacy of English Language Teachers With Low and High Curriculum Literacy in Indonesian Schools

La autoeficacia de docentes de inglés con niveles de conocimiento curricular altos y bajos en escuelas de Indonesia

Burhanuddin Yasin
Usman Kasim
Faisal Mustafa
Saiful Marhaban
Universitas Syiah Kuala, Banda Aceh, Indonesia

Endang Komariah
Universitas Lampung, Lampung, Indonesia

This study explores the difference in self-efficacy between high school English language teachers with two levels of curriculum literacy. The data were collected using a curriculum literacy test and a self-efficacy scale that were delivered online to 251 English teachers in Indonesia. The respondents were split into two groups based on their curriculum literacy scores. The findings show that teachers with higher curriculum literacy levels were more self-efficacious than those with a lower level of curriculum literacy. This implies that curriculum related courses in preservice teacher programs need to be improved, and in-service teacher training should focus on curriculum knowledge.

Keywords: curriculum implementation, curriculum literacy, English language teachers, self-efficacy

Este estudio explora las diferencias de autoeficacia entre docentes de inglés con dos niveles de conocimiento curricular. Los datos se recolectaron a partir de una prueba de conocimiento curricular y una escala de autoeficacia que fueron distribuidas en línea a 251 docentes de inglés de secundaria en Indonesia. Los participantes se dividieron en dos grupos de acuerdo con sus puntajes de conocimiento curricular. Se encontró que los docentes con mayores niveles de conocimiento curricular son asimismo los más eficaces. Esto implica que se deben mejorar los cursos sobre el currículo en los programas de preparación inicial docente, así como dar mayor énfasis al conocimiento curricular durante la formación continua de docentes en ejercicio.

Palabras clave: autoeficacia, conocimiento curricular, docentes de inglés, implementación curricular

Burhanuddin Yasin https://orcid.org/0000-0001-6476-5031 · Email: burhanyasin@unsyiah.ac.id
Usman Kasim https://orcid.org/0000-0001-4265-948X · Email: usman@unsyiah.ac.id
Faisal Mustafa https://orcid.org/0000-0001-8619-3117 · Email: faisal.mustafa@unsyiah.ac.id
Saiful Marhaban https://orcid.org/0000-0001-1557-6610 · Email: saiful22@unsyiah.ac.id
Endang Komariah https://orcid.org/0000-0001-3581-2554 · Email: endang.komariah@fkip.unila.ac.id


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Introduction
Self-efficacy is the belief held by a person that they can achieve a certain task. It influences a person’s thoughts and emotions, which can affect motivation. The concept of self-efficacy was first popularized by Albert Bandura in the second half of the 20th century. It was developed based on the concept of behavioral change (Bandura, 1977). Following the establishment of a self-efficacy scale, much research involving self-efficacy was conducted in many fields (Berg & Smith, 2016). In the field of teaching, it is one of the most important factors which determines the success of teachers in motivating their students and improving their academic achievement. Research in the field of teacher education shows that teachers with high self-efficacy tend to be more committed to teaching (Wolters & Daugherty, 2007), more excited about teaching (Skaalvik & Skaalvik, 2010), and more satisfied about their profession as teachers (Skaalvik & Skaalvik, 2014). Research has also confirmed that self-efficacy is developed and improved during preservice training and is resistant to change in spite of negative experiences during teaching practice (Bandura, 1997). In addition, professional development has been found to also improve teachers’ self-efficacy (Zonoubi et al., 2017).

Previous research has extensively explored teacher self-efficacy in relation to job satisfaction and student performance (Oliveira-Fernandez et al., 2016), teacher burnout (Fathi et al., 2021; Skaalvik & Skaalvik, 2010), and teaching motivation (Barni et al., 2019). These studies found that self-efficacy is associated with those variables. In addition, the sources of self-efficacy have been popular subjects for research, such as mastery experience, physiological and emotional states, vicarious experience, and social persuasion (Bandura, 1997). Previous research dealt mostly with meta sources influencing self-efficacy. Among those meta sources are tutoring provided during preservice training (Clift & Brady, 2009), academic qualification and experience (Shazadi et al., 2011), personal values (Barni et al., 2019), the quality of preservice teacher training, colleague and principal’s support, mentor support, and characteristics of teaching assignments (Çapa, 2005). However, little information is available on how self-efficacy and curriculum literacy interact to help teachers perform their tasks effectively. Therefore, in this study, data on English teachers from one Indonesian province was utilized to identify whether teachers with different levels of curriculum literacy have different measurements of self-efficacy. Self-efficacy was measured in terms of teaching accomplishment, skill development in teaching, social interaction with students, parents and colleagues, and coping with stress in teaching. The results of this research could be used by teacher training institutions to develop curriculum and training for both preservice and in-service teachers. The results may also fill a gap in the literature regarding the relationship between self-efficacy and curriculum literacy.

