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Measuring Homeroom Competency in Pre-Service Teachers: Scale Development and Validation

Loan Thi Tran[1], Loan Thi Bui[2]*, Hang Thi My Duong[3] & Trang Thi Ngo[4]

Abstract

The objective of this study is to delineate the latent structural components underpinning homeroom management competencies and to quantify the extent to which pedagogical interest influences the cultivation of such competencies among third- and fourth-year pre-service teachers. The research instrument was meticulously constructed via Google Forms and administered through an online modality, targeting undergraduate cohorts enrolled at four major institutions: Hanoi National University of Education, Hanoi Pedagogical University No. 2, Thai Nguyen University of Education, and Thu Do University. The hypothesized structure of homeroom management skills was operationalized through a multidimensional construct comprising seven conceptual domains, derived from an initial item pool of 44 indicators. Out of 806 responses received, a refined dataset of 550 statistically valid entries was retained post data cleansing and subsequently subjected to inferential analysis. Exploratory Factor Analysis (EFA) resulted in the retention of 38 observable variables and extracted seven underlying dimensions. Confirmatory Factor Analysis (CFA) further validated a refined seven-factor structural model encompassing: (i) Skills to understand the educational objective of the homeroom teacher (SU), (ii) Behavioral regulation and disciplinary intervention (BH), (iii) Classroom discipline management (CD), (iv) Student support facilitation (SS), (v) Communicative interaction with pupils (CS), (vi) Collaboration with parents and educational stakeholders (CP), (vii) Extracurricular activity organization (EP), and (viii) Level of interest in participating in training homeroom teacher skills (IH)". The empirical insights gleaned from this study hold substantive implications for educational practitioners, faculty developers, and institutional policymakers aiming to devise evidence-based strategies for enhancing the homeroom leadership competencies of prospective educators within the Vietnamese teacher education paradigm.

Keywords: Classroom management, homeroom teacher skills, pre-service teachers, student engagement, teacher education.

[1]*Faculty of Psychology and Education, Hanoi Pedagogical University No. 2, Hanoi, Vietnam; tranthiloan@hpu2.edu.vn*

[2]**Faculty of Political Education and Educational Psychology, Hung Vuong University, Phu Tho Province, Vietnam; buithiloan@hvu.edu.vn*

[3]*Faculty of Philology, Hanoi Pedagogical University No. 2, Hanoi, Vietnam; duongthimyhang@hpu2.edu.vn*

[4]*Faculty of Psychology and Education, Hanoi Pedagogical University No. 2, Hanoi, Vietnam; ngothitrang@hpu2.edu.vn*

Introduction

The homeroom teacher is responsible for organizing and managing the classroom, guiding and supporting the comprehensive development of students. In the United States, this role is often referred to as "counselor" or "advisor," typically held by subject teachers or professional counselors, who provide noteworthy psychological and academic guidance to students (Wubbels, 2011). Meanwhile, in Germany, the homeroom teacher comprises both full-time and part-time teachers, with no special requirements for age and subject. Moreover, for all German teachers, the role of homeroom teacher is the most expected position. In Japan, the emphasis is on personal responsibility in accompanying students (Wubbels, 2011).

Vietnam has entrusted homeroom teachers with pedagogical guidance, administrative oversight, and the holistic development of students by designating them from primary through high school. Beyond delivering subject knowledge, they are responsible for cultivating a fruitful classroom climate, supporting personal growth, and maintaining solid school-family coordination (Ministry of Education and Training, 2018). Their duties encompass advising students, managing behavior, and facilitating social-emotional learning, directly shaping learners' overall development. Grounded in social education, which accentuates life skills and community responsibility (Bandura, 1977), and aligning with comprehensive education goals for balanced intellectual, physical, emotional, and social growth (Delors, 1996), homeroom teachers play a pivotal role. As modern education shifts toward learner-centered approaches and psychosocial support, developing and validating a competency scale for homeroom teachers becomes critical.

Nevertheless, most existing assessment frameworks and scales are ordinary tools that have not been developed and validated specifically for teacher training in Vietnam. Meanwhile, no research has developed a tool to measure homeroom teacher competencies and addressed the relationship between interest in pedagogical practice and these competencies.

Even though homeroom teachers play a vital role in education, most current assessment frameworks primarily address professional knowledge and typical pedagogical skills, and do not really attempt to evaluate specific competencies in homeroom work quantitatively. The lack of an individualized standardized scale for homeroom skills has limited the ability to establish a training program that applies to real-life situations, including fostering, self-study, and self-assessment of competencies for homeroom teachers and pedagogical students. Therefore, the objective of this

study is to develop and validate a scale to evaluate the homeroom teacher skills of pedagogical students. Thus, I aim to

1. Describe the core competency groups of homeroom teachers.
2. Develop and validate a scale with high reliability and measurement value using empirical data.
3. Assess the level of influence of the training interest factor on the formation of homeroom teacher skills of pedagogical students.

Establishing a robust, empirically substantiated evaluation infrastructure strategically contributes to advancing the quality of teacher education. It also serves as a conceptual cornerstone for future scholarly endeavors to articulate and refine professional competencies within the evolving landscape of modern pedagogy.

Literature Review

Role and Requirements for Homeroom Teachers

Homeroom teacher competencies encompass the knowledge, skills, and attitudes required to manage the classroom, support student development, and collaborate with families and the community (Altun & Erden, 2024; Epstein, 2018). These competencies encompass issues such as behavior management, communication, and emotional support (Singh & Thakur, 2022). Both training and individual factors, such as self-confidence and motivation, play a pivotal role in shaping these competencies (Öcal Dörterler & Akay, 2022; Ryan & Deci, 2000; Tschannen-Moran & Hoy, 2001).

