

## Pedagogical communication in early childhood education practice: Factors shaping future teachers' interaction skills with 5-6-year-old preschool children

 Yen Tran Thi Kim<sup>1</sup>,  Hoan Vu Thuy<sup>2\*</sup>

<sup>1</sup>Faculty of Early Childhood Education and Primary Education, Vietnam National University, Hanoi - University of Education, VietNam; tranyen@vnu.edu.vn (Y.T.T.K.).

<sup>2</sup>Faculty of Education, Hanoi Metropolitan University, VietNam; vthoan@hnmue.edu.vn (H.V.T.).

**Abstract:** Communication skills with preschool children play a crucial role in creating a safe educational environment and promoting the holistic development of young children. This study aims to explore the factors determining the communication skills of future preschool teachers during their internship by integrating individual psychological factors and school support mechanisms within a unified analytical framework. Using a quantitative research method, data were collected from 311 preschool education students from four universities in Vietnam. The results show that knowledge of child psychology, preschool teacher training programs at universities, internship environment and conditions, and self-confidence all have a positive and significant influence on communication skills during internships. In this study, self-confidence emerged as the strongest predictor ( $\beta = 0.299$ ,  $t = 6.301$ ), highlighting the central role of the individual in shaping the communication performance of future teachers in a practical setting. The research results provide useful evidence suggesting that universities training early childhood education students should adjust their curricula and practices to focus on effective communication skills before they enter the future job market.

**Keywords:** 5-6 year old preschool children, Future early childhood teachers, Internship, Pedagogical communication, Skills.

### 1. Introduction

Pedagogical communication skills are considered a core component of teachers' professional competencies. The four communication skills, listening, reading, writing, and speaking, are essential to support the teaching and learning process [1]. Furthermore, it includes the ability to understand learners' emotions, select appropriate interaction strategies, and adapt communication behavior to diverse and complex teaching situations [2]. Therefore, pedagogical communication skills are increasingly recognized as a multifaceted professional competency encompassing not only linguistic but also relational, emotional, cognitive, and behavioral aspects [3]. Effective pedagogical communication is the foundation for high-quality teaching and learning. The importance of communication skills needs to be understood by trained teachers or trainee teachers in the hope that their students can acquire knowledge [1]. In particular, communication skills are essential in the job search process. Newly graduated students will be tested on their communication abilities in job interviews. Therefore, universities must ensure that students are equipped to communicate clearly and effectively [4].

Students are the future workforce, so learning and improving communication skills are especially important to help them meet the requirements of future careers and employers, enhance their job prospects, and increase their chances of career success [5]. Therefore, students need to strive to develop

communication skills to succeed in their chosen profession [6]. This is even more necessary for teacher training students, the future workforce of educators. Thus, the formation and development of pedagogical communication skills from the initial training stage at university are crucial to the quality of their future professional practice. Therefore, in teacher education, developing pedagogical communication skills in future teachers is particularly important, as these skills lay the foundation for building professional identity and teaching effectiveness [7].

In early childhood education, effective pedagogical communication directly impacts children's cognitive, emotional, and social development [8]. When educators use effective pedagogical communication, it not only helps children improve their language acquisition, emotional regulation, and problem-solving abilities but also fosters a sense of confidence, closeness, and safety [9]. If early childhood educators are not adequately trained in nonverbal communication and in integrating play-based learning tools, it will affect the quality of classroom interaction [10]. Although teachers' communication skills have a significant impact on children, many teachers remain unaware of the importance of effective communication with young children [11]. Therefore, prospective early childhood educators and education students need to pay special attention to developing their communication skills during their university studies.

In Vietnam, fundamental and comprehensive reforms in education and training have impacted early childhood education, manifested not only in scale but also in content and teaching methods, with a new goal of quality. Early childhood teachers need to improve their professional skills to meet these reforms [12]. However, many early childhood educators still use traditional teaching techniques, thereby hindering the development of children's communication and social skills [13]. In response to this situation, the Vietnamese Government and the Ministry of Education and Training have issued several documents outlining policies to support and promote the professional development of early childhood teachers. Specifically, the professional regulations for preschool teachers [14] and the regulations on codes and professional standards for preschool teachers [15] include requirements for preschool teachers' communication skills.

In Vietnamese universities, internships play a crucial role in developing and refining students' professional skills, including pedagogical communication skills [16]. In preschool teacher training, internships are the stage of applying theoretical knowledge to practice, while also providing students with the opportunity to directly interact with children in a professional educational environment [17]. Pedagogical communication skills are essential for students majoring in Early Childhood Education, especially during internships with 5- to 6-year-old children [13]. Pedagogical communication encompasses verbal and nonverbal communication, emotional responses, and the use of appropriate educational tools to foster a positive, effective learning environment. Communication is not merely a process of linguistic exchange but a complex interaction between teachers and children to both convey educational content and promote holistic cognitive, emotional, and social development. However, early childhood education teacher training programs at Vietnamese teacher training universities still face many limitations [18], including deficiencies in training pedagogical communication skills for students [19]. Therefore, it is necessary to conduct empirical research to evaluate the factors influencing the pedagogical communication skills of early childhood education students during their internships, thereby determining the extent of the impact of these influencing factors and making feasible recommendations to improve the pedagogical communication skills of early childhood education students, contributing to improving the overall quality of education in Vietnam.

## 2. Theoretical Framework and Developing Research Hypotheses

### 2.1. Communication Skills of Teacher Training Students and Development During Internships

The pedagogical skills of future teachers are formed by many factors, including motivation, attitude, management, and support from colleagues, as well as training style and environment [20]. Pedagogical communication skills influence the future of teachers and the quality of education more than pedagogical

knowledge. If a teacher is knowledgeable in their subject matter but lacks pedagogical skills, it is difficult for them to become a good teacher [21].

Communication skills are the ability to appropriately use verbal and non-verbal means, knowing how to organize and adjust the communication process to achieve communication goals. Pedagogical communication occurs as a condition of pedagogical activity. It is the contact and exchange between the teacher and the learner, using verbal and non-verbal means of communication to effectively carry out teaching and educational tasks. Therefore, pedagogical communication skills encompass all actions, gestures, movements, and behaviors [22] that are harmoniously and appropriately coordinated by the teacher to ensure effective interaction with children during teaching and educational activities, with minimal mental and physical energy expenditure under changing conditions. Psychologists and educators classify communication skills into different categories. Based on the communication audience, pedagogical communication skills can be divided into three main groups: with preschool children, with colleagues and superiors, and with parents and the community. Pedagogical communication skills are an indispensable part of pedagogical competence, serving as the primary means of building relationships, stimulating thinking, and supporting learning. Therefore, to develop pedagogical communication skills, it is necessary to effectively apply knowledge and experience in communication, using both verbal and non-verbal means in different contexts of the communication process to achieve communication goals.

