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Validating a Scale for Measuring Preschool Teachers' Competence in Promoting Children's Language Development in Vietnam: An Exploratory Factor Analysis

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Abstract: The role of preschool teachers in supporting children's language development is unquestionably substantial. To ensure the quality of preschool teachers' performance in this specific task, various assessing instruments have been developed and justified in recent years. This study joins such efforts by investigating a new scale based on the "Framework for assessing preschool teacher competence in promoting children's language development" proposed by a previous research. The scale's psychometric properties are examined with a sample of 685 Vietnamese preschool teachers. The results supported the four-factor model suggested by the original authors and confirmed its reliability and validity. Finally, further usages of the scale are discussed.

Keywords: *Exploratory factor analysis, preschool teachers' competence, promoting children's language development, psychometric properties.*

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Introduction

In Vietnam, especially in major cities like Hanoi, the prevalence of children enrolled in full-day kindergarten is expected to increase extensively. In 2020, there are 121.411 children aged under three (equivalent to 53.5% of the total number) and 439.882, which is the total number of children aged from three to five, entering pre-K schools. The City authority's goal is to have 55% children aged under three and maintain the 100% children aged from three to five in pre-K schools in 2025 (Hanoi People's Committee, 2021). In kindergarten settings, early childhood teachers replace parents as the primary caregivers, who considerably influence the child's development (Whorrall & Cabell, 2016). Hence, the topic of preschool teacher competence has become as important as ever.

Previous studies asserted that preschool teachers directly impact children's language and cognitive development (e.g., see Cabell et al., 2011; Wasik et al., 2006). This impact resulted from daily interactions between the teacher and the child. For example, the way the teacher feeds the child, guides the child to play, and the teacher's communication pattern all affect the child's language ability (Whorrall & Cabell, 2016; Yang et al., 2021). Thus, developing measurement to assess the competence of early childhood teachers in promoting children's language development has been a topic of interest in recent years.

There are several types of measurement based on assessment goals. First, there's the type that aims to directly assess early childhood teachers' language and interactive ability, such as The Teacher Interaction and Language Rating Scale by Girolametto et al. (2000). There's also the type that aims to assess the linguistic environment, such as the Early Childhood Environment Rating Scale proposed by Harms et al. (2014). Layzer and Goodson (2006) developed an instrument to assess kindergarten teachers' literacy teaching ability by observation. Mashburn et al. (2008) evaluated preschool teachers' expertise based on the evaluation of the instruction quality in pre-K classrooms. Furthermore, teacher competence in promoting children's language development is mentioned in every early childhood teachers' core competencies documents of the United States (e.g., Washington State Department of Early Learning, 2009). Danielson (2013)'s instrument to evaluate literacy teaching also supports preschool teachers in monitoring teaching quality. Assessment results point out teachers' level of competence and their strengths and weaknesses, which is

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crucial for determining professional development goals. Furthermore, competency assessment is essential for policymakers in implementing professional development training.

In Vietnam, the early childhood teachers' professional standard for competency was issued for the first time by the Ministry of Education and Training (2008). The document briefly described the requirements for skills and knowledge in promoting children's language development. However, it was not detailed enough for others to design an assessing instrument accordingly. One way to solve this lack of assessment tools is to adapt an available scale from other countries. While the adaptation process is inherently complicated, adapting an instrument about language is much more intricate as language is a cultural product, and culture varies greatly from place to place. Moreover, Vietnamese teachers' competence is strongly associated with Vietnam's unique literature materials such as folk songs, idioms, proverbs, or stories. Thus, developing measurements to assess teachers' competence in promoting children's language development needs to consider the issue of Vietnamese linguistic context.

Hence, the objective of this study is to investigate the psychometric properties of a scale designed for evaluating preschool teachers' competence in promoting children's language development. Specifically, the author carried out a survey for preschool teachers in Hanoi, using the "Framework for assessing preschool teacher competence in promoting children's language development" proposed by Vu and Dinh (2021). The data obtained from the survey was used to test the scale's reliability and validity. Accordingly, the author suggests employing the scale in the assessment and training of Vietnamese preschooler teachers.