Literature Review
Self-Efficacy and Its Dimensions
The belief of how well or poorly a person will perform a task is believed to determine whether the task is performed at all. This belief is based on the fact that “people who are aware of being able to make a difference feel good and therefore take initiatives” (Flammer, 2001, p. 13812), which is the basis for self-efficacy under the concept of social cognitive theory developed by Bandura. Self-efficacy has been used to predict personality (Kong et al., 2021), learning interest (Oppermann & Lazarides, 2021), whether a person leads a healthy lifestyle (Bektas et al., 2021), and even daily smoking intention (Wang et al., 2021). The productive use of self-efficacy to predict behavior has led to the development and validation of the self-efficacy scale (Chen et al., 2001; Nel & Boshoff, 2016). Although studies in self-efficacy and its relation to behavior and performance are abundant, gaps in the research are still present, and many studies are being conducted to fill these gaps.
The variability of self-efficacy falls on three dimensions: magnitude, strength, and generality, as originally proposed by Bandura (1977). Therefore, the measurement of self-efficacy should be based on these three dimensions (van der Bijl & Shortridge-Baggett, 2001). Magnitude, or level, represents the difficulty of the task. When a task can be done easily without it being too challenging or having too many risks, most individuals show an ability to perform the task successfully. Thus, a self-efficacy scale should be constructed to “identify the level of challenge or impediment to successful performance of the required activities” (Bandura, 1997, p. 43). The second dimension—strength—refers to the confidence of an individual to successfully perform a task. According to Bong (1997), people with a lack of confidence due to low-perceived competence are more likely to withdraw from a task. Finally, generality refers to “the extent to which magnitude and strength beliefs generalize across tasks and situations” (Chen et al., 2001, p. 63). A developed sense of self-efficacy to perform a certain task results in strong self-efficacy toward other related tasks due to a feeling of mastery over the original task. This experience may also affect self-efficacy towards less related tasks (Bandura, 1977).

Teacher Self-Efficacy
Teacher self-efficacy relates to how much teachers believe in their competence as teachers (Perera & John, 2020). This belief influences a teacher’s behavior in how well they perform their teaching duties (Van Gasse et al., 2020). The significance of teacher self-efficacy is also reflected in their attitudes toward approaching problems that the students may have. Teachers with negative self-efficacy have a higher level of motivation depletion, burnout, and stress (Fathi et al., 2021). They also tend to report more student problems (Caprara et al., 2003) and are skeptical about their students’ success in learning (Bandura, 1997). Meanwhile, teachers with positive self-efficacy tend to use more teaching methods to address students’ learning problems (Riggs & Enochs, 1990) and are more tolerant of students’ negative behavior (Zee & Koomen, 2016), and consider that they, as teachers, contribute to a student’s failure in learning (Woodcock et al., 2019). Thus, students taught by teachers with positive self-efficacy tend to have more motivation to learn (Burić & Kim, 2020) and better academic achievement (Caprara et al., 2006). The use of innovative teaching methods in the classroom by self-efficacious teachers has been found to positively influence student self-efficacy, which also increases their motivation and learning achievements (Boroumand et al., 2021).

Previous research has explored the factors which positively influence self-efficacy among teachers, and the findings seem to be uniform. Preservice teacher training, such as university education, was found to be the most influential factor, and self-efficacy was shown to improve significantly during these programs (Gurvitch & Metzler, 2009; Malmberg & Hagger, 2009). However, short-term professional development training also improves the self-efficacy of elementary and secondary school English teachers (Lee & Davis, 2020). Research also reported that the self-efficacy of practicing teachers is higher than that of preservice teachers. The improvement of self-efficacy at this stage is caused by the development of knowledge related to teaching and teaching experience. In fact, an analysis conducted by Lauermann and König (2016) showed that in-service teachers’ pedagogical knowledge is significantly correlated to their self-efficacy. In the field of language teaching, a teacher’s English proficiency level is positively correlated to their self-efficacy both when English proficiency is self-reported (Ghasemboland & Hashim, 2013; Hoang & Wyatt, 2021; Yilmaz, 2011) and when tested using a standardized test (Sabokrouh, 2013).

