






Enhancing Pre-Service Teachers' Skills in Designing Emotional and Social Intelligence Learning for Young Children through Phenomenon-Based Learning

Duangkamol Chongcharoen ^{1*} , Suphanwadee Waiyaroop ² , Disira Phangsanga ³ ,
Muhammad Shahid Khan ⁴ , Majid Khan ⁵ 

¹ Faculty of Education, Suan Sunandha Rajabhat University, THAILAND

² Faculty of Education, Suan Sunandha Rajabhat University, THAILAND; Email: suphanwadee.wa@ssru.ac.th

³ Faculty of Education, Suan Sunandha Rajabhat University, THAILAND; Email: disira.ph@ssru.ac.th

⁴ College of Innovation and Management, Suan Sunandha Rajabhat University, THAILAND; Email: shahid.kh@ssru.ac.th

⁵ School of Management, Massey University, NEW ZEALAND, Email: m.khan@massey.ac.nz

*Corresponding Author: duangkamol.ch@ssru.ac.th

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ABSTRACT

In the 21st century, education has shifted from mere knowledge transmission to cultivating holistic competencies essential for lifelong learning. Emotional and social intelligence (EQ–Social) is a key foundation for children's emotional regulation, relationship building, and meaningful engagement. Preparing pre-service early childhood teachers to design learning experiences that intentionally promote EQ–Social is therefore vital. This study aimed (1) to develop and evaluate a phenomenon-based learning (PhenoBL) approach for enhancing EQ–Social among pre-service teachers, and (2) to examine its effectiveness in improving their EQ–Social competencies. Participants were 29 first-year early childhood pre-service teachers enrolled in the course Activity Design for Promoting Emotional and Social Intelligence in Early Childhood during Academic 2024. Instruments included PhenoBL-based instructional guidelines, a knowledge test, EQ–Social self-assessment scales, a satisfaction questionnaire, and a fidelity checklist. Data were gathered through expert interviews, student surveys, and experimental implementation, and analyzed using content analysis, descriptive statistics, and dependent sample t-test. Findings showed that all instruments demonstrated excellent validity (IOC = 1.00). Pre-service teachers' needs were rated high (M = 4.05, SD = 0.43), particularly in activity design. Post-test knowledge scores improved significantly (t = 5.74, p < .05), and EQ–Social competencies increased across all dimensions, with notable gains in empathy and self-awareness (t = 4.98, p < .05). Overall satisfaction was high (M = 4.38, SD = 0.68), especially regarding applicability across courses. In conclusion, the PhenoBL-based instructional approach proved effective in enhancing knowledge and EQ–Social skills, offering an innovative model for preparing competent early childhood educators.

Keywords: Learning Experience Design, Emotional and Social Intelligence, Early Childhood Education, Phenomenon-Based Learning

INTRODUCTION

The transition into a knowledge-based society has transformed the expectations placed upon higher education and the competencies required for graduates in the 21st century. In this context, education is not only concerned with the transmission of content knowledge, but also with cultivating essential life skills, socio-

emotional competencies, and the ability to integrate knowledge across disciplines. For pre-service teachers in particular, there is an increasing demand to develop holistic competencies that prepare them to nurture children's development in ways that align with global educational reforms and Sustainable Development Goals (OECD, 2018). The emphasis on competencies such as creativity, critical thinking, collaboration, and emotional intelligence highlights the importance of teacher preparation programs that actively foster these skills.

Importance of Emotional and Social Intelligence (EQ–Social) in Early Childhood Education

Emotional and social intelligence (EQ–Social) plays a pivotal role in early childhood education, as it directly influences children's ability to recognize, regulate, and express emotions, as well as to form positive relationships with peers and adults (Salovey & Mayer, 1997; Goleman, 1998). Researches indicate that children who possess strong social-emotional skills demonstrate higher levels of school readiness, resilience, and adaptive behavior (Denham, 2006; Burgin, Coli and Daniel, 2021; Bhatnagar and Many, 2022; Elbertson, Jennings and Brackett., 2025; Shapira and Amzalag, 2025). For early childhood teachers, fostering these skills is critical since the preschool years are regarded as a sensitive period in which lifelong emotional regulation and social behaviors are formed (Shonkoff & Phillips, 2000). Teachers who are competent in designing and implementing learning experiences that intentionally promote EQ–Social are therefore essential in shaping positive developmental trajectories for young learners.