Literature Review

According to Rychen and Salganik (2001), competence is defined as "the ability to successfully meet complex demands in a particular context through the mobilization of psychosocial prerequisites (including cognitive and non-cognitive aspects)" (p.43). In that respect, competence should be regarded as an internal mental construct supporting other psychological processes to function effectively in specific social situations. Among various models of the components of competence in the literature, there are three universal components: knowledge, skill, and attitude (McMullan et al., 2003; Mulder et al., 2007). Competence assessment aims not to check whether or not one possesses a particular ability but rather to recognize their progress on a continual development scale (Rychen & Salganik, 2001, p.49). There are four measurement models widely used to assess professional competence as follow: (i) Measure of Knowledge, (ii) Measure of decision making, (iii) Measure of performance and attributes, and (iv) Integrated measure of practice-based skills and tasks (Leigh et al., 2007).

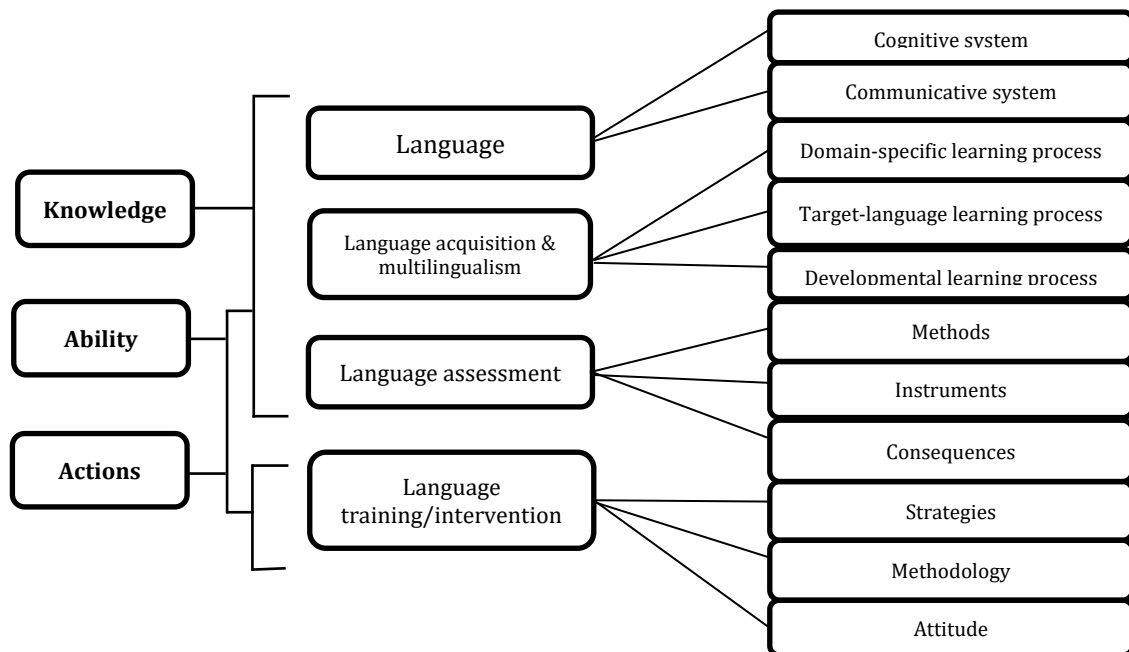


Figure 1. Hopp et al. (2010)'s language training competence, translated by Michel et al. (2014)

The preschool teacher education programs at both intermediate and undergraduate levels offer knowledge regarding children's language development. These insights are embodied in tasks and practice - based skills when the teachers go into practice. Hence, assessing teachers' competence means evaluating their ability to handle practical duties. Taking that into account, Vu and Dinh (2021) conducted a Delphi study that established a set of evaluation criteria grounded in the integrated measure of practice-based skills and tasks model and Hopp et al. (2010)'s language training competence model (Figure 1). Fourteen experts with at least ten years of working in early childhood education field participated in the study. There were three rounds of discussion focusing on three aspects suggested by Hopp et al. (2010). In the first round of discussion which was held in person, the experts freely gave their opinions and insights about preschool

teachers' duties on supporting children's language development. The goal of this round was to explore and collect every sign that is considered as children's language development milestone. Based on the gathered information, Vu and Dinh (2021) developed a tentative framework of criteria for assessing teacher competence in promoting children's language development in the second and the third rounds. In these two rounds, the author sent emails to the 14 experts-participants asking them to rate their degrees of agreement to each item in the framework proposed after Round 1.