Self-efficacy is measured using a self-efficacy scale based on the theory of social cognition (Bandura, 1977). The construction of this scale is based on the construct of efficacy expectations, which are “performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal” (Bandura, 1977, 1997). The general self-efficacy scale, as used by Schwarzer and Jerusalem
Yasin, Kasim, Mustafa, Marhaban, & Komariah (1995), is flexible and can be adjusted to a specific situation. A more general teacher self-efficacy scale has been constructed through adaptation and consists of 10 items (Schwarzer et al., 1999). A more detailed scale is the 24-item Ohio State Teacher Efficacy Scale designed and validated by Tschannen-Moran and Hoy (2001). A more recent scale is the Norwegian Teacher Self-Efficacy Scale, which consists of 24 items and was developed and pilot-tested by Skaalvik and Skaalvik (2007). All of these scales use the Likert scale with points between 4 and 6. In this study, a 10-item scale was used to compare the teachers' curriculum literacy.

Curriculum Literacy

The term curriculum literacy or curriculum knowledge refers to the understanding of the concepts of a particular curriculum (Steiner et al., 2018). It is independent of pedagogical content knowledge (Hashweh, 2005) but is a part of overall pedagogical knowledge. This subcomponent of pedagogical knowledge is a very significant factor which contributes to the success of curriculum implementation (Sural & Dedebali, 2018). Previous studies have revealed that the implementations of curriculum in India, Pakistan, and Argentina were limited because of teachers' lack of knowledge of the implemented curriculum concept (Ali & Baig, 2012; Carrera et al., 2003). Teachers who have low curriculum literacy have also been found to be more conservative with regards to new curriculum and chose to continue using the old curriculum instead (Carrera et al., 2003).

Knowledge significant to implementation of the curriculum includes: (a) general knowledge regarding the implemented curriculum (Mandukwini, 2016), (b) standard of content, (c) standard of process, and (d) standard of assessment specified by the curriculum (Gani & Mahjaty, 2017). General knowledge of the curriculum includes the general concept of curriculum and the concept which underlies the establishment of the target curriculum (Su, 2012). Standard of content is the scope of the materials to be taught and the level of knowledge of the materials to be achieved by the students (Shulman, 1986b). The standard of process is the approach used to deliver the materials. An example of this would be the scientific approach, which comprises the stages of observation, questioning, data collection, associating, and communicating (Gani & Mahjaty, 2017). This standard also includes the knowledge of how to design lesson plans that cover the content area, as well as how to format the lesson plans. The standard of assessment determines how the standard of content is assessed, such as through authentic assessment (Lund & Tannehill, 2014). The general concept of a curriculum is learned during the preservice teacher training program, and it is during this training that teachers are also equipped with comprehensive knowledge of the latest curriculum (Osamwonyi, 2016). Other knowledge is received through curriculum socialization and training prior to and during the implementation of the curriculum (Mandukwini, 2016).

The Present Study

This research aims to find scientific evidence to prove whether teacher self-efficacy is significantly different between teachers with differing levels of curriculum literacy. Four major areas of expected job skills within the teaching profession, as appeared in Schwarzer and Hallum (2008), were used as the framework for this research. This study focused on the self-efficacy dimension of strength, which is defined as the belief that a task with a certain difficulty level can be performed successfully (Chen et al., 2001), as suggested in Schwarzer and Jerusalem (1995). Those areas include (a) job accomplishment, (b) skill development on the job, (c) social interaction with students, parents, and colleagues, and (d) coping with job stress (Schmitz, 1998).

Job accomplishment is associated with dealing with difficult students because it poses the greatest challenge in a teaching profession. In addition, teachers are expected to be innovative in their teaching approach, and such
innovations are sometimes met with disapproval by skeptical colleagues. Teachers need to be able to motivate themselves in order to develop their skills regardless of constraints. The third skill, social interactions, is the fundamental basis of teaching. Social interactions in the educational context do not only involve students, but they also include colleagues and students’ parents. Finally, the profession also expects that teachers deal with work difficulties in a stress-free manner to create a learning-conducive experience for the students.

