

Validity and reliability of questionnaire on preschool Teachers' self-efficacy in the teaching of English as a second language

Validez y fiabilidad del cuestionario sobre la autoeficacia de los docentes de preescolar en la enseñanza del inglés como segunda lengua

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ABSTRACT

This study aims to determine the validity and reliability of a questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language in Malaysia. This survey-designed study used questionnaire as the instrument. The questionnaire contains 87 items under three constructs; teachers' self-efficacy, teachers' English language proficiency, and teaching strategies. Five experts were involved in validating the questionnaire while the reliability coefficient values were obtained from 200 preschool teachers of three districts. The results have shown that the validity of the questionnaire is high with the coefficient value of .924 based on the consensus from the experts. The Cronbach's Alpha coefficient values of the reliability for self-efficacy construct was .921, English language proficiency construct was .961, and teaching strategies construct was .976. Therefore, the questionnaire has been proven to have high validity and reliability which is appropriate to measure preschool teachers' self-efficacy, English language proficiency, as well as teaching strategies in the teaching of English as a second language.

Keywords: Validity, Reliability, Self-efficacy, Preschool Teachers.

RESUMEN

Este estudio tiene como objetivo determinar la validez y confiabilidad de un cuestionario sobre la autoeficacia de los maestros de preescolar en la enseñanza del inglés como segundo idioma en Malasia. Este estudio diseñado por encuestas utilizó el cuestionario como instrumento. El cuestionario contiene 87 ítems bajo tres constructos; autoeficacia de los maestros, dominio del idioma inglés de los maestros y estrategias de enseñanza. Cinco expertos participaron en la validación del cuestionario, mientras que los valores del coeficiente de confiabilidad se obtuvieron de 200 maestros de preescolar de tres distritos. Los resultados han demostrado que la validez del cuestionario es alta con el valor del coeficiente de .924 basado en el consenso de los expertos. Los valores del coeficiente Alfa de Cronbach de la confiabilidad para el constructor de autoeficacia fueron .921, el constructor de dominio del idioma inglés fue .961 y el constructor de estrategias de enseñanza fue .976. Por lo tanto, se ha demostrado que el cuestionario tiene una alta validez y confiabilidad, lo cual es apropiado para medir la autoeficacia de los maestros de preescolar, el dominio del idioma inglés, así como las estrategias de enseñanza en la enseñanza del inglés como segundo idioma.

Palabras clave: Validez, Fiabilidad, Autoeficacia, Maestros de preescolar.

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1. INTRODUCTION

The objectives for preschool education are to instil potential in children in all aspects of development, empower basic skills, and embed good values along with positive attitudes to prepare them for future formal education. Child development can be achieved through six Learning Strands that are implemented through integration. English is one of the subjects in the Communication Strand as outlined in the National Preschool Curriculum Standard (NPSC). The objective of introducing the subject into NPSC is to enable children to communicate in English in their daily interactions in line with its status as a second language. Throughout the experience, children would eventually undergo a continuous process of acquiring second language following their age and physical development (Arina & Hasnah, 2010). Therefore, the quality of English teaching and learning should be given priority in ensuring that the children acquire better language skills.

Alexander (2015) stated that improvement in the quality of teaching and learning in school would not be possible without enhancing the quality of teachers. This is because quality teachers are those who are able to conduct an engaging and effective classroom learning. In order to achieve this goal, teachers should master appropriate and relevant knowledge, skills, as well as confidence in implementing the teaching and learning process.

Nonetheless, the reality of the English teaching environment at preschool level shows the opposite. Preschool teachers in Malaysia were found to rarely converse in English during classroom teaching due to lack of proficiency in the language (Rohaty, 2013). This statement is supported by a research done by Zuraydah and Rohaty (2014) where they found that English proficiency amongst English preschool teachers in Sepang district, Selangor was at moderate level. A study by Nur Nazuha Beevi and Nordin (2017) also reported that English proficiency amongst English preschool teachers in Larut, Matang, and Selama districts were at moderate level. These preschool teachers were reportedly avoiding to converse in English and feeling less comfortable in doing so. The latest study conducted by Ngu and Suziyani (2019) reported that one of the constraints that preschool teachers are facing in conducting English lessons is that the teachers themselves are less fluent in the language. This is causing them to be unsure of themselves to teach English effectively. When teachers fail to master the English language proficiently, the aim of introducing the basic of the language to preschool children may not be achieved successfully.