Additionally, the authors asked the experts to give their overall opinion about the framework. The final version of the framework includes 46 criteria divided into four major aspects: (1) Linguistic responsiveness (LR), (2) Organizing language development activities (OLD), (3) Cultivating linguistic environment in the classroom (CLE), (4) Collaboration with parent, personal development, and community engagement (COL). The details of the system of assessment criteria are presented in Table 1. The framework developed by Vu and Dinh (2021) bear with limitation as it only reflects perspectives from 14 experts-participants but not preschool teachers. Thus, to further verify the robustness of this framework, this study aims to validate it with data obtained from a survey with 685 Vietnamese preschool teachers.

Table 1. Framework for Assessing Preschool Teacher Competence in Promoting Children Language Development (Vu & Dinh, 2021)

Code	Item
<i>Linguistic responsiveness (LRE)</i>	
LRE1	Standard pronunciation, no lisp
LRE2	Warm, tender, and friendly tone of voice
LRE3	Use precise, unequivocal language
LRE4	Use plentiful verbal and nonverbal language when interacting with infants
LRE5	Use a moderate speech rate in a manner that is sufficient for the children to listen, understand and participate in the conversation
LRE6	While interacting with the child, be fully attentive, constantly make eye contact, and use body language appropriately
LRE7	Listen attentively to the child and patiently wait when they are not ready to communicate
LRE8	Model turn-taking manner
LRE9	Broaden the conversation using association and reflection skills
LRE10	Emphasize the crucial keywords, explain the concepts and expression used in the conversation
LRE11	Pick up on the child's ideas and actively ask open questions to broaden the conversation
LRE12	Know how to conduct various language activities
LRE13	Actively provide information about surrounding objects and events as much as possible
LRE14	Always prepare to answer the child's question at any times
LRE15	Initiate conversation and offer help when notice the child is having difficulties
<i>Organizing language development activities (OLD)</i>	
OLD1	Master mother tongue language's knowledge
OLD2	Master teaching methods about age-appropriate language development
OLD3	Select age-appropriate linguistic activities
OLD4	Showcase that they make an effort to observe and understand the child to create suitable language development goals
OLD5	Know how to use language development assessment tools
OLD6	Use appropriate, effective visual aids
OLD7	Design exciting activities to get the students' attention and engagement
OLD8	Handle situations skillfully and positively
OLD9	Design activities closely related to development goals
OLD10	Intentionally integrate linguistic tasks in other activities
OLD11	Correct errors in pronunciation, vocabulary, and grammar for the students
OLD12	Make a record of the children's progress
OLD13	Propose interventions for children with language difficulties
OLD14	Be able to use advanced communication forms such as presentations, art performances, debates, composing.

Table 1. Continued

Code	Item
<i>Cultivating a linguistic environment in the classroom (CLE)</i>	
CLE1	Behave in an affectionate way, create non-verbal and verbal experiences for infants
CLE2	Encourage the children to interact with children of the same age and different ages
CLE3	Encourage every student to talk in the class
CLE4	Establish rules about using language in the classroom, for example, wait for your turn, be quiet when asked, use polite language
CLE5	Combine words with non-verbal language to help the child understand adults' demands easier (e.g., say "yummy yummy" and act like eating something)
CLE6	Provide symbols, images, and guiding words to help the child recognize conventions (e.g., glue the letter A to their individual cup)
CLE7	Establish a habit to communicate about surrounding objects and events
CLE8	Create a supportive environment where the child can make friends and play independently
CLE9	Teach the students about communication rules and how these rules vary in different contexts
CLE10	Set up a bookshelf with books, stories, and toys that come from different cultures
CLE11	Support the child in linguistic activities
<i>Collaboration with parent, personal development, and community engagement (COL)</i>	
COL1	Actively participate in professional development training, support communities working in the field of children language development
COL2	Commit to working towards equality and creating opportunities for language development for all children
COL3	Be diligent, responsible, always finish the works on schedule
COL4	Give instructions to the students' families to help the children practice at home
COL5	Support parents who have difficulties in communicating with the child
COL6	Research new methods to promote children language development