**Method**

We used a quantitative method to answer the research question, and data were analyzed using inferential statistics for hypothesis testing. The data were displayed to show descriptive statistics in order to provide a general overview of data characteristics prior to further statistical analysis.

**Instruments**

This research utilized two instruments: a test of the teachers’ knowledge of the currently implemented curriculum in Indonesia and a teacher self-efficacy scale. The test was designed to include a general concept of the curriculum, a standard of content, standards of process, and a standard of assessment in the curriculum. The test consisted of 55 questions in the form of a four-option multiple choice test with one correct answer. The test was piloted to 25 teachers. The test was revised considering the item difficulty index, the discrimination index, and the distractor analysis. The revised version of the test achieved an internal consistency of 0.71, which was calculated using Cronbach Alpha at a significance level of 0.05. The teacher self-efficacy scale—taken from Schwarzer et al. (1999)—consists of 10 items. It uses the four-point Likert scale, which ranges between exactly true (4) and not true at all (1). The scale covers four major areas: job accomplishment, skill development, social interaction, and coping with job stress.

**Participants**

The target participants for this research were 1,000 high school English teachers (about 50% of all high school English teachers) from Aceh, the westernmost province of Indonesia. The participants who completed the test were 288 (29% of the target participants), and 380 (38%) target participants completed the self-efficacy scale. Twenty-five percent of the target population (251 participants) completed both assessments: 216 women (86%) and 35 men (14%). The detailed figures for each region of the province are presented in Table 1, and the CONSORT participant flowchart in Figure 1.

<table>
<thead>
<tr>
<th>Table 1. Distribution of the Participants Who Completed Both Assessments (N = 251)</th>
</tr>
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<tbody>
<tr>
<td><strong>Level</strong></td>
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<tr>
<td></td>
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<tr>
<td>Eastern region</td>
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<td></td>
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<tr>
<td>Central region</td>
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<td></td>
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<tr>
<td>Western region</td>
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</table>
Data Collection

The self-efficacy scale was delivered via Google Forms to the target participants through the head of a teacher forum, which is similar to a district-level teacher association, in each district and municipality. The teachers were informed that the test and self-efficacy scale would both be used for the research purpose. Only those teachers who agreed to participate \((N = 251)\) were allowed to complete each instrument. The self-efficacy scale was delivered prior to the test because it is easier and does not take much time to complete. This was done because it was expected that more teachers would complete the self-efficacy scale than the test. The teachers were given three weeks to complete the self-efficacy scale. In the next step, the same procedure was followed to distribute the curriculum literacy test. Teachers were able to view their scores upon completing the test. The questionnaire was distributed online because the research was conducted during the COVID-19 outbreak when travel restrictions and social distancing policies were being enforced in the province. This also made it less likely that teachers consulted one another on completing either the self-efficacy scale or the curriculum literacy test due to the work-from-home rule set by the Education Department in Indonesia.

Data Analysis

To test the hypothesis, we utilized inferential statistical analysis. The analysis was divided into two steps. First,
the data were split into two categories: the first category was based on the median, where the participants were split into a lower group consisting of participants whose curriculum literacy was lower than the median, and a higher group for participants with curriculum literacy higher than the median. Thus, 106 participants were allotted to the higher curriculum literacy group and 120 to the lower curriculum literacy group. Participants with a score similar to the median were removed (25 participants, approximately 1% of the total participants), and they serve as a gap between the higher and lower group. The second category was based on the quartiles Q1 and Q3, to give a wider gap between the lower and higher groups. The lower group consisted of participants with a score lower than the first quartile (Min. to Q1) and the higher group comprised of participants with a score higher than the third quartile (Q3 to Max.). The gap between the higher and lower curriculum literacy groups was wider in this category, with 45% of the participants curriculum literacy scores being higher than the lower group but lower than the higher counterpart. Using both group categories allowed for a more confident interpretation and conclusion. Further group splitting was not possible due to small sample sizes in both groups, which would prevent inferential statistical analysis.