For teacher-training students, these skills are developed at university through practice and observation. Subsequently, internships at schools are the final comprehensive step in developing professional skills for future teachers before becoming full-fledged teachers [23]. The experiences that teacher-training students gain while working in classrooms and schools are crucial for shaping their pedagogical skills [24]. Similarly, Darling-Hammond [25] found that final-year students at teacher-training universities consider the most valuable part of the training program to be the time spent on pedagogical practice in internship schools.

In Vietnam, early childhood education is a foundational level in the national education system. This level demands a much higher level of pedagogical competence from teachers than other levels, especially in pedagogical communication skills. The total practical training time at preschools is at least four weeks [26], conducted for third and fourth-year students before graduation. Pedagogical communication is considered a central factor directly affecting the quality of interaction between teachers and children, influencing children's language, cognitive, and social skills development. The pedagogical communication skills of future teachers are shaped by many factors, including attitude, management and support from colleagues, and training style and environment [20].

## 2.2. Developing Research Hypotheses

### 2.2.1. Psychological Characteristics of Preschool Children (PSY)

Preschool children include those aged 3-6 years old. At this age, their language is developing, becoming their primary means of communication. Because their motor skills are fully developed, children can move freely without relying on adult assistance, so their scope of communication and exploration of their surroundings is much broader and richer than in nursery school [27]. At this stage, children begin to express complex communication needs, requiring teachers to possess flexible communication skills, including clear speech, timely responses, and the ability to adjust nonverbal cues to suit each child. Differences in language proficiency and attention span create challenges for student interns when facing specific communication situations. The ability to recognize and respond appropriately to children's expressions, such as gestures, facial expressions, and tone of voice, is an integral part of effective pedagogical communication [28]. This requires students to have knowledge of child development psychology and the ability to adjust their communication style flexibly to each situation. That is, to achieve effective pedagogical communication with children, it is necessary to be aware of these psychological characteristics [11]. The first hypothesis proposed is:

*H<sub>1</sub>: The psychological characteristics of preschool children positively influence the pedagogical communication skills of student interns.*

### 2.2.2. Internship Environment and Conditions (IEC)

The working environment and conditions for preschool teachers include: the school's cultural and traditional environment; policies and regulations; the attention of the management team; the relationships between leaders and teachers, and between teachers themselves; and the school's facilities [29]. The school's cultural and traditional environment is where preschool teachers' interactions and communication take place. A good working environment influences teachers' overall professional competence and pedagogical communication skills with students [30]. Furthermore, the relationship between leaders and teachers is a crucial aspect that significantly impacts the overall quality of education in the school, particularly the communication skills of preschool teachers [31]. When the school and leaders show concern for teachers, they will strive to improve their work and maintain and enhance relationships within the organization [32]. Another factor affecting teachers' communication with preschool children is the number of children in a class [33]. If the class size is too large, communication between the teacher and children, and between children and the teacher, will be less effective. All these factors contribute to the psychological atmosphere of the preschool teacher's workplace. For student interns, the preschool teacher's work environment is also their internship environment. Internships in a favorable work environment provide university students with opportunities for communication, better preparing them for the job market after graduation [6].

H2. The environment and conditions of the preschool internship positively influence student interns' pedagogical communication skills.

### 2.2.3. Self-Confidence (SEC)

Self-confidence in the teaching profession is a teacher's personal belief that teaching objectives can be achieved [34]. Self-confidence significantly impacts the quality of the teacher-student relationship [35]. Teachers with high self-confidence tend to have better teacher-student communication skills because they may feel more confident. This self-confidence can help them feel more comfortable explaining their feelings and thoughts and responding to children [36]. These teachers will create a positive classroom atmosphere [37], thereby demonstrating effective communication between teachers and students. Furthermore, according to social cognitive theory, the ability to effectively manage one's own emotional states and maintain positive enthusiasm strengthens self-confidence [38]. If an individual knows how to regulate their emotions, they tend to be more self-confident and better able to cope with challenges [39]. For teacher trainees, it has been observed that their self-confidence increases proportionally with their level of maturity during teacher training [40]. Therefore, as future teachers' self-confidence increases, their professional conduct also becomes more positive [41].

H3. Student interns' self-confidence positively influences their pedagogical communication skills.

### 2.2.4. Training Program (TRP)

Universities that want to train graduates to meet market demands should focus not only on academic achievement but also on developing essential soft skills to help them compete in the global market Iksan et al. [4]. Harlak et al. [42] suggested that university students should be exposed to activities that can develop their communication skills from their first year of university. The quality, effectiveness, and impact of teachers in schools depend on the pedagogical abilities formed from the teacher training process at the university [43]. In other words, teacher training universities must develop effective solutions to equip future teachers with pedagogical skills through their training programs [44]. Preschool teacher training programs should focus on appropriate communication, knowledge, and skills related to children's psychological development [45]. Communication and interaction are central elements in a study of preschool teacher competence related to the overall goals of the preschool curriculum [46]. Therefore, training in verbal communication should be an integral component of preschool teacher training programs [11].

H4. Preschool teacher training programs positively influence student interns' pedagogical communication skills.

### 2.2.5. Instructors (INS)

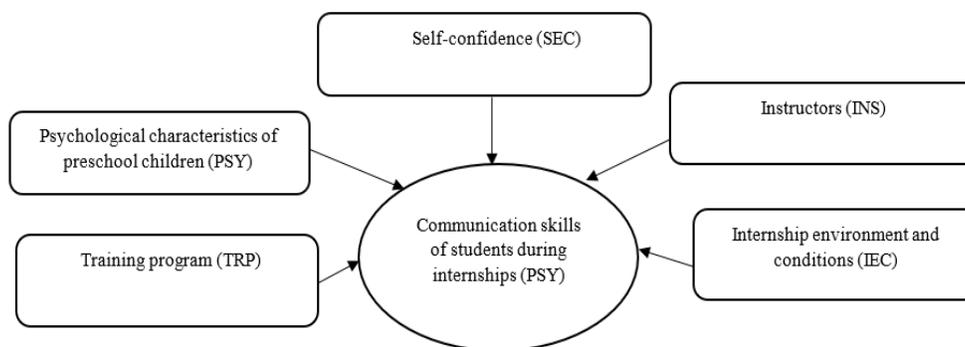
The development of students' communication skills is primarily influenced by instructors at the training institution [41]. Instructors not only transmit fundamental knowledge about pedagogical communication but also play a role in creating a competency-oriented learning environment [47] through designing learning activities such as simulations and problem-solving. Integrating specific communication contexts of early childhood education into the teaching content helps students develop the ability to identify, analyze, and select appropriate communication strategies in professional practice. During the professional practice phase, preschool instructors act as mentors, helping transform theoretical knowledge into applied communication skills. The process of teachers guiding, responding to, and modeling for students in communication situations with children, parents, and colleagues helps students develop professional communication standards and the ability to adapt to diverse pedagogical situations in teaching [48]. In addition, the continuous interaction between the supervising teacher and the student intern promotes experiential learning, practical skills, and communication skills [49], thereby developing and refining students' professional skills.