Methodology

Research Design

This research is conducted to develop and validate a scale to evaluate preschool teacher's competence. The psychometrics of the scale were determined through three analyses: Exploratory factor analysis, confirmation factor analysis, reliability testing.

Instrument Development

The questionnaire is comprised of two sections: The first section aims to collect demographic information from respondents, such as the current job position, age, years of experience, professional qualifications, type of school. The second section was built based on Vu and Dinh (2021)'s Delphi study, including criteria and standards for assessing preschool teachers' competence in promoting children's language development. The respondents were requested to select their answers on a 6-Likert scale basis: (1) I don't know and never apply the skill; (2) I heard about the skill but never applied it or applied without understanding its essence; (3) I know about the skill but haven't mastered it yet; (4) I know about the skill and apply it well; (5) I understand and master the skill; (6) I profoundly understand and master the skill, to the extent that I can consult others.

Data Collection

Online survey was selected as a mean to reach the respondents. Specifically, a Google Form based survey was sent to the targeted respondents in three social networks of preschool teachers and 10 kindergartens in Hanoi Vietnam between May 15, 2020 and June 12, 2020. A reminder e-mail was sent to non-respondents every two weeks. At the end of the process, there are 685 validated answers collected. According to Hair et al. (1998), for the exploratory factor analysis (EFA), the sample size must be at least five times of the total observed items. Since the questionnaire of this study includes 46 observed items, the minimum sample size is expected to reach 230 observations. Since the total number of responses is much higher than 230, our data is acceptable for EFA.

Data Analysis

Exploratory factor analysis (EFA). EFA was conducted to explore the factor structure of the scale. First, the author used the Kaiser-Meyer-Olkin (KMO) test to specify sampling suitability, which is "an assumption that must be met in determining the appropriateness of using factor analysis, and values can range between 0 and 1" (Ozfidan & Burlbaw, 2017). According to Anderson and Gerbing (1984), "the KMO test can be used to determine the overall sampling adequacy of the sample or to measure each individual variable." Various studies pointed out that a KMO value closer to

0 indicates a highly diffuse correlation scatter plot, which is inappropriate to conduct a factor analysis. In contrast, when the KMO value is closer to 1, it represents a more coherent scatter plot, which is more acceptable for the factor analysis (Fernández-Ballesteros, 2003). According to the Hair et al. (2018), if the values were greater than 0.5, they were acceptable. Furthermore, he stated that “values between 0.5 and 0.7 should be considered mediocre, values between 0.7 and 0.8 should be considered good, values between 0.8 and 0.9 should be considered great, and values of more than 0.9 should be considered superb”. The results of EFA were also used to determine which items can be retained through their factor loading. The factor loading for every item is considered acceptable if it's higher or equal to 0.6 (Hair et al., 2009).

Confirmation factor analysis (CFA). The CFA was conducted using SPSS 24 and AMOS 24 to examine the scale's convergent validity, discriminant validity and model fit. Convergent validity was accessed through the following indicators: All items' factor loadings, composite reliability (CR), and average variance extracted (AVE). The cut-of-point values for these three indicators are higher or equal to 0.7 (Hair et al., 1998), higher or equal to 0.7 (Byrne, 2010) and higher or equal to 0.5 (Byrne, 2010), respectively. Discriminant validity was accessed through comparing values of square roots of AVEs and the estimated correlation coefficients among the latent variables. The scale's model fit was evaluated through the following fit indices: The comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean square of approximation (RMSEA). The CFI and TLI range from 0 to 1 with values greater than .90 indicating an adequate model fit (Hair et al., 2009)

Reliability testing. The Cronbach's alpha coefficient was used to measure the internal consistency of the scale as well as each factor. According to multiple researchers, a minimum value of 0.70 is considered acceptable (Nunnally, 1994; Stevens, 2012).