In the second step, the self-efficacy of teachers in the lower group was compared to that of the higher group. The analyses were repeated for each group category. Because the data were categorical, the Mann Whitney U test was used. The hypothesis was set to be rejected at the significance level of 0.05. Therefore, the alternative hypothesis that self-efficacy of teachers with lower curriculum literacy is significantly different from self-efficacy of teachers with higher curriculum literacy is accepted if the \( p \)-value is lower than 0.05. However, a \( p \)-value of higher than 0.05 was considered and interpreted with caution.

In addition to calculating the \( p \)-value for each category, effect size was also calculated by computing the value of the correlation coefficient \( r \). Effect size is commonly defined as “the size of an effect in a population” (Privitera, 2018, p. 523), which provides information on how meaningful the difference provided by the \( p \)-value is. Unlike \( p \)-value, effect size is much less influenced by sample size (Fan & Konold, 2010). We used the following formula to calculate the effect size for the Mann Whitney U test, as suggested by Tomczak and Tomczak (2014).

\[
r = \frac{Z}{\sqrt{n}}
\]

In the formula, \( Z \) refers to the \( Z \)-score obtained from the Mann Whitney calculation, and \( n \) is the sample size.

**Findings**

The objective of this research was to find out whether self-efficacy levels were different between teachers with higher and lower curriculum literacy. The data analyses were divided into two steps, namely, descriptive analysis and inferential analysis.

**Curriculum Literacy Scores**

The test was completed by 288 teachers, but scores from 37 teachers were removed because they did not complete the teacher self-efficacy scale. The scores obtained by the 251 teachers are visualized in Figure 2.

Figure 2 shows that the data were evenly distributed, where the number of participants who obtained a lower score were approximately similar to those who obtained higher scores. The density line (curved line) is plotted to show the distribution of the data. The median of the data was 52.72 out of 100. For the purpose of the first analysis, the participants were split using the median as the cutoff point, which resulted in 120 participants with lower curriculum literacy and 106 participants with higher curriculum literacy. In the second analysis, the participants were divided into two groups where the first group consisted of teachers whose scores were lower than 70% of all teachers (54 teachers) and the second group consisted of teachers whose scores were higher than 75% of all teachers (58 teachers).
Figure 2. Scores of the Curriculum Literacy Test

Figure 3. Self-Efficacy of Teachers in Four Curriculum Literacy Groups
Teacher Self-Efficacy

There were 380 teachers who completed the self-efficacy scale, more than those who completed the curriculum literacy test. Therefore, the scores from 129 participants (34%) were eliminated due to their absence from the curriculum literacy test. The participants were then split based on the median and quartiles of their curriculum literacy scores. The self-efficacy of all groups is illustrated in Figure 3.

The bar charts and density lines in Figure 3 show that the self-efficacy of teachers with higher curriculum literacy is more populated to the right compared to that of teachers with lower curriculum literacy. The detailed description of self-efficacy of both teacher groups based on both categories is presented in Table 2. The description covers five-number summary and standard deviation.

Table 2 shows that the means of self-efficacy between the lower group and the higher group based on both median and quartile were different. Table 3 presents the same information for each job skill related to the teaching profession.

### Table 2. Descriptive Statistics of Self-Efficacy of Teachers in Two Curriculum Literacy Groups

<table>
<thead>
<tr>
<th>Test</th>
<th>n</th>
<th>Min.</th>
<th>Q1</th>
<th>Med.</th>
<th>Q3</th>
<th>Max.</th>
<th>Mean</th>
<th>sd</th>
</tr>
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<tbody>
<tr>
<td>Based on median</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Lower group</td>
<td>120</td>
<td>1.00</td>
<td>2.48</td>
<td>2.90</td>
<td>3.10</td>
<td>4.00</td>
<td>2.68</td>
<td>0.74</td>
</tr>
<tr>
<td>Higher group</td>
<td>106</td>
<td>1.00</td>
<td>2.73</td>
<td>3.00</td>
<td>3.20</td>
<td>3.90</td>
<td>2.89</td>
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</tr>
<tr>
<td>Based on quartile</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower group</td>
<td>54</td>
<td>1.00</td>
<td>2.17</td>
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<td>4.00</td>
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<td>0.81</td>
</tr>
<tr>
<td>Higher group</td>
<td>58</td>
<td>1.00</td>
<td>2.73</td>
<td>3.00</td>
<td>3.20</td>
<td>3.90</td>
<td>2.92</td>
<td>0.48</td>
</tr>
</tbody>
</table>