*H<sub>5</sub>: University lecturers and supervising teachers in preschools positively influence the pedagogical communication skills of student interns.*

## 3. Methods

This study uses a quantitative research design, employing a cross-sectional survey, to analyze the causal relationship and the degree of influence of predictive factors on the pedagogical interaction skills of student interns working with 5-6-year-old children. This approach helps accurately measure the impact of each factor while also providing a deeper explanation of the psychological and environmental mechanisms shaping future preschool teachers' interaction skills. A pilot survey was conducted with 55 preschool education students from Hanoi Metropolitan University to evaluate the scale. After assessing the Cronbach's Alpha coefficient, two items were removed because their item-total correlations were less than 0.3. In conjunction with consultations with three experts in educational evaluation at the University of Education – Vietnam National University, Hanoi, and Hanoi Metropolitan University, the scale was rephrased, and the unsatisfactory items were removed. Subsequently, the official survey was conducted with 342 students in preschool education from four Vietnamese universities: Hanoi Metropolitan University, VNU - University of Education, Thai Nguyen University of Education, and Hoa Lu University. These four universities were chosen because they all train large numbers of early childhood education students and are representative of the field (two are in Hanoi, Vietnam; one is in Thai Nguyen province; and one is in Ninh Binh province).

After cleaning data from 342 students who responded via Google Forms, 311 responses were deemed high-quality (90.1%). Regarding gender, due to the specific nature of early childhood education, 305 students were female (98.07%), while only 6 were male. All selected students were fourth-year students who had completed internships at preschools. With a sample of 311 students in a country with East Asian culture and a reforming education system like Vietnam, this study aims to offer a fresh perspective from a Southeast Asian nation to the international scientific community.



**Figure 1.**  
Research model.

Five independent variables were identified as influencing factors, including: psychological characteristics of 5-6-year-old children, training program, internship environment and conditions, personal beliefs, and supervising instructors. The independent variable is the communication skills of teacher training students. The study used a 5-point Likert scale to survey student responses, with 1 being the lowest level – strongly disagree – and 5 being the highest level – strongly agree. SPSS 26 software was used to perform descriptive statistics on the data, including mean, standard deviation, Cronbach's alpha, exploratory factor analysis (EFA), analysis of variance (ANOVA), and linear regression. AMOS was used for confirmatory factor analysis (CFA).

**Ethical Considerations:** This study adheres to the principles of academic ethics. After the meaning and purpose of the study were explained, the students participated voluntarily. Personal information and university names are encrypted to ensure confidentiality. Research results are used solely for professional development and program improvement purposes.

## 4. Results

**Table 1.**

Evaluation of basic coefficients.

	Mean	Std. Deviation	Skewness	Kurtosis	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
PSY' Cronbach's Alpha = 0.903						
PSY3	4.13	0.541	-0.403	2.524	0.740	0.915
PSY1	4.13	0.529	-0.135	1.599	0.867	0.809
PSY2	4.10	0.565	-0.520	2.364	0.818	0.851
IEC' Cronbach's Alpha = 0.854						
IEC2	4.06	0.632	-1.051	4.106	0.539	0.878
IEC4	4.07	0.670	-1.251	4.443	0.690	0.818
IEC3	4.06	0.637	-1.257	5.207	0.785	0.777
IEC1	4.08	0.622	-1.030	4.333	0.788	0.777
SEC' Cronbach's Alpha = 0.920						
SEC3	4.06	0.530	-0.987	6.028	0.861	0.865
SEC2	4.02	0.535	-0.741	4.494	0.833	0.889
SEC1	4.06	0.484	-0.346	3.624	0.823	0.898
TRP' Cronbach's Alpha = 0.807						
TRP4	4.10	0.486	0.243	1.027	0.512	0.808
TRP1	3.96	0.634	-1.345	4.522	0.677	0.731
TRP2	3.93	0.671	-1.146	2.817	0.690	0.725
TRP3	4.10	0.606	-0.836	3.427	0.631	0.754
INS' Cronbach's Alpha = 0.751						
INS2	4.11	0.565	-1.382	8.502	0.771	0.427
INS3	4.08	0.622	-1.354	6.094	0.719	0.486
INS1	4.05	0.495	-0.682	4.684	0.311	0.919
PCS' Cronbach's Alpha = 0.933						
PSC1	4.05	0.469	0.183	1.507	0.717	0.932
PSC2	4.04	0.467	-0.059	2.492	0.795	0.922
PSC3	3.98	0.482	-0.402	2.767	0.793	0.922
PSC4	4.02	0.472	-0.320	3.196	0.854	0.915
PSC5	4.02	0.478	-0.309	2.976	0.838	0.917
PSC6	4.05	0.455	-0.012	2.797	0.825	0.918

Table 1 shows that all observed variables had high mean values (ranging from 3.93 to 4.13), indicating a high level of consensus among the participating students. Standard deviations were all below 0.60, indicating low to medium dispersion and further supporting homogeneity in the students' perceptions. Most variables exhibited negative skewness and high kurtosis, suggesting a left-skewed distribution with a sharp peak, a pattern common in educational and psychological studies using Likert scales. Similarly, the reliability analysis showed that all scales achieved good to very good internal consistency, with Cronbach's alpha values ranging from 0.751 to 0.933. Most items exhibited strong adjusted item-to-total correlation coefficients, exceeding the recommended threshold of 0.30 [50]. Only INS1 had a relatively low correlation coefficient between the item and the total score (0.311), but it did not violate the rules and was therefore retained. With a sufficiently large sample size ( $N = 311$ ), this statistic and normal distribution are suitable for the next steps of the analysis.