In the Vietnamese education system, homeroom teachers play a vital and central role in organizing classes, promoting discipline, and supporting the comprehensive development of high school students. In Vietnam, homeroom teachers' roles are not limited to classroom management but also involve teaching, educational orientation, psychological counseling, organizing educational activities, and coordinating curricular and extracurricular activities., The role of Vietnamese teachers is more integrated and comprehensive than that of their counterparts in Germany, Japan, and the US (Shimizu, 2006; Wubbels, 2011).

The current educational orientation is towards comprehensive student development and developing learners' capacity in teaching. Therefore, homeroom teachers do not solely impart

knowledge but also play pivotal roles in organizing educational activities for students, arranging and managing the classroom environment, and improving communication with families, schools, society, and students (Özel, 2023; Shimizu, 2006; Wubbels, 2011).

Theoretical Approaches and Competency Frameworks Related to Classroom Management Skills of Pedagogical Students

Many competency frameworks have been explicitly developed to determine standards and criteria for evaluating teacher competencies in today's modern education worldwide (Kazangapova et al., 2024; Sivrikaya et al., 2023; Yermekbayeva et al., 2023). Typical examples encompass the frameworks proposed by Roegman et al. (2016), Cash and Pianta (2023), and the OECD-TALIS framework (OECD, 2013). Most studies mentioned the following factors: consulting and organizing educational activities, communication between teachers, students, and parents, communication skills, and social-emotional support for learners.

Metzner et al. (2025) explored the developmental trajectory of classroom management competencies among teacher trainees with a process-oriented analytical lens. Their findings demonstrated that the trainees' confidence levels and classroom control capabilities are notably shaped by the teacher–student relational dynamics, thereby confirming the integral role of interpersonal competency in effective teaching.

De Smet (2024) qualitatively examined the effectiveness of classroom management during pedagogical internships, using game-based scenarios as evaluative instruments. Utilizing data from in-depth interviews, De Smet (2024) exposed student teachers' capacities to orchestrate classroom activities, navigate instructional dynamics, and respond adaptively to comprehensive pedagogical contingencies within authentic teaching contexts.

The OECD Assessment of Education and Skills (TALIS) Program highlights six core areas of teacher competence, including managing relationships with families and classroom organization, as key properties (OECD, 2018). Pianta and Hamre (2009) utilized the Classroom Assessment Scoring System (CLASS) and provided a detailed evaluation framework for teacher–student interactions, concentrating on emotional support and managing the learning environment.

In the Vietnamese educational context, the Ministry of Education and Training (2018) issued a competency framework for general education teachers, with five overarching standards and fifteen subordinate criteria. However, the framework has remained highly generic, lacking a nuanced

demarcation between overarching classroom management proficiencies and the specialized skill set specifically linked to homeroom teaching. A theoretically grounded reconceptualization of teacher competencies —especially those related to the homeroom function — demands a categorical distinction aligned with the multifaceted responsibilities that educators must accomplish within actual school environments. Such a perspective fosters the conceptualization of homeroom-related competencies as a structurally integrated constellation of discrete yet interrelated dimensions, rather than consolidating them within a monolithic framework of generic pedagogical skills.

Measurement Tools Related to Homeroom Teachers / Classroom Management

A sizable collection of international scholarship has yielded a diverse array of standardized instruments to evaluate classroom management proficiency, assess pedagogical competence, and overall instructional efficacy. These instruments have been widely adopted and empirically validated across educational contexts (Büyüktaşkapu Soydan et al., 2023; Topcu Bilir, 2022). O'Neill and Stephenson (2011) comprehensively examined the Classroom Management Competence Scale, illustrating the instrument's psychometric soundness in capturing teachers' self-efficacy regarding behavioral regulation and the establishment of a secure and structured classroom environment. Furthermore, Main and Slater (2020) constructed and validated a measurement scale to assess the perceived effectiveness of classroom management among pre-service teachers, thereby providing empirical support for refining and evaluating teacher preparation curricula. Similarly, Shechtman (2002) introduced the Democratic Teacher Belief Scale—an instrument designed to capture educators' student-centered orientations, particularly emphasizing their propensity toward employing non-coercive, soft disciplinary strategies. Kim (2019) highlighted the detrimental impact of administrative burdens on instructional practice, arguing that excessive procedural demands compromise teachers' availability for meaningful engagement with students, thereby jeopardizing the quality of interaction. Such findings have noteworthy implications for designing teacher preparation programs and inducting novice educators. The Classroom Assessment Scoring System (CLASS), developed by Pianta et al. (2010, Elsevier), constitutes a structured observational framework for assessing the quality of teacher–student interactions, with a particular emphasis on communicative competence, behavioral management, and learner suppor - dimensions deemed essential to students' holistic development. The instrument is pivotal in enhancing classroom management capabilities because it informs

pedagogical strategies associated with cultivating a constructive classroom climate, orchestrating learning activities, and maintaining behavioral norms conducive to academic growth. Mkhasibe and Mncube (2020) identified substantial deficiencies in the development of classroom management competencies among pre-service teachers in South Africa. The reported shortcomings included an inability to establish classroom norms, a limited capacity to address student misconduct, a lack of sufficient grounding in behavioral regulation strategies, and inadequate expertise in cultivating constructive classroom environments. These findings underscore the need for a standardized evaluative framework that can effectively assess classroom management proficiency, thereby enhancing teacher education programs. Schmitt-Cerna and Ramirez-Olascuaga (2024) focused on assessing the psychometric efficacy of a measurement instrument designed to capture teachers' attitudes toward online classroom management. Amid the accelerating shift in educational practices toward virtual learning environments, acquiring contextually appropriate management strategies and digital pedagogical tools has become increasingly imperative. The present study foregrounded this imperative by formulating and validating specialized assessment instruments tailored explicitly for digital classroom ecosystems. Within the Vietnamese academic context, several scholars have explored measurement scales to foster pedagogical competence among pre-service teachers (Altun & Erden, 2024; Singh & Thakur, 2022). Nevertheless, these studies predominantly address isolated facets of homeroom teacher competencies and fail to propose a standardized and integrative framework that can capture the multidimensional structure inherent in homeroom-specific skill sets.