### Table 3. Descriptive Statistics of Each Part of Teacher Self-Efficacy in Two Curriculum Literacy Groups

<table>
<thead>
<tr>
<th>Test</th>
<th>n</th>
<th>Min.</th>
<th>Q1</th>
<th>Med.</th>
<th>Q3</th>
<th>Max.</th>
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</tr>
<tr>
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<td>120</td>
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<td>3.85</td>
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<td>Based on quartile</td>
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</tbody>
</table>

*Note: JA = Job accomplishment, SD = Skill development, SI = Social interaction, CJS = Coping with job stress*
Table 3 shows that the means of self-efficacy for each scale section between the lower group and the higher group, based on both median and quartile, were different with some similarities except for mean and standard deviation. The next subsection presents the results of inferential statistical analysis to show whether these differences are significant.

**Hypothesis Testing**

The hypothesis to be tested was: “The self-efficacy of teachers with lower curriculum literacy is not significantly different from the self-efficacy of teachers with higher curriculum literacy.” Because self-efficacy is a categorical variable, the Mann Whitney U test was used to test the hypothesis. The result of the hypothesis testing is presented in Table 4.

The results of hypothesis testing show that the hypothesis was rejected for both group categories because the p-values are lower than the significance level of 0.05. The effect size, however, is greater in the groups determined using quartiles (Min. to Q1, and Q3 to Max.). Therefore, there is statistical evidence that the self-efficacy of teachers with lower curriculum literacy is significantly different from the self-efficacy of teachers with higher curriculum literacy, and the higher the gap between levels of curriculum literacy, the larger the difference in self-efficacy.

Further analyses were conducted for each different job skill within the teaching profession: job accomplishment, skill development, social interaction, and coping with job stress. The results of the hypothesis testing for each area are presented in Table 5.

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Median</th>
<th>Statistic</th>
<th>p-value</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on median</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower group</td>
<td>2.68</td>
<td>2.80</td>
<td>5234</td>
<td>0.02121</td>
<td>0.154</td>
</tr>
<tr>
<td>Higher group</td>
<td>2.89</td>
<td>3.00</td>
<td>1096.5</td>
<td>0.00610</td>
<td>0.260</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean</th>
<th>Median</th>
<th>Statistic</th>
<th>p-value</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on median</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job accomplishment</td>
<td>2.44</td>
<td>2.76</td>
<td>5564.5</td>
<td>0.09825</td>
<td>0.11</td>
</tr>
<tr>
<td>Higher group</td>
<td>2.57</td>
<td>2.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skill development</td>
<td>3.08</td>
<td>3.41</td>
<td>5643.5</td>
<td>0.1058</td>
<td>0.108</td>
</tr>
<tr>
<td>Higher group</td>
<td>3.22</td>
<td>3.41</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>2.74</td>
<td>3.00</td>
<td>5968</td>
<td>0.3432</td>
<td>0.0631</td>
</tr>
<tr>
<td>Higher group</td>
<td>2.91</td>
<td>3.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coping with job stress</td>
<td>2.80</td>
<td>3.01</td>
<td>5391</td>
<td>0.03711</td>
<td>0.139</td>
</tr>
<tr>
<td>Higher group</td>
<td>2.94</td>
<td>3.01</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The results of Mann Whitney U test for each part of the teacher self-efficacy scale show that the hypotheses were rejected for teacher self-efficacy of coping with job stress at the significance level of 0.05 for both group classification (median and quartile), and mastery experience, or job accomplishment, at the significance level of 0.1. Since the significance level used in this research was 0.05, the significance level for mastery experience was treated with caution. The effect sizes were greater for the group determined using the quartile than those using the median.