Results

Exploratory Factor Analysis (EFA)

Table 2 shows that the Kaiser's interpretation value was 0.984 for this study, which falls into the range of superb. Therefore, the data are appropriate for factor analysis.

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.984
Bartlett's Test of Sphericity	Approx. Chi-Square 36279.155
	df 1035
	Sig. 0.000

When applying EFA with Promax rotation, four factors were identified and named as follow: “Linguistic responsiveness” (LRE) comprised of 15 items, “Organizing language development activities” (OLD) comprised of 14 items, “Cultivating a linguistic environment in the classroom” (CLE) comprised of 11 items, and “Collaboration with parent, personal development, and community engagement” (COL) comprised of 6 items. These factors represented different aspects of preschool teachers' competence in developing children's language.

Table 3 presented the Cronbach's alpha coefficients and factor loadings for each factor. Overall, the Cronbach's alpha internal consistency measure was relatively high across all items of all factors ($\alpha = .986$). Also, each factor has relatively high Cronbach's alpha scores, which show that each factor is reliable for factor-based scales.

Table 3. Factor Loadings and Cronbach's Alpha Coefficients Scores

Code	Item	Factor loading	Cronbach's alpha
<i>Linguistic responsiveness (LRE)</i>			<i>0.97</i>
LRE1	Standard pronunciation, no lisp	0.621	
LRE2	Warm, tender, and friendly tone of voice	0.686	
LRE3	Use precise, unequivocal language	0.664	
LRE4	Use plentiful verbal and nonverbal language when interacting with infants	0.684	
LRE5	Use a moderate speech rate in a manner that is sufficient for the children to listen, understand and participate in the conversation	0.748	
LRE6	While interacting with the child, be fully attentive, constantly make eye contact, and use body language appropriately	0.755	
LRE7	Listen carefully to the child and patiently wait when they are not ready to communicate	0.731	
LRE8	Model turn-taking manner	0.727	
LRE9	Extend the conversation using association and reflection skills	0.742	
LRE10	Emphasize the crucial keywords, explain the concepts, expression used in the conversation	0.722	
LRE11	Pick up on the child's ideas and actively ask open questions to broaden the conversation	0.709	
LRE12	Know how to conduct various language activities	0.692	
LRE13	Actively provide information about surrounding objects and events as much as possible	0.683	
LRE14	Always prepare to answer the child's question at any times	0.69	
LRE15	Initiate conversation and offer help when notice the child is having difficulties	0.678	
<i>Organizing language development activities (OLD)</i>			<i>0.973</i>
OLD1	Master mother tongue language's knowledge	0.55	
OLD2	Master teaching methods about age-appropriate language development	0.691	
OLD3	Select age-appropriate linguistic activities	0.719	
OLD4	Showcase that they make an effort to observe and understand the child to create suitable language development goals	0.73	
OLD5	Know how to use language development assessment tools	0.766	
OLD6	Use appropriate, effective visual aids	0.731	
OLD7	Design exciting activities to get the students' attention and engagement	0.721	
OLD8	Handle situations skillfully and positively	0.707	
OLD9	Design activity that helps the children achieve development goals	0.702	
OLD10	Intentionally integrate linguistic tasks in other activities	0.732	
OLD11	Correct errors in pronunciation, vocabulary, and grammar and for the students	0.672	
OLD12	Make a record of the children progress	0.679	
OLD13	Propose interventions for children with language difficulties	0.713	
OLD14	Be able to use advanced communication forms such as presentations, art performances, debates, composing.	0.678	