Factors Affecting the Formation of Homeroom Skills

The homeroom teacher's competency is cumulatively developed, formed through formal training, practical experience, and professional practice. Studies have revealed multiple endogenous and exogenous factors that impact the formation of this skill in student teachers. Intrinsic motivation and career interest are among the prominent personal factors. Schaufeli et al. (2002) reported that the level of career commitment can be measured by the Utrecht Work Engagement Scale (UWES), which evaluates commitment in three dimensions: cognitive, emotional, and behavioral. High levels of interest and passion for the profession are positively linked to having self-regulation, taking initiative, solving creative problems in teaching, and responding flexibly to classroom situations. Self-efficacy is another vital factor, which is built on the Ohio State Teacher Efficacy Scale (OSTES) proposed by Tschannen-Moran and Hoy (2001). Student teachers with higher

confidence in their ability to manage their classrooms and communicate effectively with parents develop better homeroom skills. Concurrently, Lopes and Oliveira (2020) utilized TALIS 2013 data and developed a multilevel analysis model, indicating that positive teacher-student relationships are a fundamental factor that assists in improving classroom management effectiveness, thereby positively impacting professional development.

Additionally, recent studies have initially developed and validated independent measurement tools for homeroom skills. For example, Kaya and Siyez (2023) suggested a multidimensional competency framework to determine homeroom teachers' school counseling skills in a Turkish school context. Likewise, Liu et al. (2022) developed a scale to assess the quality of teacher-student interactions in Chinese secondary schools, focusing on communication and classroom management skills that are central to homeroom teacher competencies. These efforts illustrate that homeroom teacher competencies are widely acknowledged as a distinct component of teacher education.

Overall, the development of homeroom teacher competencies in student teachers results from a combination of factors, including school training conditions—particularly the quality of pedagogical internships and the level of personalized feedback—and internal psychological characteristics, such as career interest and self-confidence, which previous studies identify as critical determinants of teachers' professional competence (Ryan & Deci, 2000; Tschannen-Moran & Hoy, 2001; Schaufeli et al., 2002). Explicitly specifying these factors is vital for designing and enhancing teacher training programs in a focused manner. However, despite numerous studies addressing pedagogical competence, empirical works remain scarce in developing and validating a comprehensive set of measurement tools for determining homeroom teacher competency in the current training context. Acquiring homeroom competencies among pre-service teachers is shaped by a confluence of determinants, including institutional training conditions—such as practicum quality and contextualized feedback—and intrapersonal variables, notably vocational interest and self-confidence. A precise delineation of these factors is pivotal for rational design and targeted refinement of teacher education curricula. A synthesis of extant literature shows substantial research on pedagogical competence; nevertheless, empirical efforts remain inadequate for constructing and validating an integrative instrument to evaluate homeroom-related skills. Moreover, the nuanced interplay between students' intrinsic interest in practice and its impact on homeroom competency development has not been systematically examined.

The present study concurrently has two primary objectives: (1) to construct and empirically validate the structural configuration of a measurement scale for homeroom competencies, and (2) to explore how vocational interest exerts a formative influence on acquiring and developing such competencies during pedagogical training.

Materials and Methods

Research Design

This study employed the Research and Development (R&D) model, guided by the ADDIE cycle (Analysis–Design–Development–Implementation–Evaluation) to construct and validate a homeroom teacher competency scale for pedagogical students. In the Analysis phase, the international theoretical framework was synthesized, and five educational experts were interviewed to identify seven competency domains: behavior management (BH), discipline maintenance (CD), communication with students (CS), organizing extracurricular activities (EP), cooperation with parents and colleagues (CP), student support (SS), and understanding learners (SU). In the Design phase, 44 items were drafted—38 items measuring the seven independent variables and 6 items measuring the dependent variable (interest in practice)—using a five-point Likert scale. During the Development phase, three experts reviewed content validity, with results showing I-CVI ≥ .78 and S-CVI/Ave = .92. A pilot test with 30 third- and fourth-year students indicated that 6/38 items scored below 85% in clarity; these items were revised, and all subsequently achieved ≥ 90%. In the Implementation phase, data were collected online and later evaluated using both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to ensure structural validity and model fit.

Population and Sample (Participants)

The study sample consisted of 550 valid responses from third- and fourth-year students enrolled at four teacher training institutions in Northern Vietnam: Hanoi National University of Education, Hanoi Pedagogical University No. 2, Thai Nguyen University of Education, and Thu Do University. Data were collected online via Google Forms between March 7 and April 10, 2025. Initially, 806 responses were obtained; however, 256 were excluded due to incomplete or invalid entries, yielding the final dataset of 550 participants. Table 1 provides the demographic distribution of the sample, including gender (25.09% male and 74.91% female) and university affiliation (21.82% from HNUE, 36.36% from HPU2, 23.64% from TNUE, and 18.18% from

Thu Do University). All participants were informed of the study's purpose, assured anonymity, and no sensitive personal information was collected.

Table 1 presents the demographic characteristics of the sample, detailing the distribution of participants by gender and by university affiliation.

Table 1

Demographic and descriptive profile of the study sample employed in EFA and CFA procedures

Variable	Item	Number	Percent
Gender	Male	138	25.09
	Female	412	74.91
University	Hanoi National University of Education	120	21.82
	Hanoi Pedagogical University No. 2	200	36.36
	Thai Nguyen University of Education	130	23.64
	Thu Do University	100	18.18

Survey Instrument and Scale Validation

Scale Design

The initial scale comprised 44 items, including 38 measuring the seven independent competency domains (BH, CD, CS, EP, CP, SS, SU) and 6 measuring the dependent variable of interest in practice. All items were rated on a five-point Likert scale (1 = Completely disagree; 5 = Completely agree) and included both demographic items and competency-related measures. Table 2 presents the origin and adjusted number of items for each competency domain.