**Discussion**

This research can be treated as confirmation or as empirical evidence that there is a relationship between curriculum literacy and self-efficacy, which had been qualitatively predicted in previous studies (see Gurvitch & Metzler, 2009; Lee & Davis, 2020; Malmberg & Hagger, 2009). It also adds to what is previously known regarding the correlation between a teacher’s pedagogical content knowledge and self-efficacy. Grossman (1990) divided pedagogical content knowledge into knowledge of subject matter, knowledge of curriculum, knowledge of instruction, and knowledge of purpose of teaching. Previous research studies have found that a teacher’s knowledge of the subject matter and knowledge of instruction influences their self-efficacy (Eslami & Fatahi, 2008; Lauermann & König, 2016). In this study, it has been revealed that knowledge of curriculum is also correlated to a teacher’s self-efficacy. This result was expected because knowledge of curriculum or curriculum literacy comprises knowledge of how materials are “organized and packaged for instruction” (Shulman, 1986a, p. 26), and it is part of a teacher’s duty to know how to translate this organized material into a lesson plan. In addition, curriculum literacy is also a reflection of knowledge of a subject matter (Gess-Newsome & Lederman, 2002), which has been found to be correlated with self-efficacy.

The results of this study also provide an explanation for a prediction made by Mahler et al. (2017) in that teachers develop their self-efficacy during preservice university education. Preservice teachers learn and obtain pedagogical content knowledge, including curriculum knowledge, at university. The development of that knowledge results in the development and improvement of self-efficacy. Thus, teachers with higher levels of curriculum literacy are expected to show higher levels of self-efficacy. This explanation is also highlighted by Schipper et al. (2018) who found that teachers who participated in professional development training showed improvements in their self-efficacy.

Based on further analyses, teachers with high curriculum literacy believe that they are more likely to succeed.
in accomplishing a difficult teaching-related task than those with lower curriculum literacy. Bandura (1997) claims that the reason for this perceived higher sense of self-efficacy was due to a belief that they had adequate knowledge to guarantee their success in teaching. Another important component of teacher self-efficacy, which is different among teachers with different curriculum literacy, is the ability to cope with job stress. Studies have found that job stress is associated with teacher burnout (Kyriacou, 2015; Schwarzer & Hallum, 2008). Thus, the ability to cope with job stress is very important to prevent job dissatisfaction among teachers. The current study has revealed that teachers with better curriculum literacy are likely to cope with job stress better than their lower curriculum literacy counterparts.

The results also show that two groups with a large difference in curriculum literacy also exhibited a larger effect size than those with a smaller difference. Effect size refers to “the magnitude and importance of the result obtained” (Tomczak & Tomczak, 2014, p. 19), and it allows for the conclusion of the extent to which the difference provided by the $p$-value is meaningful. The results suggest that teachers with very high curriculum literacy levels have different levels of self-efficacy than their low curriculum literacy counterparts, and this difference is more meaningful than the difference in self-efficacy among teachers with almost the same levels of curriculum literacy. These results emphasize the importance knowledge regarding the curriculum has with regards to possessing better self-efficacy, which also leads to better student achievement and perception as proposed by Oliveira-Fernandez et al. (2016).

**Pedagogical Implications**

The results of this study provide significant pedagogical implications for preservice and in-service teacher training. Studies have found that teachers develop their self-efficacy during preservice training. However, based on the results of the current study, the teachers’ knowledge regarding curriculum was low and moderate. This alarming result should be treated as a suggestion to improve courses on curriculum at teacher training departments in universities. The National Qualification Framework-based curriculum is uniform across all universities in Indonesia. Thus, the results of this study have revealed that the curriculum courses offered at Indonesian universities are not adequate in terms of quality and quantity. Only 12 credits (out of 140 credits) were associated with knowledge of curriculum spread across five courses, and only two credits (one course) were intended for general concepts of curriculum, while three credits were offered for other curriculum related courses. Therefore, universities should offer more credits for curriculum courses, and credits for the general concept of curriculum and teaching practices need to also be added. These courses are fundamental in helping preservice teachers translate the content of the curriculum into their instruction, which in turn helps to improve their self-efficacy (Syamdianita & Cahyono, 2021). Noorollahi (2021) has found that an improvement in self-efficacy is followed by an immediate improvement in academic achievement. In addition to preservice teachers, in-service teachers also need to be provided with training about knowledge of curriculum. The current professional development programs in Indonesia only emphasize lesson planning (knowledge of instruction) and assessment, while training on curricular knowledge was rarely offered. This same case was also found in Malaysian schools. This is also evident from a study conducted by Albakri et al. (2021), which found that in-service teachers who were assigned to supervise other in-service teachers could not perform their jobs properly due to a lack of pedagogical knowledge. With improvements in preservice and in-service teacher training, teachers will have more positive self-efficacy, which has been found to contribute to better academic achievement from their students.