#### 4.1. Exploratory Factor Analysis (EFA)

**Table 2.**  
KMO and Bartlett's Test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.903
	Approx. Chi-Square	5451.845
	df	253
	Sig.	0.000

An Exploratory Factor Analysis (EFA) using Principal Component Analysis and Varimax rotation was performed to examine the scale's factor structure. The KMO coefficient reached 0.903, which falls within a very good range (0.8 to 0.9), indicating a sufficiently large sample size and a strong correlation among the observed variables [51]. The Bartlett test had a Chi-square value of approximately 5451.845 with a significance level of  $p = 0.000 < 0.05$ , confirming that the data has a structure suitable for factor analysis. These results show that the data are entirely ideal for factor analysis. Based on the Kaiser criterion (Eigenvalue  $> 1$ ), five factors were extracted from the initial 23 observed variables. A notable phenomenon occurred when the INS scale did not converge into a single independent factor but instead split into two other factor groups: TRP (ISN1) and IEC (INS 2, INS 3). Thus, of the initial 5 factors, after EFA, only 4 remained, and we will no longer consider hypothesis H5; the remaining 4 hypotheses (H1-H4) will be further examined. This adjustment does not reduce the scientific value of the scale but helps the model better reflect reality [52]. The total extracted variance reached 73.548%. According to Hair et al. [51], a standard in social science research, the total extracted variance should be above 60%. This result shows that these four factors explain more than 73% of the variation in the original data, demonstrating that the EFA model has very high reliability.

**Table 3.**  
Rotated Component Matrix.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
PSC4	0.827				
PSC5	0.813				
PSC6	0.796				
PSC3	0.785				
PSC2	0.778				
PSC1	0.653				
INS2		0.824			
INS3		0.811			
IEC2		0.770			
IEC3		0.757			
IEC1		0.742			
IEC4		0.709			
TRP2			0.797		
TRP3			0.786		
TRP1			0.779		
INS1			0.701		
TRP4			0.510		
PSY1				0.906	
PSY2				0.864	
PSY3				0.768	
SEC3					0.869
SEC2					0.829
SEC1					0.808

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

**Note:** a. Rotation converged in 6 iterations.

#### 4.2. Confirmatory Factor Analysis (CFA)

Figure 2 presents the CFA results, showing that only the variable TPR4 was excluded because its loading coefficient was less than 0.5, and this did not affect the model. The CFI, GFI, TLI, RMSEA, and PCLOSE indices all had good values, indicating that the research model was well developed and accurately reflected the concept of each factor.

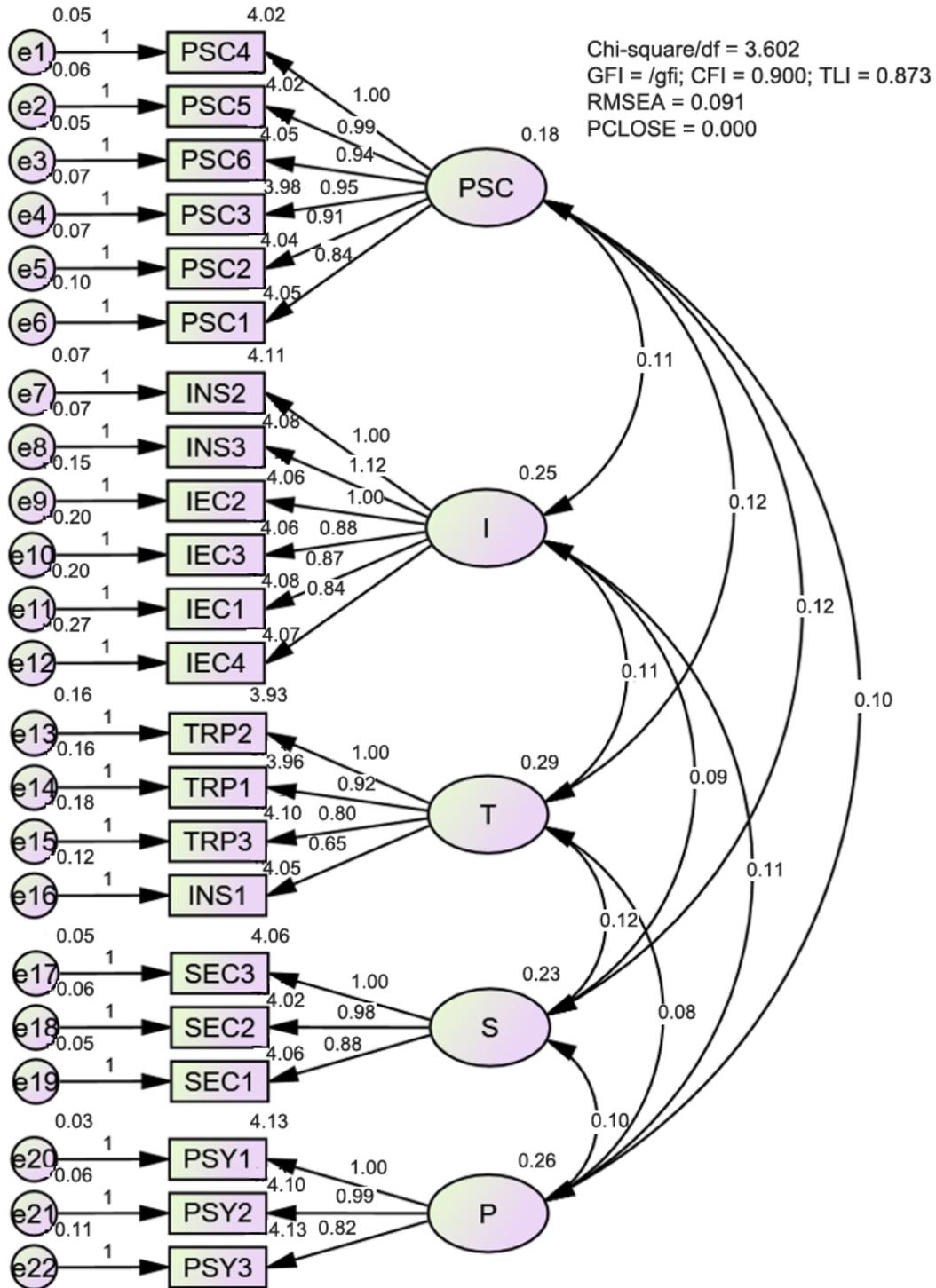


Figure 2. CFA Results.

The results of the reliability and validity analysis of the scale, presented in Table 4, show that the measurement model meets the recommended standards in quantitative research. First, the intrinsic

reliability of the structures is ensured when the Composite Reliability (CR) coefficient ranges from 0.834 to 0.934, exceeding the acceptable threshold of 0.70. This confirms the high consistency of the observed variables across each scale. Regarding convergent validity, the AVEs of the structures range from 0.557 to 0.796, all superior to the cross-correlations, consistent with the Fornell–Larker criterion. This result shows that the observed variables explain most of the variance in the latent concept they represent, thereby confirming the measurement model's convergent validity.