In the efforts to become an effective teacher, knowledge on lesson contents as well as pedagogy is not enough, as confidence and self-efficacy of teachers have a stronger influence towards effectiveness in teaching (Tschanne-Moran, Hoy, & Hoy, 1998). However, there is a gap in preschool teachers' self-efficacy research in Malaysia (Izzah Hanis & Suziyani, 2015). Therefore, in order to enhance the quality and effectiveness of the teaching of English at preschool level, it is necessary to explore the self-efficacy of preschool teachers. It is hoped that this study could shed light and provide preliminary views on the levels of teachers' self-efficacy, English language proficiency, and teaching strategies on the teaching of English as a second language in Malaysia. This study also provides recommendations on the improvement of teachers' self-efficacy which could enhance the quality of teaching and learning as well as English acquisition of preschool children.

The purpose of this study is to determine the validity and reliability of a questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language in Malaysia. Two research objectives are formulated based on the purpose of the study:

- 1) To determine the suitability of items within the constructs through the validation of experts.
- 2) To determine the reliability value of instrument through the analysis of Cronbach's Alpha coefficients.

2. LITERATURE REVIEW

Definition and Concepts

Self-efficacy refers to the cognitive process which drives one's behaviour. According to Bandura (1977), self-efficacy is an individual evaluation on his/her ability in planning and executing tasks in order to achieve the desired outcomes. Self-efficacy is the determinant for a teacher's well-being, motivation, and achievement. A teacher could be apathetic in dealing with challenges unless the results are fruitful and promising. Among the significant factors which differentiate one teacher over another are self-efficacy, belief, confidence of one's strengths, and the capability to teach as well as influence the students (Ashton, 2009; Evertson, 1986; Gibson & Dembo, 1984).

The concept of self-efficacy is supported by several practical studies which proved how teachers' self-efficacy is significantly connected to the effort of teachers in the teaching and learning as well as their perseverance in overcoming obstacles. There is a positive relationship between teachers' self-efficacy and teaching behaviours. A teacher could perceive himself/herself as less or more skilful. Nevertheless, having the thought of being a highly skilled teacher could eventually boost the effort in realising the thought into reality based on the acquired skills and knowledge (Bandura, 1977; Tschanne-Moran, Hoy, & Hoy, 1998).

Therefore, preschool teachers need to possess high self-efficacy in the teaching of English as a second language. Teachers who are highly efficacious would be able to implement effective teaching strategies as compared to teachers with low self-efficacy who tend to disregard students' cognitive development and capabilities (Gibson & Dembo, 1984). Apart from that, high self-efficacy could motivate preschool teachers to work on a variety of teaching practices as well as maintaining perseverance in dealing with challenges.

Theoretical Framework

According to Tschanne-Moran, Hoy, and Hoy (1998), teachers' self-efficacy is the confidence of teachers in their capabilities in teaching and motivating students regardless of the students' abilities and family background. Self-efficacy is significantly related to positive behaviour and personality of teachers. Tschanne-Moran, Hoy, and Hoy (1998) added that contents and pedagogical knowledge may not be sufficient to become an effective teacher as capabilities and confidence are also crucial

and highly influential towards the effectiveness of classroom practice. Hence, they suggested that the measurement of teachers' self-efficacy should cover the components of teaching task analysis and teaching competency assessment. Both of the components are interrelated and occur simultaneously in shaping teachers' self-efficacy. Therefore, Tschannen-Moran, Hoy, and Hoy (1998) proposed an Integrated Model of Teacher Efficacy as shown in Figure 1.