Table 2

Origin and number of items adjusted for each competency group

Competency Group (Factor)	Original tool source	Number of items after adjustment
Student behavior management skills (BH)	OSTES – Tschannen-Moran and Woolfolk Hoy (2001)	9
Skills to establish and maintain classroom discipline (CD)	Classroom Management Strategies Scale (Çakmak et al., 2008)	7
Communication skills with students (CS)	CMSEI – Slater and Main (2020)	7
Skills in planning and implementing extracurricular educational activities (EP)	UWES – Schaufeli et al. (2002)	4
Communication and cooperation skills with parents and colleagues (CP)	OSTES – Tschannen-Moran and Woolfolk Hoy (2001)	4
Skills to support students in learning (SS)	Classroom Management Strategies Scale (Çakmak et al., 2008)	4

Skills to understand the educational objective of the homeroom teacher (SU)	CMSEI – Slater and Main (2020)	4
Level of interest in participating in training homeroom teacher skills (IH)	UWES – Schaufeli et al. (2002)	6

Content Validity

Three independent pedagogical experts reviewed all items to establish content validity. The item-level content validity index (I-CVI) was ≥ .78, and the scale-level content validity index (S-CVI/Ave) was .92. A pilot test with 30 students identified 5 items with clarity scores below 85%, which were revised. After adjustments, all items achieved clarity ratings of 90% or higher.

Construct Validity

EFA (Principal Axis Factoring with Varimax rotation) conducted on 550 samples produced a KMO ≥ .80 and Bartlett's test $p < .001$. Thirty-nine items were retained for the seven independent variables, and five items were retained for the dependent variable, with factor loadings ≥ .40. Subsequently, CFA confirmed the seven-factor structure, yielding strong fit indices ($\chi^2/df = 1.74$, CFI = .987, RMSEA = .052), demonstrating robust construct validity.

Data Collection

Data collection was conducted online using Google Forms, disseminated through Facebook and Zalo networks. Participation was voluntary, and informed consent was obtained electronically. The survey was available between March 7 and April 10, 2025. Data handling procedures ensured confidentiality, and participants were informed that their responses would remain anonymous and used only for research purposes.

Data Analysis

Raw data were randomly divided into two subsets: Sample A (n = 275) and Sample B (n = 275). In Sample A, reliability of the 44 initial items was assessed using Cronbach's α (α ≥ .85), followed by EFA, which confirmed factor loadings ≥ .40 and KMO ≥ .80. In Sample B, CFA was employed to validate the seven-factor model, assessing fit indices such as χ^2/df, GFI, AGFI, NFI, CFI, RMSEA, and PCLOSE. For the full dataset (n = 550), multiple regression analysis was applied to examine the effect of the seven independent variables on the dependent variable (interest in practice). The regression model was specified as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \cdots + \beta_n X_n$$

In the model, Y represents IH (degree of interest in homeroom skills training), X_n denotes each skill-domain factor, and β_n are the unstandardized regression coefficients.

Findings

Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was conducted on 38 observed variables (n = 275) using Principal Axis Factoring (PAF) with Varimax rotation. The KMO test yielded 0.91, and Bartlett's Test was statistically significant ($\chi^2 = 4533.202$; $p < .001$), indicating the data's suitability for factor analysis. Additionally, all communalities' values exceeded the threshold of 0.50, ensuring that the level of explained variance met the requirements (Hair et al., 2010).

These results indicate that the observed variables in the scale have a close internal relationship and explicitly reflect the latent structure of homeroom teacher competency, a multidimensional competency in teacher training that encompasses behavioral, professional, and social relationship factors in the educational context.

Table 3

KMO and Bartlett test

Test	Value	df	Approx. Chi-Square	Sig.
Kaiser-Meyer-Olkin (KMO)	0.91			
Bartlett's Test of Sphericity		741	4533.20	.000

The communalities values all exceed the threshold of.50, ensuring that the variance is satisfactorily explained, supporting the establishment of the latent structure of homeroom teacher competency (Hair et al., 2010). Based on the Kaiser criterion (eigenvalue > 1), the EFA results illustrate that 7 factors were extracted from 38 observed variables, accounting for 53.987% of the total variance in the data set. The first factor with the highest eigenvalue (10.33) accounts for 28.02% of the original variance. The rotation matrix demonstrates that all variables have factor loadings greater than 0.30 and are explicitly grouped into seven corresponding factors. The seven established competency groups outline the essential components of pedagogical students' classroom management activities, encompassing planning, attending to students, coordinating with parents, and organizing educational activities. This result reinforces the reliability of the scale and

contributes to clearly defining the core competencies that must be developed in the future teacher training program.

Table 4

Results of component element extraction

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
BH2	0.71						
BH1	0.69						
BH6	0.69						
BH3	0.66						
BH5	0.66						
BH7	0.66						
BH8	0.64						
BH9	0.60						
BH4	0.60						
CD7		0.74					
CD6		0.74					
CD1		0.71					
CD5		0.70					
CD3		0.68					
CD4		0.67					
CD2		0.63					
CS4			0.76				
CS7			0.75				
CS3			0.70				
CS5			0.69				
CS1			0.67				
CS2			0.67				
CS6			0.65				
EP1				0.73			
EP2				0.71			
EP3				0.70			
EP4				0.69			
CP4					0.72		
CP2					0.70		
CP3					0.69		
CP1					0.65		
SS4						0.78	
SS1						0.73	
SS3						0.68	

SS2						0.49	
SU3							0.72
SU1							0.71
SU4							0.67
SU2							0.63
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 6 iterations.							

Figure 2 displays the Scree Plot, where a steep decline in eigenvalues is observed from the first to the seventh component, followed by a leveling off beginning with the eighth component, with its contribution to total variance becoming marginal. Based on visual identification of the inflection point and aligning with Kaiser's criterion (eigenvalue ≥ 1), only components with eigenvalues equal to or exceeding 1 were kept. Thus, the extraction of seven latent components was appropriate and aligned with the statistical outcomes outlined in the *Total Variance Explained* table. This convergence of results validates the structural foundation for the homeroom teacher competency scale, with seven distinct factor groupings.