Table 3. Continued

Code	Item	Factor loading	Cronbach's alpha
Linguistic responsiveness (LRE)			0.97
Cultivating a linguistic environment in the classroom (CLE)			0.964
CLE1	Behave in an affectionate way, create non-verbal and verbal experiences for infants	0.594	
CLE2	Encourage the children to interact with children of the same age and different ages	0.683	
CLE3	Encourage every student to talk in the class	0.727	
CLE4	Establish rules about using language in the classroom, for example, wait for your turn, be quiet when asked, use polite language	0.714	
CLE5	Combine words with non-verbal language to help the child understand adults' demands easier (e.g., say "yummy yummy" and pretend eating something)	0.739	
CLE6	Provide symbols, images, and guiding words to help the child recognize conventions (e.g., glue the letter A to their individual cup)	0.731	
CLE7	Establish a habit to communicate about surrounding objects and events	0.699	
CLE8	Create a supportive environment where the child can make friends and play independently	0.757	
CLE9	Teach the students about communication rules and how these rules vary in different contexts	0.689	
CLE10	Set up a bookshelf with books, stories, and toys that come from different cultures	0.677	
CLE11	Support the child in linguistic activities	0.615	
Collaboration with parent, personal development, and community engagement (COL)			0.954
COL1	Actively participate in professional development training, support communities working in the field of children language development	0.663	
COL2	Commit to working towards equality and creating opportunities for language development for all children	0.702	
COL3	Be diligent, responsible, always finish the works on schedule	0.736	
COL4	Give instructions to the students' families to help the children practice at home	0.738	
COL5	Support parents who have difficulties in communicating with the child	0.699	
COL6	Research new methods to promote children language development	0.606	

Confirmatory Factor Analysis (CFA)

The four-factor model resulted from the EFA test was continued to examine with CFA. Table 4 presented the factor loadings of all items. Overall, the scale's items all have high factor loadings, indicating high correlation within each factor.

Table 4. Results of Factor Loading for Confirmatory Factor Analysis

Items	Factor loading
LRE	
LRE1	0.722
LRE2	0.759
LRE3	0.783
LRE4	0.822
LRE5	0.854
LRE6	0.866
LRE7	0.865
LRE8	0.859
LRE9	0.84
LRE10	0.843
LRE11	0.834
LRE12	0.833
LRE13	0.832
LRE14	0.845
LRE15	0.846
OLD	
OLD1	0.769
OLD2	0.85
OLD3	0.883
OLD4	0.887
OLD5	0.871
OLD6	0.875
OLD7	0.877
OLD8	0.865
OLD9	0.865
OLD10	0.887
OLD11	0.853
OLD12	0.787
OLD13	0.852
OLD14	0.79
CLE	
CLE1	0.786
CLE2	0.836
CLE3	0.865
CLE4	0.871
CLE5	0.855
CLE6	0.865
CLE7	0.88
CLE8	0.884
CLE9	0.856
CLE10	0.821
CLE11	0.762
COL	
COL1	0.869
COL2	0.892
COL3	0.906
COL4	0.911
COL5	0.9
COL6	0.82

Table 5. Results of Multiple Fit Indices.

Index	Result	Acceptable level	Reference
χ^2	3651.331	-	Mantel (1963)
Df	977	-	Mantel (1963)
χ^2/Df	3.737	< 5	Wheaton et al. (1977)
AGFI	0.807	> 0.8	Hooper (2008)
NFI	0.923	> 0.9	Hooper (2008)
TLI	0.942	> 0.95	Hooper (2008)
RMSEA	0.057	< 0.08	Hooper (2008)
CFI	0.942	> 0.9	Hooper (2008)

As shown in Table 5 and 6, all indicators regarding convergent validity are satisfied, i.e., higher than the respective cut-off-point values. Discriminant validity was accessed through comparing values of square roots of AVEs and the estimated correlation coefficients among the latent variables. Then, as shown in Table 5, our discriminant validity is also satisfied since all values of AVEs are higher than the estimated correlation coefficients among latent variables.