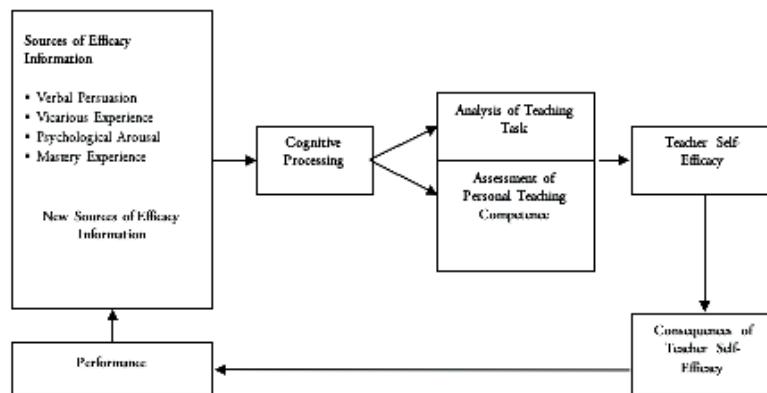


Figure 1. Integrated Model of Teacher Efficacy

Based on this model, teachers' self-efficacy is cyclical in nature. The four sources of information for efficacy; verbal persuasion, vicarious experience, psychological arousal, and mastery experience could contribute in enhancing the self-efficacy of teachers (Bandura, 1977). This information would then be processed by teachers through the analysis of teaching task and assessment of personal teaching competence. Cognitive processing would determine the strength of information source which also influences the competency of the teachers' self-efficacy. According to Tschannen-Moran, Hoy, and Hoy (1998), in cognitive processing, the most influential source of information on teachers' self-efficacy would be determined by analysing the competency of the job performance.

After analysing the information, teachers would develop efficacious judgement and use it to identify the aims, endurance, and determination in achieving the desired outcomes. Based on the teachers' effort and performance, the mastery of new experience would be created thus, becomes the indicator of efficacious judgement in the future.

In regards to the purpose of this study, the researcher referred to the Integrated Model of Teacher Efficacy developed by Tschannen-Moran, Hoy, and Hoy (1998) as the foundation model. The English language proficiency of the teachers acts as the assessment of the teaching competence while the teaching strategies would be the analysis of teaching task.

Development of Questionnaire on Preschool Teachers' Self-Efficacy in the Teaching of English

Based on the Integrated Model of Teacher Efficacy proposed by Tschannen-Moran, Hoy, and Hoy (1998), a questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language in Malaysia was then developed. The questionnaire contains three constructs: self-efficacy, English language proficiency, and teaching strategies.

The self-efficacy construct refers to the belief and confidence of teachers of their strengths, capabilities, and competencies in teaching (Gibson & Dembo, 1984). This construct was adopted from the Teacher Efficacy Scale (TES) questionnaire by Gibson and Dembo (1984) to suit the context of this study. TES was developed based on the theory of social cognitive proposed by Bandura (1977) which stated that one's performance is determined by the confidence and capabilities to perform the desired tasks. Based on this theory, Gibson and Dembo (1984) developed the TES questionnaire which contains two subconstructs: i) personal teaching efficacy (PTE) and ii) general teaching efficacy (GTE). PTE refers to the belief that one has the skills and abilities to bring about student learning. As for GTE, it refers to the belief of teacher's ability to bring about change as to be significantly limited by external factors such as home environment, family background, and parental influences.

The construct of English language proficiency refers to the teachers' competency assessment in four English language skills: listening, speaking, reading, and writing. This construct was adopted from the Teachers' Reported English Language Proficiency Questionnaire by Ghasemboland (2014) which suits the context of this study.

The construct of teaching strategies refers to the practical techniques applied by teachers during the teaching and learning process which could enhance knowledge, skills, and comprehension of the children in terms of the learning contents. This construct also exhibits the initiatives taken by teachers in creating an engaging learning environment, providing guidance, using appropriate teaching materials, conducting suitable activities, as well as building well-rounded characters of the students (Moore, 2015). This construct was adopted from the questionnaires on the Use of Strategies to Improve Emerging Literacy by Hawken, Johnston, and McDonnell (2005) and the Instructional Practices in Teaching English to Malaysian Primary Pupils by Juliana (2010).

3. METHODOLOGY

Research Design

This study employed survey as the research design to investigate the coefficient values of the validity and reliability of the questionnaire. The type of survey used in this study is cross-sectional in which the data collection occurs once and is taken from one sample at a particular time (Creswell, 2008). This study aims to determine the validity and reliability of items in the questionnaire. This study applied simple random sampling method. According to Mohd Majid (2005), simple random sampling is used to ensure that each and every individual receives equal chance to be selected as respondents in representing the population.

Research Participants

The questionnaire was validated through the assessment of five experts with doctorate degrees in Preschool/Early Childhood Education, Teaching English as a Second Language (TESL), and Counselling. These experts have vast experience and knowledge in this field of study. This type of validation was used as Mohd Majid (2005) recommended researchers to seek reviews from external assessors who are experts in the field in order to ensure that the domains in the measuring tool represent the field of study. The experts' reviews and suggestions were taken into consideration in improving the research instruments. A pilot test was then conducted to test the questionnaire to 200 preschool teachers from three districts in Selangor. The teachers are of various races, genders, ages, academic qualifications, as well as teaching experiences.