**Table 4.**  
Discriminant and Convergent Validity.

	CR	AVE	MSV	MaxR(H)	PSC	I	T	S	P
PSC	0.934	0.704	0.362	0.939	0.839				
I	0.897	0.596	0.272	0.923	0.521***	0.772			
T	0.834	0.557	0.295	0.840	0.543***	0.406**	0.747		
S	0.921	0.796	0.362	0.923	0.602***	0.383***	0.448***	0.892	
P	0.908	0.767	0.240	0.930	0.490	0.436	0.294	0.423	0.876

Note: Significance of Correlations: \*\*  $p < 0.010$ , \*\*\*  $p < 0.001$ .

After determining the statistical significance of the relationships, the study proceeded to assess the strength of the impact of the observed variables on the latent factors through standardized weights. This result provides important empirical evidence regarding the reliability of the indicators. According to Hair et al. [51] criteria, standardized regression weights should be 0.5 or higher, ideally above 0.7, to ensure that the observed variable explains the latent factor well. The results show that 19 of 22 observed variables had loading coefficients above 0.7, indicating a very strong relationship with their respective factors. The remaining variables (IEC1, IEC3, IEC4), although below 0.7, remain above the minimum threshold of 0.5 and are therefore retained to ensure the comprehensiveness of the scale's content.

**Table 5.**  
Standardized Regression Weights and Correlations.

Standardized Regression Weights			Estimate	Correlations			Estimate
PSC4	<---	PSC	0.891				
PSC5	<---	PSC	0.869	PSC	<-->	IEC	0.521
PSC6	<---	PSC	0.866				
PSC3	<---	PSC	0.828	PSC	<-->	TRP	0.543
PSC2	<---	PSC	0.823				
PSC1	<---	PSC	0.749	PSC	<-->	SEC	0.602
INS2	<---	IEC	0.885				
INS3	<---	IEC	0.899	PSY	<-->	PSC	0.490
IEC2	<---	IEC	0.787				
IEC3	<---	IEC	0.698	IEC	<-->	TRP	0.406
IEC1	<---	IEC	0.699				
IEC4	<---	IEC	0.624	IEC	<-->	SEC	0.383
TRP2	<---	TRP	0.799				
TRP1	<---	TRP	0.775	PSY	<-->	IEC	0.436
TRP3	<---	TRP	0.706				
INS1	<---	TRP	0.702	TRP	<-->	SEC	0.448
SEC3	<---	SEC	0.915				
SEC2	<---	SEC	0.884	PSY	<-->	TRP	0.294
SEC1	<---	SEC	0.876				
PSY1	<---	PSY	0.940	PSY	<-->	SEC	0.423
PSY2	<---	PSY	0.893				
PSY3	<---	PSY	0.787				

The correlation analysis results between the five latent factors (PSC, IEC, TRP, SEC, PSY) showed positive and statistically significant relationships, with correlation coefficients ranging from 0.294 to 0.602. Multicollinearity was observed: the correlation coefficients were all low to medium ( $< 0.7$ ); therefore, the model did not exhibit multicollinearity, ensuring reliability for subsequent regression analyses [52]. Regression analysis.

**Table 6.**  
Regression and ANOVA Results

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	<b>0.713a</b>	<b>0.508</b>	<b>0.502</b>	<b>0.28759</b>	<b>1.957</b>
		Sum of Squares	Mean Square	F	Sig.
ANOVA	Regression	26.152	6.538	79.046	0.000b
	Residual	25.309	0.083		
	Total	51.461			

Multiple linear regression analysis was performed to examine the influence of four factors, PSY, SEC, TRP, and IEC, on PCS. The summary results show that the regression model exhibits relatively good explanatory power. Specifically, the multiple correlation coefficient is  $R^2 = 0.508$ , indicating that approximately 50.8% of the variance in PCS is explained by the four independent variables. The adjusted  $R^2$  of 0.52 further confirms the model's stability and suitability. Furthermore, the Durbin-Watson statistic of 1.957 shows no serious autocorrelation in the residuals, fulfilling a key assumption of the regression analysis. The ANOVA results show that the overall regression model is statistically significant ( $F = 79.406$ ,  $p < 0.001$ ), confirming that all four predictive factors together have a strong influence on PCS. This finding indicates that the regression model fits the data and is suitable for hypothesis testing.

**Table 7.**  
Hypothesis testing and the regression coefficient of the research model.

Hypothesis	Impact	Beta	t	Sig.	Conclusion
H1	PSY -> PCS	0.207	4.438	0.000	Accepted
H2	SEC -> PCS	0.299	6.301	0.000	Accepted
H3	IEC -> PCS	0.240	5.119	0.000	Accepted
H4	TRP -> PCS	0.227	5.034	0.000	Accepted

Table 7 shows that all research hypotheses (H1-H4) are accepted based on the effect coefficients and statistical significance. Specifically, the SEC shows the most substantial standardized effect ( $\beta = 0.299$ ,  $t = 6.301$ ). The highest  $\beta$  coefficient indicates that when students have higher self-confidence in their personal abilities, their ability to interact, exchange ideas, and communicate with children, instructors, and parents improves significantly. The large t-value confirms that this effect is statistically significant, indicating that communication skills depend not only on knowledge or the internship context but also on students' self-perception of competence.

Next is the internship environment (IEC) with  $\beta = 0.240$ ; the  $\beta$  coefficient ( $t = 5.119$ ) and the training program (TRP) with  $\beta = 0.227$  and  $t = 5.034$  both showed a positive and relatively strong impact on the communication skills of student interns (PSCs). A favorable internship environment, with support from preschool teachers and frequent opportunities to interact with children, facilitates students in practicing communication skills practically and effectively. Meanwhile, the training program plays a foundational role, equipping students with knowledge, methods, and simulated pedagogical communication situations before entering the real world. IEC has a slightly higher  $\beta$  coefficient than TRP, indicating that practical experience at preschools has a more direct and clear impact than theoretical learning content.

Although the understanding of child psychology (PSY) has the lowest  $\beta$  coefficient in the model ( $\beta = 0.207$ ;  $t = 4.438$ ), it is still significant. Statistics show that understanding the psychological characteristics

of preschool children is crucial, as it helps students choose appropriate expressions, tones, and communication behaviors. However, whether this understanding of children's psychology can be effectively applied to practical activities depends on self-confidence and the internship environment.

## 5. Discussion

The standardized linear regression results show that four factors, self-confidence (SEC), internship environment (IEC), training program (TRP), and children's psychological characteristics (PSY), all have a positive and statistically significant influence on the pedagogical communication skills of preschool teacher training students during their internship (PSC). SEC has the most substantial impact, followed by IEC, TRP, and PSY. These findings not only clarify the structure of the factors influencing student interns' communication skills but also provide substantial empirical evidence for modern theoretical approaches to developing professional competence in education for future preschoolers.