Table 6. The Convergent and Discriminant Validity of The Scale

	CR	AVE	MSV	MaxR(H)	LRE	OLD	CLE	COL
LRE	0.973	0.706	0.692	0.974	0.84			
OLD	0.976	0.745	0.678	0.978	0.793***	0.863		
CLE	0.968	0.735	0.692	0.97	0.832***	0.809***	0.857	
COL	0.959	0.795	0.678	0.961	0.782	0.824	0.776	0.892

CR: Composite Reliability, AVE: Average Variance Extracted, MSV: Maximum Shared Variance, MaxR(H): maximum reliability, LRE: Linguistic responsiveness, OLD: Organizing language development activities, CLE: Cultivating a linguistic environment in the classroom, COL: Collaboration with parent, personal development, and community engagement

Discussion

Language development is regarded as one of the primary goals of preschool education, along with development in physical, cognitive and social/emotional domains (Black et al., 2017). Language awareness, as well as knowledge and abilities concerning language acquisition and support, are of focal interest in these discussions as the early and successful development of academic language skills lays the ground for literacy and the educational career in general (Dickinson, 2011; Michel et al., 2014). Given this circumstance, preschool teachers should be equipped with competence in promoting language development for children. In many countries, frameworks to measure the competence of preschool teachers in promoting children's language development have been developed (e.g., Massachusetts Department of Early Education and Care, 2010). Nevertheless, language has its own attributes according to its respective context and culture. Thus, it's paramount to develop a scale for measuring preschool teachers' competence, which is relevant to the local context. In this study, the author extended the work of Vu and Dinh (2021) in order to develop a scale for measuring preschool teachers' competence in promoting children language development in Vietnam. Specifically, Vu and Dinh, based on Delphi approach developed a framework with 46 criteria to assess preschool teachers' competence in promoting children language development in Vietnam. As Delphi relies on experts' perspective, it needs another point-of-view i.e., preschool teachers, in order to ensure its validity. Thus, this study addressed this research gap by undertaking an EFA with data obtained from a survey with 685 preschool teachers in Vietnam. The empirical analysis confirmed what suggested by Vu and Dinh. Specifically, the analysis revealed a scale for measuring preschool teachers' competence with four factors as follows: (1) Linguistic responsiveness (constitutes of 15 items), (2) Organizing language development activities (constitutes of 14 items), (3) Cultivating linguistic environment in the classroom (constitutes of 11 items), (4) Collaboration with parent, personal development, and community engagement (constitutes of 6 items).

While the use of the training competence model by Hopp et al. (2010) is not new, only a few have explored the complete model. For example, Michel et al. (2014) applied the model to examine German pre-school teachers' ability to promote children's language development, focusing on only the knowledge and abilities aspects. Vu and Dinh (2021) took one step further, developing a framework that incorporated all model factors, including the actions component. The current study is the first to explore this comprehensive framework.

Conclusion

This study has successfully provided a new scale to measure pre-school teachers' capacity in promoting children language development. It carried on the work of Vu and Dinh (2021) to develop a scale covering 4 unique dimensions of teachers' behaviors and attitudes toward supporting pre-school students' language development. Teachers' ability to

develop language skills for children are reflected through 4 fundamental tasks: their linguistic responsiveness in daily interaction with children, the way they cultivate a linguistic environment, including physical classroom and intangible communication culture, their literacy teaching activities and their ability to integrate linguistic tasks in other lessons, their collaboration with parents, their personal development activities and community engagement. To the best of our knowledge, this scale is the first ever scale in Vietnam to evaluate such concept.

Recommendations

The result of this study may provide several implications for stakeholders. First, preschool teachers may use the scale developed in this study to benchmark themselves in terms of children's language development. Second, preschool principals may use this scale in order to evaluate their teachers or for continued training activities. Third, Vietnam's Ministry of Education and Training as well as Provincial Department of Education and Training may also use this scale as input for their policies and/or national/provincial agendas. In addition, the scale can be used as a supplementary resource for parents to support their children's language development at home, which will in turn help reinforce learning at school. On the other hand, it helps parents acknowledge the scientific value of preschool teachers' works. Finally, the scale can be directly used as research instrument for research with related topics.