Analysis of Statistical Data

Data were retrieved manually based on validation made by the experts. Score 1 to 5 was given for each item. Indicators of each item score are presented in Table 1.

Table 1. Indicators of the Item Score

SCORE	INDICATOR
1	<i>Unaccepted</i> (require major correction)
2	<i>Below Expectation</i> (require several correction)
3	<i>Meet Expectation</i> (require minor correction)
4	<i>Achieve Expectation</i> (no minor correction required but simple amendment is recommended)
5	<i>Beyond Expectation</i> (no correction required)

In determining the validity of the questionnaire, the researcher used the validity content formula by Sidek and Jamaludin (2005) as shown in Figure 2. In this formula, the total score of experts' views (x) is divided by the overall total score (y) and multiplied by 100. The end-value from this operation is in percentage. A questionnaire that scores 70% and above is considered to have a high validity content (Sidek & Jamaludin, 2005; Tuckman, 1988).

$$\frac{\text{Total score of experts' views (x)}}{\text{Overall total score (y)}} \times 100 = \text{Validity content score (%)}$$

Figure 2. Validity Content Formula

For the reliability value, it was retrieved from the questionnaire data of 200 preschool teachers in three districts. For classification purposes, the Cronbach's Alpha coefficient values were classified based on the reliability index by Sekaran (2003) as shown in Table 2.

Indicator	Cronbach's Alpha Coefficient Values
Good	> 0.80
Average (accepted)	0.60 – 0.79
Low (unaccepted)	< 0.6

Table 2. Cronbach's Alpha Coefficient Values

4. RESULT

The validity of the questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language

In order to determine the validity of the questionnaire, the researcher sought for the assistance of five experts to review the content of the questionnaire before conducting the pilot study. The five experts have Doctorate degrees in Preschool/ Early Childhood Education, Teaching English as a Second Language (TESL), and Counselling. Table 3 presents the background and reviews of each expert.

Table 3. Background and Reviews of Experts

Position	Field	Review
Senior Lecturer	Early Childhood Education & TESL	The content of the questionnaire has fulfilled the requirements to conduct this study. Some suggestions are provided for researcher's consideration.
Vice Director of Academic Development Centre, Teachers Training Institute of Malaysia (IPGM)	Early Childhood Education	This questionnaire has fulfilled the requirements for pilot study and real study after necessary amendment has been made as stated in the review form. The researcher should also consider the local culture.
Senior Lecturer	TESL & Second Language Acquisition	The accuracy of the instrument content has been examined and compared with the constructs of the questionnaire.
Senior Lecturer	Counselling, Self-Concept and Children Counselling	There are several items with ambiguous meaning in one statement. The overall instrument content is clear and relevant with the construct/ sub construct.
Teacher, Kindergarten Advisor & Preschool Coach	Early Childhood Education & TESL	This questionnaire has fulfilled the requirements for pilot study and real study. The acceptance of review would depend on the agreement of the supervisor.

Based on the analysis, the questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language has a high value of validity with the coefficient index of .924. This value was retrieved through the operation of dividing the total score of experts' views with the overall total score which was then multiplied by 100 in order to get the percentage value. The end-value of this operation is the validity value for the questionnaire as shown in Table 4.

Table 4. Validity Value of the Questionnaire

	Percentage / Validity Coefficient	Experts' Review
The Questionnaire on Preschool Teachers' Self-Efficacy in the Teaching of English as a Second Language	92.4% (.924)	Accepted

Table 5 shows the content validity of the questionnaire based on each construct. For the construct of teachers' self-efficacy, its coefficient value is .93 while the value for teachers' English language proficiency construct is .898. The construct of teachers' teaching strategies has the highest value of .934.

Table 5. Content Validity of the Questionnaire Based on the Construct

Construct	Percentage / Validity Coefficient	Experts' Review
Teachers' self-efficacy	93.0% (.93)	Accepted
Teachers' English language proficiency	89.8% (.898)	Accepted
Teachers' teaching strategies	93.4% (.934)	Accepted

The indicator for a high content validity is based on Davis (1992) which is at 80% and above. Therefore, all the three constructs in the questionnaire are considered good and suitable to be used in the study as the values are above 80%. Based on the analysis, it is proven that the questionnaire has conformed to the accurate process of content validity.