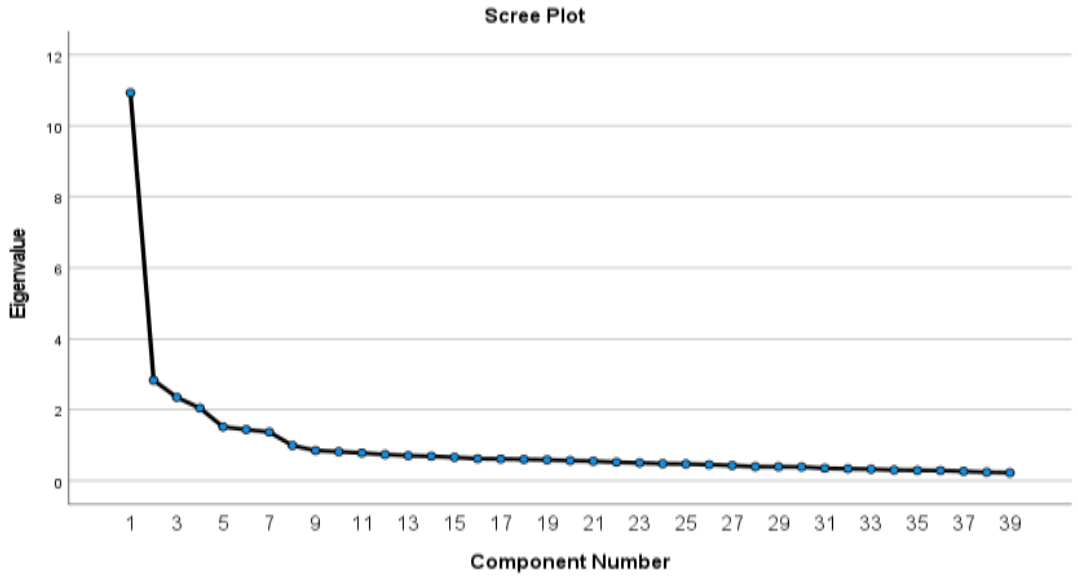


Figure 2: *Scree plot*

Table 5 illustrates the factor loadings of the observed variables onto the seven extracted latent components after Varimax orthogonal rotation. The loadings range from 0.49 to 0.78. As noted by Hair et al. (2010), for sample sizes exceeding 200, factor loadings of.40 or higher are considered statistically significant. These findings corroborate a satisfactory degree of item convergence onto

their respective latent constructs, thereby providing a robust empirical foundation for proceeding with confirmatory factor analysis (CFA) in subsequent stages.

This result statistically confirms the scale structure and reinforces its practical applicability when each competency group explicitly reflects the actual job requirements of homeroom teachers. This circumstance enables teacher training institutions to orient their training content closely to the required professional competencies.

Table 5

Varimax rotated Factor Analysis matrix

Rotated Component Matrix[a]							
	Component						
	1	2	3	4	5	6	7
BH2	0.71						
BH1	0.69						
BH6	0.69						
BH3	0.66						
BH5	0.66						
BH7	0.66						
BH8	0.64						
BH9	0.60						
BH4	0.60						
CD7		0.74					
CD6		0.74					
CD1		0.71					
CD5		0.70					
CD3		0.68					
CD4		0.67					
CD2		0.63					
CS4			0.76				
CS7			0.75				
CS3			0.70				
CS5			0.69				
CS1			0.67				
CS2			0.67				
CS6			0.65				
EP1				0.73			
EP2				0.71			
EP3				0.70			
EP4				0.69			
CP4					0.72		
CP2					0.70		

CP3					0.65		
CP1							
SS4						0.78	
SS1						0.73	
SS3						0.68	
SS2						0.49	
SU3							0.72
SU1							0.71
SU4							0.67
SU2							0.63
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 6 iterations.							

The seven-factor structure obtained using exploratory factor analysis was termed based on the semantic content of the observed variables with the highest loading factor in each group. All variables had loading factors of 0.49 or higher, validating convergence and structural coherence (Hair et al., 2010). Specifically:

Factor 1 (Student Behavior Management Skills – BH) accentuates the ability to control the classroom, enforce rules, and implement proactive discipline strategies.

Factor 2 (Classroom Discipline Skills – CD) is associated with consistency, building habits, and organizing learning activities.

Factor 3 (Student Learning Support Skills – SS) reflects the ability to identify challenges and develop critical thinking in students.

Factor 4 (Communication skills with students – CS) exhibits the ability to interact, listen, and create a safe psychological environment.

Factor 5 (Coordination skills with parents and colleagues – CP) illustrates the ability to cooperate between school and family, as well as work in professional groups.

Factor 6 (Extracurricular educational activities organization skills – EP) focuses on incorporating life skills education and organizing classroom events to enhance students' organizational skills.

Factor 7 (Skills to understand the educational objectives of GVCN – SU) highlights the ability to analyze the psychological characteristics and development needs of students.

All factors have Cronbach's Alpha coefficients ranging from 0.76 to 0.89, indicating high internal reliability.

The seven identified competency groups encompass pivotal aspects of homeroom teacher competencies, including behavior management, maintaining classroom discipline, supporting students, communicating effectively, and understanding psychological characteristics. This grouping depicts that the competency structure is comprehensive, closely aligning with professional practice and the orientation of modern teacher development.