Among all predictive factors, self-confidence (SEC) emerged as the strongest determinant of communication skills among prospective teachers during teaching practice. This finding is consistent with Bandura's [38] social cognitive theory, which suggests that individuals' beliefs about their abilities strongly influence their motivation, persistence, and performance. In the context of early childhood education practice, prospective teachers with higher self-confidence are more proactive in communicating with children, parents, and colleagues, and interact confidently in the classroom, actively regulating their emotions and adapting their communication strategies to suit different situations [36, 41]. The results of this study reinforce the view that developing communication skills should begin within each student through proactive emotional regulation, as suggested by Sutton and Wheatley [2], and individual self-confidence.

The significant contribution of the internship environment and conditions (IEC) underscores the importance of contextual and organizational factors in developing communication skills. A supportive internship environment, with adequate resources, a positive school culture, and opportunities for practical participation, provides student teachers with the best opportunities to experiment with different communication strategies with children, from spoken language and gestures to nonverbal communication [28]. This finding is consistent with studies emphasizing the role of experiential learning in teacher training [49]. This result reflects the crucial role of pedagogical practice as a key step in teacher-training innovation, helping bridge the gap between theory and practice, as in the studies by Loc [16] and Nguyen and Pham [18]. Conversely, an unfavorable practice environment will limit communication opportunities and weaken students' confidence, thereby threatening the development of their communication skills.

University-based early childhood teacher training programs (TRPs) play a fundamental role in developing communication skills. Training programs that integrate pedagogical theory, child-centered communication strategies, and practical orientation sessions will provide students with initial preparation for real-world interactions in the early childhood environment. This result is consistent with Darling-Hammond's [53] argument that teacher training programs provide students with a system of knowledge, pedagogical methods, and professional communication scenarios that help bridge the gap between theory and practice. In early childhood education, communication is not merely a technical skill but also an interactive activity requiring sensitivity to children's developmental needs, emotions, and social context [13]. Therefore, it is undeniable that teacher training programs should focus on developing students' communication skills.

Knowledge of child psychology was also found to significantly influence communication skills during internships. Understanding children's cognitive, emotional, and social development allows future teachers to communicate more appropriately, empathetically, and responsively. This finding supports the view that effective communication between teachers and children must be based on an understanding of children's developmental characteristics [11]. In early childhood education, communication serves not only teaching purposes but also functions to regulate emotions and build close relationships with children. Teachers with solid psychological knowledge will be better equipped to explain children's behavior, respond to children's emotional signals, and support learning through meaningful dialogue.

Although teacher guidance and mentoring do not appear as a direct predictor in the regression model, the role of instructors should not be underestimated. Similarly, as Izadinia [54] pointed out, during internships at school, students work with other students, with teachers acting as mentors to help shape learning opportunities and develop students' professional identity. Teachers then act as role models for effective communication, providing feedback and encouraging student teachers to experiment with new interaction strategies. The indirect effects of mentoring can manifest through increased self-confidence, improved internship conditions, or better alignment between university training and school practice.

## 6. Policy Implications and Significances

The research findings contribute to the literature on early childhood teacher education by demonstrating that communication skills during internships are not merely personal attributes but result from a dynamic interaction between psychological preparation, training programs, and the internship context. These findings emphasize that professional skills develop through the interaction between individual competence and contextually favorable conditions, thereby strengthening each individual's confidence in their professional abilities. By empirically validating this integrated perspective, the study has fostered a more comprehensive understanding of how to cultivate communication skills during pedagogical internships for future teachers.

The research results also offer several important implications for early childhood teacher training. Firstly, programs need to clearly promote students' self-confidence through mentoring, positive feedback, guided practice, and constructive feedback. Secondly, the significant influence of university training programs underscores the need for more appropriate curriculum adjustments that integrate communicative content, including child-centered communication strategies, parent-teacher interaction skills, and collaborative communication with colleagues. Simultaneously, the curriculum needs to strengthen the integration of child psychology and pedagogical methods, focusing on communication and linking theory with practical communication situations. Thirdly, the importance of the internship environment and conditions underscores the need for close collaboration between universities and internship institutions. Internship schools need to prepare supportive practice environments that provide future teachers with ample opportunities to engage in meaningful communication with children, parents, and school staff. In particular, courses in child psychology should be directly linked to internship assignments, allowing students to apply theoretical knowledge to real-world communication situations. Fourth, from a policy perspective, the results show that accreditation and quality assurance frameworks need to clearly define communication skills as an essential professional standard for future teachers. Policymakers should also consider establishing clear guidelines on internship quality, including specific standards for guidance, resources, and opportunities for practice in the internship environment. Increased investment in training and practice infrastructure for future teachers, ensuring consistency and synchronization among these facilities, is necessary to reduce disparities in student learning outcomes.

## 7. Conclusion

This study clarifies the multi-factor model influencing students' pedagogical communication skills during their internships in preschools, where personal factors play a central role, while other contextual and objective factors play supporting and conditional roles. This finding provides empirical evidence for studies on the professional competence of preschool teachers and expands our understanding of the mechanisms underlying communication skill development during internships. Despite its significant contributions, this study has some limitations. The cross-sectional design limits causal inference, and reliance on self-reported student responses may lead to biased feedback. Furthermore, the sample does not guarantee the generalizability of the findings to other teacher-training systems. Future research should address these limitations by adopting a longitudinal design and mixed-methods research to capture the developmental nature of communication skills over time. Further studies should also explore mediating and regulating mechanisms, such as the role of self-confidence in linking training programs and internship conditions to communication outcomes. Regional cultural factors should also be considered

in future research. Therefore, with concrete evidence from the study, it will help improve future teachers' communication skills and enhance the overall quality of early childhood education not only in Vietnam but also in other countries worldwide.

### Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

### Copyright:

© 2026 by the authors. This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

### References

- [1] L. Naibaho and M. Silalahi, "Exploring INQF-based curriculum in English education study programs: Investigation of curriculum implementation," *Tarbiawi: Jurnal Keilmuan Manajemen Pendidikan*, vol. 8, no. 1, pp. 113-120, 2022.
- [2] R. E. Sutton and K. F. Wheatley, "Teachers' emotions and teaching: A review of the literature and directions for future research," *Educational Psychology Review*, vol. 15, no. 4, pp. 327-358, 2003. <https://doi.org/10.1023/A:1026131715856>
- [3] B. Turlybekov, G. Seidaliyeva, B. Abiev, and L. Kazyhankyzy, "Development of professional-pedagogical competence in future English language teachers," *International Journal of Innovative Research and Scientific Studies*, vol. 7, no. 3, pp. 1009-1016, 2024.
- [4] Z. H. Iksan *et al.*, "Communication skills among university students," *Procedia-Social and Behavioral Sciences*, vol. 59, pp. 71-76, 2012. <https://doi.org/10.1016/j.sbspro.2012.09.247>
- [5] E. Pshembayeva, N. Pfyfer, M. Uaikhanova, and A. Bubenchikova, "Career success: Analysis and development of career opportunities in students," *In Frontiers in Education*, vol. 7, p. 999541, 2022. <https://doi.org/10.3389/educ.2022.999541>
- [6] F. M. Ihmeideh, A. A. Al-Omari, and K. A. Al-Dababneh, "Attitudes toward communication skills among students'-teachers' in Jordanian public universities," *Australian Journal of Teacher Education (Online)*, vol. 35, no. 4, pp. 1-11, 2010.
- [7] L. Darling-Hammond, "Defining teaching quality around the world," *European Journal of Teacher Education*, vol. 44, no. 3, pp. 295-308, 2021. <https://doi.org/10.1080/02619768.2021.1919080>
- [8] H. 'Aziz, A. Sudrajat, Suparno, S. Purnama, and I. K. C. A. Putri, "Embedding effective communication in early childhood learning in schools: Experience from early childhood teachers," *Child Care in Practice*, vol. 31, no. 2, pp. 190-209, 2025. <https://doi.org/10.1080/13575279.2024.2333721>
- [9] T. Rizzuto, K. Cordeiro, and A. Roda, "The lost art: Teachers' perceptions of the connections between the arts and social-emotional learning," *Arts Education Policy Review*, vol. 125, no. 3, pp. 150-162, 2024. <https://doi.org/10.1080/10632913.2022.2053919>
- [10] C. Montoya-Fernández, L. Losada-Puente, I. M. Gómez-Barreto, and P. Gil-Madronea, "Developmental play-based assessment in early childhood education: a systematic review," *European Early Childhood Education Research Journal*, vol. 32, no. 5, pp. 788-813, 2024. <https://doi.org/10.1080/1350293X.2024.2311100>
- [11] A. Jonsson and P. Williams, "Communication with young children in preschool: The complex matter of a child perspective," *Early Child Development and Care*, vol. 183, no. 5, pp. 589-604, 2013. <https://doi.org/10.1080/03004430.2012.678488>
- [12] Q. Do Nguyen and H. T. Nguyen, "Entrepreneurship education and entrepreneurial intention: The mediating role of entrepreneurial capacity," *The International Journal of Management Education*, vol. 21, no. 1, p. 100730, 2023.
- [13] V. Hoan, T. Do-Thi, N. Nguyen, and H. Ngo-Thi-kim, "Pedagogical communication skills of preschool teachers: An analysis of spoken language, behavior and gesture communication, and educational tools in early childhood education," *International Journal of Innovative Research and Scientific Studies*, vol. 8, no. 2, pp. 1114-1122, 2025.
- [14] Ministry of Education and Training (MOET), *Professional standards for preschool teachers (Circular No. 26/2018/TT-BGDĐT)*. Hanoi, Vietnam: Ministry of Education and Training, 2018.
- [15] Ministry of Education and Training (MOET), *Regulations on codes and professional standards for preschool teachers (Circular No. 01/2021/TT-BGDĐT)*. Hanoi, Vietnam: Ministry of Education and Training, 2021.
- [16] N. Loc, *The place of pedagogical internship in the reform of teacher education in Vietnam*. In J. Calvo de Mora & K. Wood (Eds.), *Practical knowledge in teacher education: Approaches to teacher internship programmes*. New York, NY, USA: Routledge, 2014.
- [17] T. T. Ha and N. T. Lan, "Developing pedagogical communication skills for early childhood education students during teaching practicum," *Journal of Education and Learning*, vol. 13, no. 1, pp. 112-120, 2024.