The reliability of the questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language

Reliability refers to the consistency of assessment scores (Guilford & Fruchter, 1978). Reliability test is performed on a factor that has been developed in order to determine the capability of an instrument to measure the construct that needs to be measured. The instrument needs to have the consistency and stability to measure the construct in order to obtain similar values when measured repeatedly for the second time, third time, and so on. The reliability value of Cronbach's Alpha was used to measure the internal consistency of the questionnaire.

The coefficient value of reliability for this questionnaire was .975. According to Mohd Majid (2005), the accepted coefficient value of reliability should be .80 or above. Thus, the coefficient value of the questionnaire for this study is considered as good. Table 6 shows the reliability values of the questionnaire based on each construct.

Table 6. Reliability Values of the Questionnaire

<i>Construct</i>	<i>No. of items</i>	<i>Cronbach's Alpha value, ()</i>	<i>Interpretation</i>
<i>Teachers' self-efficacy</i>	13	0.921	Accepted
<i>Teachers' English language proficiency</i>	24	0.961	Accepted
<i>Teachers' teaching strategies</i>	50	0.976	Accepted

Based on Table 6, the coefficient value for the construct of self-efficacy is .921 which is the lowest as compared to the other two constructs. For the English language proficiency construct, its coefficient value is .961 while the highest value is the construct of teaching strategies which is .976. Hence, this analysis indicates that the questionnaire has a high value of reliability and is appropriate to be used for this study.

5. DISCUSSION

Based on the evaluation made by the experts, the analysis shows that the questionnaire on preschool teachers' self-efficacy in the teaching of English as a second language had a high validity value of 92.4% or the coefficient value of .924 and accepted by the experts. For all the three constructs, the overall achievement level of validity was between 89% to 93%. As recommended by Sidek (2005), Jamaludin (2002), and Mohd Majid (2005), the instrument with high validity is suitable and appropriate to be used in the research.

A measuring tool is considered to have a high validity value when it is able to measure all the contents and variables in the study effectively. In order to ensure the content validity of a measuring tool, it must fulfil five conditions: 1) items in the questions should illustrate the targeted behaviour with distinct meaning; 2) items are clearly presented; 3) items are connected with the objective of the measuring tool; 4) sufficient sample to measure the validity of the measuring tool; and 5) the response for each item is evaluated consistently (Sidek, 2005). Based on the evaluation made by the experts, the questionnaire used in this study has fulfilled all the five conditions. The questions in the questionnaire are clear and comprehensible by the respondents as well as aligned with the objectives of the study. Apart from that, the questionnaire allows the respondents to provide appropriate feedback.

The analysis also shows that the questionnaire has a high value of reliability. The coefficient value for the construct of teachers' self-efficacy was .921. For teachers' English language proficiency construct, its coefficient value was .961. The highest value is the construct of teachers' teaching strategies which was .976. Hence, this analysis indicates that the questionnaire has a high value of reliability and is appropriate to be used for this study.

Therefore, the questionnaire used in this study is proven to have high validity and reliability as the items were adopted from TES (Gibson & Dembo, 1984), Teachers' Reported English Language Proficiency (Ghasemboland, 2014), Use of Strategies to Improve Emerging Literacy (Hawken, Johnston, & McDonnell, 2005), and Instructional Practices in Teaching English to Malaysian Primary Pupils (Juliana, 2010). This study also confirms that the approaches used by the researcher in determining the validity and reliability of the questionnaire are appropriate and suitable. Hence, this study could benefit other researchers in terms of the validity and reliability measurement of the measuring tool. The questionnaire of this study could also be replicated for future study.

6. CONCLUSION

In conclusion, the questionnaire used in this study has been proven to have high validity and reliability which is appropriate to measure the constructs of preschool teachers' self-efficacy, English language proficiency, and teaching strategies in the teaching of English as a second language. Therefore, the development of this questionnaire could benefit the field of study on teachers' self-efficacy as self-efficacy could significantly influence the teaching of English as a second language. Highly efficacious teachers are directly correlated with the quality of English teaching and learning at preschool level as well as the enhancement of English language skills of the children.

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