Table 6

Final results for exploratory Factor Analysis

Code	Items	Loadings
Component 1: Student behavior management skills (BH) (Cronbach's Alpha =.89)		
BH 1	I can use various student behavior management methods to maintain order in the classroom.	0.69
BH 2	If a student causes trouble during class, I can adjust and redirect him or her back to the lesson.	0.71
BH 3	I can use positive discipline methods to manage the classroom.	0.66
BH 4	I can encourage students to comply with classroom rules voluntarily.	0.60
BH 5	I can communicate to students that I am serious about establishing and maintaining appropriate behavior.	0.66
BH 6	I can keep challenging students engaged in my lessons.	0.69
BH 7	I know what rules work for my students and can apply them flexibly.	0.66
BH 8	I demonstrate maturity and moderation when faced with unexpected student behavior.	0.64
BH 9	I can stop a few individual students from disrupting or adversely impacting the whole class.	0.60
BH 10	I can modify teaching and classroom arrangement to reduce behavior problems.	
Component 2: Skills to establish and maintain classroom discipline (CD) (Cronbach's Alpha =.86)		
CD1	I can effectively handle conflicts between students.	0.71
CD 2	I can maintain students' concentration throughout the lesson.	0.63
CD 3	I can assist students in understanding and self-regulating their behavior.	0.68
CD 4	I can maintain a steady classroom routine.	0.87
CD5	I can design and organize activities to engage students in the lesson.	0.87
CD 6	I use my time in class efficiently.	0.87
Component 3: Skills to support students in learning (SS) (Cronbach's Alpha =.79)		
SS 1	I can identify students who have learning difficulties.	0.73
SS 2	I can advise students on academic and personal issues.	0.49
SS3	I can help students plan their studies effectively.	0.68
SS 4	I can encourage students to develop critical thinking and problem-solving skills.	0.78
Component 4: Communication skills with students (CS) (Cronbach's Alpha =.853)		
CS 1	I can create a safe and friendly atmosphere in the classroom.	0.67
CS 2	I can maintain an objective point of view, respecting students' opinions and perspectives.	0.67
CS 3	I can communicate my expectations to students.	0.70
CS 4	I listen to students and explicitly address questions asked in class.	0.76
CS 5	I can utilize various channels of communication to create healthy interactions between me and my students.	0.69
CS 6	I can use reinforcements that are appropriate to the student's behavior.	0.65
CS 7	I can foster interaction between students and teachers.	0.75
Component 5: Communication and cooperation skills with parents and colleagues (CP) (Cronbach's Alpha =.802)		
CP 1	I can effectively communicate with parents to support students.	0.65
CP 2	I can hold parent-teacher conferences to exchange information about students.	0.70
CP 3	I can effectively work in teams with teachers and school staff.	0.69
CP 4:	I can write reports and provide feedback on students explicitly and professionally.	0.72

Component 6: Skills in planning and implementing extracurricular educational activities (EP) (Cronbach's Alpha =.76)		
EP1	I can organize extracurricular activities for students.	0.73
EP2	I can manage time and assign tasks during class events.	0.71
EP3	I can incorporate life skills education activities into the curriculum.	0.70
EP 4	I can assess the effectiveness of extracurricular activities.	0.69
Component 7: Skills to understand the educational objectives of the homeroom teacher (SU) (Cronbach's Alpha =.77)		
SU3	I utilize methods to understand students and student groups	0.72
SU1	I can understand the psychological characteristics of students and student groups	0.71
SU4	I know how to collect, analyze, and apply collected information to student education.	0.67
SU2	I can master the content of student and student group research.	0.63

Confirmatory Factor Analysis

Following the EFA, a confirmatory factor analysis (CFA) was conducted to determine the suitability of the measurement model using the experimental data. The analysis was performed on an independent sample using the Principal Axis Factoring method and the PROMAX rotation, with the following fit indices: $\chi^2/df < 3$, GFI, AGFI, and CFI > 0.90, and RMSEA < 0.08 (Hu & Bentler, 1999; Hair et al., 2010). Table 7 presents Cronbach's Alpha coefficients ranging from 0.77 to 0.89, Composite Reliability (CR) from 0.85 to 0.91, and the AVE of the scales is all greater than 0.50, meeting the requirements of reliability and convergent validity (Fornell & Larcker, 1981). These results validate that the 7-item scale of homeroom teacher competency is stable, has a solid theoretical and empirical basis, and can be applied in assessing, training, and developing professional competencies for pedagogical students.

Table 7

Cronbach's alpha, construct reliability (CR), and average variance extracted (AVE) of the eight factors

	Cronbach's Alpha	rho_A	CR	AVE
BH	0.89	0.89	0.91	0.53
CD	0.86	0.86	0.89	0.54
CP	0.80	0.80	0.87	0.62
CS	0.85	0.86	0.88	0.53
EP	0.76	0.78	0.85	0.58
IH	0.82	0.83	0.87	0.53
SS	0.79	0.79	0.86	0.61
SU	0.77	0.77	0.85	0.59

Table 8 illustrates a good overall fit for the model, as evidenced by the Chi-square to degrees of freedom ratio (CMIN/DF) of 1.74, indicating no substantial discrepancy between the hypothesized model and the observed data. The Goodness-of-Fit Index (GFI) is 0.98, exceeding the threshold for excellent fit, whereas the Adjusted Goodness-of-Fit Index (AGFI) and the Normed Fit Index (NFI) have values of 0.95 and 0.97, respectively - both reflecting robust model adequacy. The Root Mean Square Error of Approximation (RMSEA) is 0.05, much lower than the 0.08 threshold, indicating an acceptable to strong model fit (Hair et al., 2010). Furthermore, the PCLOSE statistic is 0.41, which surpasses the 0.05 cutoff, thereby corroborating that the model's approximation error is within an acceptable range (Hu & Bentler, 1999). Collectively, these indices assert that the CFA model for the dependent construct exhibits robust goodness-of-fit, thereby verifying its appropriateness for subsequent analytical procedures.

Table 8

Summary of model fit.