**Limitations of the Study**

A quantitative study is intended to make generalizations out of the results, which can then be applied.
to a larger context. However, the generalizability of the results in the present study are subject to some limitations. First, the sample size used for this research was rather large and included participants from many different areas and levels of high schools around Indonesia. However, most participants had low and moderate levels of curriculum literacy. The results might have been different if more teachers with better curriculum literacy were involved. During the time this study was conducted, access to such participants was not available. Therefore, it is recommended that a large-scale research study be conducted in the future that involves participants with more heterogenous curriculum literacy.

Second, both the curriculum literacy test and self-efficacy scale were delivered online. There is a small possibility that teachers cheated in completing the test, and it is suspected that some teachers were not serious in their attitudes toward the test and rushed to complete it. Had the test been conducted in classrooms where the researchers could supervise the participants, then they might have taken the test more seriously, and the results would have been more accurate. If a future study was able to deliver the questionnaire in-person, then the accuracy of the research results would be assured.

Finally, there is also a possibility, although small, that the teachers misunderstood the self-efficacy scale questionnaire because each item on the questionnaire was not explained to them. In addition, many of the teachers, especially those teaching in rural schools, were not accustomed to participating in a self-efficacy survey, so there is a possibility that they over-reported their self-efficacy. Therefore, further studies can confirm our results by using larger sample sizes or involving more urban school teachers who have better access to curriculum training. It is also suggested that future studies deliver both the self-efficacy scale and curriculum literacy test in a classroom, where teachers can ask questions to the researchers when necessary and cheating is less likely to occur.

**Conclusion**

This research attempted to determine whether the self-efficacy of teachers with higher curriculum literacy levels was different from that of teachers with lower levels of curriculum literacy. The objective was to determine if self-efficacy was associated with curriculum literacy among teachers. A curriculum literacy test, which included general concepts of curriculum, standards of process, standards of assessment, and standards of content was administered to 251 English as a foreign language teachers in all regions of Aceh, Indonesia, along with a self-efficacy scale. The results show that the self-efficacy of teachers with a higher level of curriculum literacy was significantly stronger than that of teachers with a lower level of curriculum literacy, which suggests that teachers with higher curriculum literacy tend to be more self-efficacious. Therefore, it is recommended that future professional development training programs for in-service teachers focus on all constructs of curriculum literacy in order to improve teachers’ self-efficacy. Further research can help to inform whether such professional development programs can improve teachers’ self-efficacy by using empirical data from an experimental research study.

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Self-Efficacy of English Language Teachers With Low and High Curriculum Literacy in Indonesian Schools


Riggs, I. M., & Enochs, L. G. (1990). Toward the development of an elementary teacher’s teaching efficacy belief
Yasin, Kasim, Mustafa, Marhaban, & Komariah


About the Authors

Burhanuddin Yasin holds a PhD in Education Management and is a senior lecturer at the English Language Education Department, Faculty of Teacher Training and Education, University of Syiah Kuala, Indonesia. He is currently the head of the Study Program of English Language Education at the same university.

Usman Kasim is a professor at the Department of English Education, Syiah Kuala University, Indonesia. He graduated from Leeds University in 1991, majoring Masters in TESOL, and PhD in English Education at State University of Malang (Indonesia) in 2003. His research interest covers teaching methodology and language acquisition.

Faisal Mustafa is a lecturer at the English Education Department, Universitas Syiah Kuala, Indonesia. His research interests include linguistics, language pedagogy, language testing and assessment, statistics in language teaching and testing, translation, and vocabulary.

Saiful Marhaban is a lecturer at English Education Department, Syiah Kuala University, Indonesia. He completed his master's degree from La Trobe University (Australia) and obtained his doctoral degree from the State University of Malang, Indonesia. His research interest covers language teaching, language assessment and academic writing.

Endang Komariah is a lecturer at the Department of English Education, Universitas Lampung, Indonesia. She obtained her undergraduate degree from Universitas Lampung and her master’s degree from Malang State University (Indonesia). Her research interests are in language testing and assessment, English teaching methods, and second language acquisition.

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