Limitations

This study still bears its limitations. First, most respondents in this study come from Hanoi and other provinces in North Vietnam, which implies an under-representative sample. Future study should avoid this limitation by inviting teachers especially from the other regions of Vietnam (i.e., Middle and South Vietnam) in order to have a more inclusive sample. Second, this study has not yet investigated the relationships of preschool teachers' competence in children language development and other related factors such as teachers' overall performance, children actual language capabilities. Thus, future study may address this research gap in other research settings.

Authorship Contribution Statement:

Vu: Conceptualization, analysis, writing, editing/reviewing. Dinh: Data collection, methodology, writing, editing/reviewing.

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Appendix

Final version of the “Preschool teacher’s competence in promoting children language development scale”

Factor	Item No.	Content
Linguistic responsiveness	1	Standard pronunciation, no lisp
	2	Warm, tender, and friendly tone of voice
	3	Use precise, unequivocal language
	4	Use plentiful verbal and nonverbal language when interacting with infants
	5	Use a moderate speech rate in a manner that is sufficient for the children to listen, understand and participate in the conversation
	6	While interacting with the children, give full attention, constantly make eye contact, and use body language appropriately
	7	Listen to the children and patiently wait when they are not ready to communicate
	8	Model turn-taking manner
	9	Extend the conversation using association and reflection skills
	10	Emphasize the crucial keywords, explain the concepts, expression used in the conversation
	11	Utilize children’s ideas and WH questions to expand the conversation
	12	Know how to conduct various language activities
	13	Actively provide information about surrounding objects and events as much as possible
	14	Always prepare to answer the child’s question at any times
Organizing language development activities	15	Behave in an affectionate way, create non-verbal and verbal experiences for infants
	16	Encourage the children to interact with children of the same age and different ages
	17	Encourage every student to talk in the class
	18	Establish rules about using language in the classroom, for example, wait for your turn, be quiet when asked, use polite language
	19	Combine words with non-verbal language to help the child understand adults’ demands easier (e.g., say “yummy yummy” and pretend eating something)
	20	Provide symbols, images, and guiding words to help the child recognize conventions (e.g., glue the letter A to their individual cup)
	21	Establish a habit to communicate about surrounding objects and events
	22	Create a supportive environment where the child can make friends and play independently
	23	Teach the students about communication rules and how these rules vary in different contexts
	24	Set up a bookshelf with books, stories, and toys that come from different cultures
	25	Support the child in linguistic activities
Cultivating a linguistic environment in the classroom	26	Master mother tongue language’s knowledge
	27	Master teaching methods about age-appropriate language development
	28	Select age-appropriate linguistic activities
	29	Showcase that they make an effort to observe and understand the child to create suitable language development goals
	30	Know how to use language development assessment tools
	31	Use appropriate, effective visual aids
	32	Design exciting activities to get the students’ attention and engagement
	33	Handle situations skillfully and positively
	34	Design activity that helps the children achieve development goals
	35	Intentionally integrate linguistic tasks in other activities
	36	Correct pronunciation, errors in vocabulary, grammar and for the students
	37	Make a record of the children progresses
	38	Propose interventions for children with language difficulties
	39	Be able to use advanced communication forms such as presentations, art performances, debates, composing, ...
Collaboration with parent, personal development, and community engagement	40	Actively participate in professional development training, support communities working in the field of children language development
	41	Commit to working towards equality and creating opportunities for language development for all children
	42	Be diligent, responsible, always finish the works on schedule
	43	Give instructions to the students’ families to help the children practice at home
	44	Support parents who have difficulties in communicating with the child
	45	Research new methods to promote children language development

Each item is rated on a 6-point Likert scale, with:

1 = I don’t know and never apply the skill

2 = I heard about the skill but never apply it or applied without understanding its essence

3 = I know about the skill but haven’t mastered it yet

4 = I know about the skill and apply it well

5 = I understand and master the skill

6 = I profoundly understand and master the skill, to the extent that I can consult others