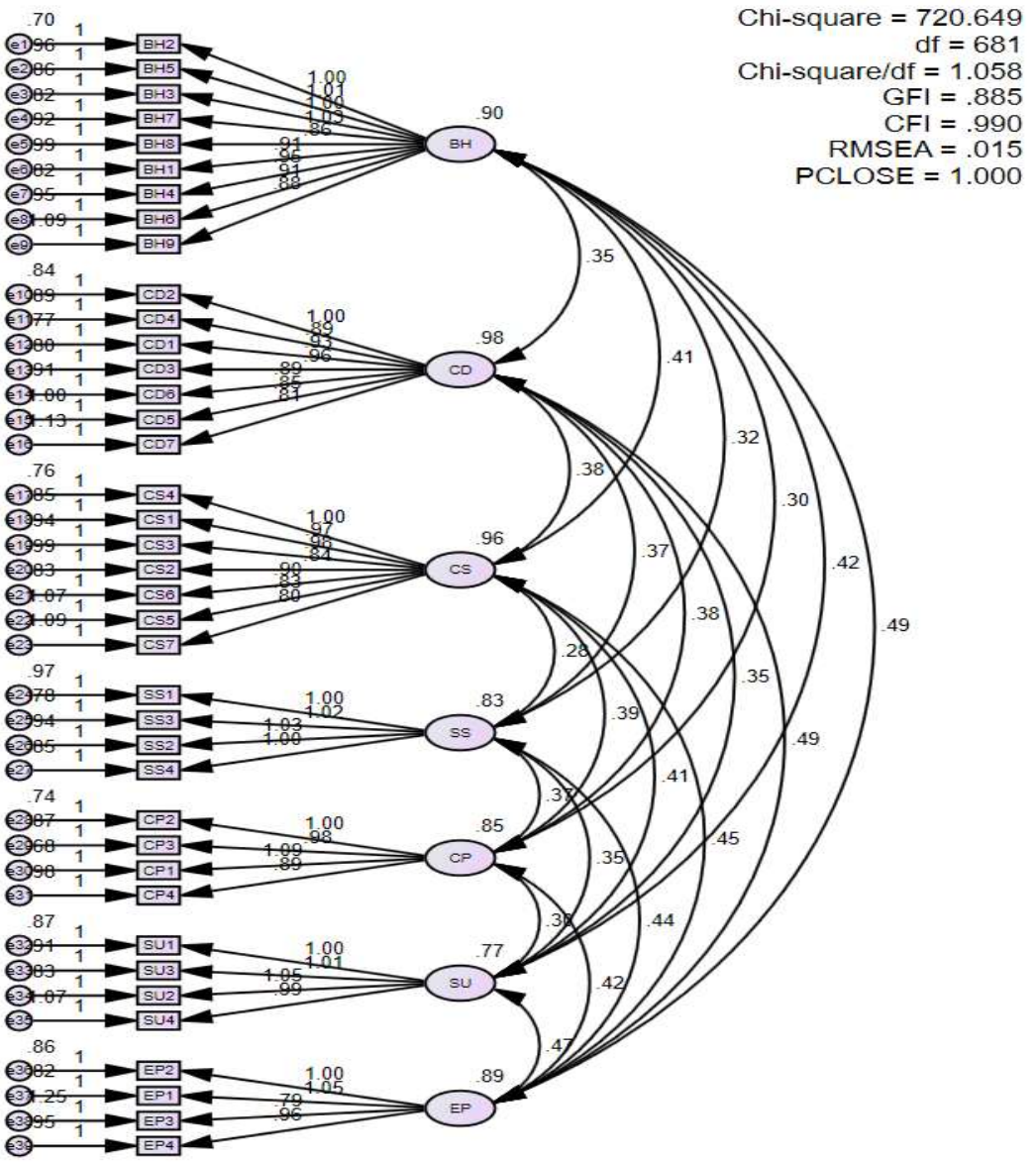
No	Estimator	Value	Criteria	Evaluation
1	Chi-square/df (CMIN/DF)	1.740	< 3	Good
2	GFI (Goodness-of-Fit Index)	0.981	≥ 0.90	Excellent
3	AGFI	0.955	≥ 0.90	Excellent
4	NFI	0.970	≥ 0.90	Excellent
5	CFI	0.987	≥ 0.95	Excellent
6	RMSEA	0.052	≤ 0.08 ≤ 0.05	Acceptable to Good
7	PCLOSE	0.418	≥ 0.05	Statistically Acceptable Fit

Figure 3 illustrates the finalized measurement model, which encompasses the factors that influence the development of homeroom competencies among pedagogical students. All fit indices were statistically acceptable, aligning with established evaluation criteria. Each observed variable exhibited a standardized factor loading exceeding 0.50, warranting its retention in the model and corroborating adequate convergent validity (Hair et al., 2010). The model had a strong overall fit, as reflected by the following indices: Chi-square/df = 1.05 (much lower than the threshold value of 3), CFI = 0.99 (exceeding the 0.95 benchmark), RMSEA = 0.015 (indicating excellent fit), and PCLOSE = 1.000 (greater than 0.05, supporting model acceptability). Even though the GFI value (0.88) was slightly less than the conventional 0.90 threshold, the overall pattern of fit statistics affirms the model's adequacy and structural validity.

Closely establishing the influencing factors assists pedagogical institutions in designing learning programs, evaluating and training students in developing professional practice capacity, particularly the capacity of a head teacher.

Figure 3

Model of the skill factors of class leaders of pedagogical students



After confirming the structural validity of the measurement model, we proceeded to explore how each competency domain predicts students' motivation and interest in training activities.

Regression Analysis

Following the confirmatory factor analysis, the seven component skill domains comprising the structure of homeroom competencies among pedagogical students were incorporated into a multiple regression model.

Table 9 illustrates that the linear regression model provides a strong level of explanatory power regarding the dependent variable—students' interest in homeroom skill training. Specifically, the seven identified skill dimensions altogether account for 63.1% of the variance in the outcome variable ($R^2 = 0.63$; Adjusted $R^2 = 0.62$), which is considered moderate explanatory adequacy in educational research (Hair et al., 2010). Moreover, the ANOVA results indicate that the model is statistically significant, $F(7,54) = 132.62$, $p < 0.001$, thereby verifying that the component skill groups are valid predictors of students' engagement with homeroom competency development.