- [18] N. D. Nguyen and Q. H. Pham, *Teacher education curriculum in Vietnam: Obstacles and new challenges*. In T. Tran, C. H. Nguyen, & L. T. M. Nguyen (Eds.), *Educational Innovation in Vietnam: Opportunities and Challenges of the Fourth Industrial Revolution*. Abingdon, UK; New York, NY, USA: Routledge, 2022.
- [19] N. H. Hoang, T. T. H. Nguyen, T. P. H. Pham, T. P. Ngo, and T. Nguyen, "The development of curricular and training programs in Vietnam," *Problems of Education in the 21st Century*, vol. 81, no. 1, p. 90, 2023.
- [20] S. T. EL Hajjar and M. S. Alkhanaizi, "Exploring the factors that affect employee training effectiveness: A case study in Bahrain," *Sage Open*, vol. 8, no. 2, pp. 1-12, 2018. <https://doi.org/10.1177/2158244018783033>
- [21] J. F. Castro, P. Glewwe, A. Heredia-Mayo, and R. Montero, "Work with what you've got: Improving teachers' pedagogical skills at scale in rural Peru," *Peruvian Economic Association*, vol. 121, pp. 1-33, 2021.
- [22] V. Slipchuk, H. Yuzkiv, T. Lutaieva, N. Batechko, and M. Pisotska, "Pedagogical skills and communicative competence of university teachers during the Classes," *Review of International Geographical Education*, vol. 11, no. 4, pp. 1226-1237, 2021.
- [23] N. Lampert, "Critical thinking dispositions as an outcome of undergraduate education," *The Journal of General Education*, vol. 56, no. 1, pp. 17-33, 2007. <https://doi.org/10.1353/jge.2007.0011>
- [24] E. Kiggundu, "Teaching practice in the greater vaal triangle area: The student teachers' experience," *Journal of College Teaching & Learning*, vol. 4, no. 6, pp. 25-36, 2007. <https://doi.org/10.19030/tlc.v4i6.1572>
- [25] L. Darling-Hammond, "Constructing 21st-century teacher education," *Journal of Teacher Education*, vol. 57, no. 3, pp. 300-314, 2006.
- [26] K. D. Nguyen, "Training pedagogical skills: Evaluation of lecturer and teacher training students at the University of Education, Hanoi, Vietnam," *Eurasia Journal of Mathematics, Science and Technology Education*, vol. 17, no. 12, p. em2048, 2014.
- [27] J. Brodin and K. Renblad, "Improvement of preschool children's speech and language skills," *Early child Development and Care*, vol. 190, no. 14, pp. 2205-2213, 2020. <https://doi.org/10.1080/03004430.2018.1564917>
- [28] R. Taylor, "Meaning between, in and around words, gestures and postures—multimodal meaning-making in children's classroom discourse," *Language and Education*, vol. 28, no. 5, pp. 401-420, 2014. <https://doi.org/10.1080/09500782.2014.885038>
- [29] O. Fushtei and I. Sarancha, "Formation of environmental culture in preschool children," *Personality and Environmental Issues*, vol. 4, pp. 21-25, 2023. [https://doi.org/10.31652/2786-6033-2023-2\(4\)-21-25](https://doi.org/10.31652/2786-6033-2023-2(4)-21-25)
- [30] M. Grangeat and P. Gray, "Factors influencing teachers' professional competence development," *Journal of Vocational Education and Training*, vol. 59, no. 4, pp. 485-501, 2007. <https://doi.org/10.1080/13636820701650943>
- [31] E. Terek, D. Glušac, M. Nikolic, I. Tasic, and B. Gligorovic, "The impact of leadership on the communication satisfaction of primary school teachers in Serbia," *Educational Sciences: Theory and Practice*, vol. 15, no. 1, pp. 73-84, 2015.
- [32] J. F. Murphy and K. S. Louis, *Positive school leadership: Building capacity and strengthening relationships*. New York, NY, USA: Teachers College Press, 2018.
- [33] P. Williams, S. Sheridan, and I. Pramling Samuelsson, "A perspective of group size on children's conditions for wellbeing, learning and development in preschool," *Scandinavian Journal of Educational Research*, vol. 63, no. 5, pp. 696-711, 2019. <https://doi.org/10.1080/00313831.2018.1434823>
- [34] P. Gavora, "Slovak pre-service teacher self-efficacy: Theoretical and research considerations," *The New Educational Review*, vol. 21, pp. 17-30, 2010.
- [35] L. C. Chung, C. A. Marvin, and S. L. Churchill, "Teacher factors associated with preschool teacher-child relationships: Teaching efficacy and parent-teacher relationships," *Journal of Early Childhood Teacher Education*, vol. 25, no. 2, pp. 131-142, 2005. <https://doi.org/10.1080/1090102050250206>
- [36] A. Ata-Aktürk and H. Ö. Demircan, "Preschool teachers' teacher-child communication skills: The role of self-efficacy beliefs and some demographics," *Journal of Education and Human Development*, vol. 6, no. 3, pp. 86-97, 2017. <https://doi.org/10.15640/jehd.v6n3a10>
- [37] R. Cobanoğlu and Y. Capa-Aydin, "When early childhood teachers close the door: Self-reported fidelity to a mandated curriculum and teacher beliefs," *Early Childhood Research Quarterly*, vol. 33, pp. 77-86, 2015. <https://doi.org/10.1016/j.ecresq.2015.07.001>
- [38] A. Bandura, *Self-efficacy: The exercise of control*. New York, USA: Macmillan, 1997.
- [39] D. Kobylińska and P. Kusev, "Flexible emotion regulation: How situational demands and individual differences influence the effectiveness of regulatory strategies," *Frontiers in Psychology*, vol. 10, p. 72, 2019. <https://doi.org/10.3389/fpsyg.2019.00072>
- [40] M. G. Baltaoğlu, H. Sucuoğlu, and İ. Yurdabakan, "Öğretmen adaylarının öz-yeterlik algıları ve başarı/başarısızlık yüklemeleri: Boylamsal bir araştırma," *İlköğretim Online*, vol. 14, no. 3, pp. 803-814, 2015. <https://doi.org/10.17051/io.2015.66489>
- [41] I. Yıldırım, "A study on the effect of instructors' communication skills on the professional attitudes and self-efficacy of student teachers," *Journal of Education for Teaching*, vol. 47, no. 4, pp. 605-620, 2021. <https://doi.org/10.1080/02607476.2021.1902237>
- [42] H. Harlak, A. Gemalmaz, F. Gurel, C. Dereboy, and K. Ertekin, "Communication skills training: Effects on attitudes toward communication skills and empathic tendency," *Education for Health*, vol. 21, no. 2, p. 62, 2008.

- [43] A. Podolsky, T. Kini, and L. Darling-Hammond, "Does teaching experience increase teacher effectiveness? A review of US research," *Journal of Professional Capital and Community*, vol. 4, no. 4, pp. 286-308, 2019. <https://doi.org/10.1108/JPC-12-2018-0032>
- [44] T. Negassa and Z. Engdasew, "The impacts and challenges of pedagogical skills improvement program at adama science and technology university," *International Journal of Instruction*, vol. 10, no. 4, pp. 19-38, 2017. <https://doi.org/10.12973/iji.2017.1042a>
- [45] H. Koch, U. Kastner-Koller, P. Deimann, C. Kossmeier, C. Koitz, and M. Steiner, "The development of kindergarten children as evaluated by their kindergarten teachers and mothers," *Psychological Test and Assessment Modeling*, vol. 53, no. 2, p. 241, 2011.
- [46] S. Sheridan, P. Williams, A. Sandberg, and T. Vuorinen, "Preschool teaching in Sweden—a profession in change," *Educational Research*, vol. 53, no. 4, pp. 415-437, 2011. <https://doi.org/10.1080/00131881.2011.625153>
- [47] X. Chen, *Theoretical framework, content, and practical paths to transform teacher training in: Shanghai teacher institute (eds) future-oriented teacher education*. Singapore: Springer, 2025.
- [48] L. A. Yamauchi, S. Im, and N. S. Schonleber, "Adapting strategies of effective instruction for culturally diverse preschoolers," *Journal of Early Childhood Teacher Education*, vol. 33, no. 1, pp. 54-72, 2012. <https://doi.org/10.1080/10901027.2011.650783>
- [49] A. L. Hemmerich, J. K. Hoepner, and V. M. Samelson, "Instructional Internships: Improving the teaching and learning experience for students, interns, and faculty," *Journal of the Scholarship of Teaching and Learning*, vol. 15, no. 3, pp. 104-132, 2015. <https://doi.org/10.14434/josotl.v15i3.13090>
- [50] J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 7th ed. Upper Saddle River, NJ, USA: Pearson Education Limited, 2010.
- [51] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *European Business Review*, vol. 31, no. 1, pp. 2-24, 2019.
- [52] B. G. Tabachnick and L. S. Fidell, *Using multivariate statistics*. Boston, MA, USA: Pearson, 2019.
- [53] L. Darling-Hammond, "Teacher education around the world: What can we learn from international practice?," *European Journal of Teacher Education*, vol. 40, no. 3, pp. 291-309, 2017.
- [54] D. Izadinia, "Student teachers' and mentor teachers' perceptions and expectations of a mentoring relationship: Do they match or clash?," *Professional Development in Education*, vol. 42, no. 3, pp. 387-402, 2016.