The analysis of standardized regression coefficients revealed that all seven skill domains had a positive and statistically significant effect on the level of interest in homeroom skill development ($p < .001$). Notably, the skills associated with collaboration with parents and colleagues (CP) and the ability to establish classroom discipline (CD) were the most influential predictors, with standardized beta coefficients of 0.20 and 0.20, respectively. These findings align with previous empirical studies conducted by Demirali (2019) and Le Quoc Trung (2020).

Student communication (CS), understanding learners (SU), and organizing extracurricular activities (EP) are significant predictors of interest in practicum. This interest facilitates professional growth through experiential learning and contributes to the comprehensive skillset needed for effective homeroom teaching.

Table 9

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.795[a]	0.63	0.62	0.58	1.94

a. Predictors: (Constant), EP, SS, CS, CP, SU, CD, BH

b. Dependent Variable: IH

Model Summary[b]

Discussion, Conclusion, and Implications

Discussion

In the present study, we aim to validate the multidimensional construct underlying the development of seven core competency domains: Understanding the educational object (UL), managing student behavior (BH), establishing classroom discipline (CD), providing student support (SS), communicating with students (CS), collaborating with parents and colleagues (CP), and organizing extracurricular activities (EP). The empirical findings from both EFA and CFA reveal that the model meets established psychometric criteria, as evidenced by a Comparative Fit Index (CFI) of 0.99 and a Root Mean Square Error of Approximation (RMSEA) of 0.01. Furthermore, all factor loadings exceed the 0.50 threshold, corroborating the model's robustness and strong convergent validity.

Recent studies have highlighted the importance of developing and validating teacher competency scales (García-Martínez et al. (2019) developed and validated a competency assessment scale to promote teacher professional development, while Marais (2023) focused on the development of digital competencies in teacher education students as a new requirement for modern teacher education. These findings support the argument that a multidimensional approach to measuring and fostering competencies not only improves the quality of training programs but also better prepares future teachers for the changing demands of contemporary education.

Another notable finding is the lower performance in the EP and CP competency groups, indicating that teacher education students are underprepared in organizing extracurricular activities and establishing effective school-family-community coordination. This trend is not unique, because Kim (2019) and Mkhasibe and Mncube (2020) also noted a similar trend among student teachers during their practical teacher training.

Our findings are also consistent with prior international research on teacher competencies. For example, Altun and Erden (2024) emphasized that homeroom teacher preparation must account for inclusive classroom contexts, while Singh and Thakur (2022) confirmed through EFA that homeroom effectiveness is a multidimensional construct closely linked to classroom discipline and student support. Similarly, Zhou and Li (2024) highlighted the critical role of practicum integration in developing school–family collaboration skills, which parallels the weaker CP domain in our study. Together, these studies reinforce that the challenges observed are not only context-specific but also reflect broader international trends.

Nevertheless, examining the causes of these limitations is crucial. A key factor lies in the structure of teacher training programs, which emphasize professional knowledge and classroom skills while often neglecting extended homeroom responsibilities, such as extracurricular organization and school–family coordination. As a result, student teachers have limited opportunities for systematic preparation and practice in these areas. Moreover, the weak linkage between university training and high school practice further restricts competence development. Short-term internships reduce opportunities to participate in extracurricular activities and interact with parents, thereby hindering experiential learning and lowering students' confidence in fulfilling comprehensive homeroom duties.

These findings also align with the theoretical views of Ryan and Deci (2000) and Tschannen-Moran and Hoy (2001), highlighting that the development of professional competencies depends on both the training content and the learner's self-confidence and intrinsic motivation. Without practical experience with skills, including EP and CP, students cannot develop the necessary confidence to assume the role of a homeroom teacher.

Hence, the present study provides a validated measurable competency framework and poses a structural limitation in current teacher education programs. Unlike international models, such as CLASS (Pianta et al., 2008), which emphasizes the comprehensive role of teachers, pedagogical programs in Vietnam must reconsider the balance among professional training, relationship skills, and extracurricular organization skills. Explicitly incorporating EP and CP competencies into the training program, through situational simulation, role-playing, and extended internship time, will assist pedagogical students in being better prepared for the role of head teacher in modern general education.

Conclusion

In this study, we developed and validated a 44-item, seven-factor homeroom-teacher competency scale using data from 550 pre-service teachers across four leading Vietnamese institutions. The Exploratory Factor Analysis accounted for 66.9 % of the variance, and Confirmatory Factor Analysis produced excellent fit indices ($\chi^2/df = 1.74$; CFI = 0.98; RMSEA = 0.05), verifying the instrument's reliability and construct validity. This scale was used to establish a methodological benchmark for future quantitative research in scale development by addressing a gap in context-specific homeroom-teacher assessment tools.

Implications

The seven-factor scale can be implemented directly in the teacher training program for student teachers to evaluate and monitor the capacity of homeroom teachers during the internship stages, thereby designing training modules that address areas for improvement, such as cooperation with parents or organizing extracurricular activities. For practice instructors, the measurement results could support the development of simulation scenarios of classroom situations, training in communication skills, and behavior management. Additionally, schools and educational management agencies could utilize the gathered data to inform policy decisions, enhance training programs, and develop quantitative criteria for homeroom teachers, thereby improving the quality of training and teaching.

Limitations

The present study has some limitations: the sample only includes students at four Northern campuses, not reflecting regional diversity; the cross-sectional design does not enable monitoring the development of competencies over time; we have inadequate data from instructors to compare with the survey results; and the purely quantitative method does not allow us to develop the context deeply as in interviews or classroom observations. In future work, the survey sample should be expanded to include other regions and education levels. A combined quantitative and qualitative study should be conducted to clarify the mechanism of competency formation. Additionally, longitudinal research should focus on monitoring the development of class leader competencies during both the internship and professional stages of development.

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