Gap in Teacher for Early Childhood EQ–Social

Many teacher education programs focus on content or pedagogy but give little attention to the social and emotional skills of the future teachers. Pre-service teachers are often not sufficiently trained in self-awareness, emotion regulation, empathy or relationship skills through these are critical for both their well-being and for modelling (Shapira and Amzalag, 2025). Despite the growing recognition of EQ–Social as an educational priority, pre-service teacher education programs continue to exhibit several gaps. Many pre-service teachers lack authentic experiences in designing and implementing socio-emotional learning activities, relying instead on theoretical instruction without sufficient opportunities for practice (Jamison, 2012; Wang et. al, 2025; Hooper and Johnson, 2025). Furthermore, teacher preparation often emphasizes subject-specific knowledge and general pedagogical methods, leaving limited room for the integration of innovative pedagogies such as social-emotional learning frameworks or phenomenon-based learning approaches (Badiah, 2018). As a result, pre-service early childhood teachers frequently enter the profession without the confidence or competence to effectively embed EQ–Social in classroom practice.

Rationale for Applying the Phenomenon-Based Learning (PhenoBL) Approach

In response to these gaps, the Phenomenon-Based Learning (PhenoBL) approach offers a promising instructional innovation. Rooted in constructivist principles, PhenoBL emphasizes multidisciplinary inquiry, active engagement, and real-world relevance by situating learning in authentic phenomena (Silander, 2015). This pedagogical orientation encourages learners to engage critically and collaboratively with complex issues, fostering not only cognitive skills but also socio-emotional competencies such as empathy, communication, and teamwork (Symeonidis & Schwarz, 2016). For pre-service early childhood teachers, adopting PhenoBL provides an avenue to design integrated learning experiences that simultaneously address content, process, and socio-emotional development, thereby preparing them to promote EQ–Social skills among young children.

Objectives

Grounded in these considerations, this study was designed with two primary objectives:

- To develop and evaluate the quality of a PhenoBL-based instructional approach aimed at equipping pre-service early childhood teachers with the competency to design effective learning experiences.
- To examine the effectiveness of the developed instructional approach in enhancing pre-service teachers' competencies related to promoting emotional and social intelligence (EQ–Social) in early childhood education.

LITERATURE REVIEW

Theoretical Perspectives on Emotional and Social Intelligence

The concept of emotional and social intelligence (EQ–Social) has been developed through several theoretical perspectives. Salovey and Mayer (1997) originally defined emotional intelligence as the ability to perceive, understand, and manage emotions in oneself and others. Goleman (1998) expanded this framework to include competencies such as self-awareness, self-regulation, motivation, empathy, and relationship management, which

have been widely applied in education and organizational leadership. Bar-On (2000) later emphasized the non-cognitive aspects of emotional intelligence, highlighting adaptability, interpersonal skills, and stress management as integral to individual success. Collectively, these perspectives underscore the importance of EQ–Social as a multidimensional construct that is not only cognitive but also behavioral and attitudinal, with direct implications for teaching and learning in early childhood settings.

Childhood Social-Emotional Development

Early childhood is recognized as a critical period for the development of social-emotional competencies. A child's capacity to regulate emotions, empathize with others, and establish positive peer relationships is strongly influenced by the quality of early environments and teacher interventions (Jamison, 2012). Research in Thailand has highlighted the Ministry of Education's (2017) Early Childhood Curriculum, which specifies key experiences designed to foster children's social participation, responsibility, and emotional regulation through routines, play, and collaborative activities. Badiah (2018) further noted that effective teacher interventions—such as modelling appropriate behaviors, providing guided social interactions, and embedding socio-emotional goals in daily activities—are essential for building these competencies. When teachers intentionally incorporate socio-emotional learning into classroom practice, children demonstrate greater resilience, adaptability, and readiness for lifelong learning (Jeon and Ardeleanu, 2020).

Phenomenon-Based Learning (PhenoBL)

Phenomenon-Based Learning (PhenoBL) represents a significant pedagogical innovation that aligns with constructivist learning theories. Rooted in the view that knowledge is actively constructed through interaction with real-world contexts, PhenoBL organizes learning around authentic phenomena rather than isolated subjects (Seefeldt, 2014). This approach requires learners to investigate issues through multidisciplinary perspectives, integrating content knowledge with inquiry-based processes. Giles (2018) emphasized that PhenoBL fosters deeper understanding by connecting abstract concepts with lived experiences, thereby supporting both cognitive and socio-emotional growth. In Thailand, recent applications of PhenoBL in higher education have shown its effectiveness in enhancing pre-service teachers' ability to integrate knowledge, develop critical thinking, and promote EQ–Social through experiential activities. Ultimately, PhenoBL seeks to transform students into active participants in their education, shifting the focus from passive reception of information to the co-construction of knowledge. Its flexibility allows it to be implemented across diverse educational contexts, including digital and online environments, where portfolios, project work, and inquiry-based explorations can be effectively adapted. While its emphasis on learner empowerment can generate strong intrinsic motivation, gradual introduction is recommended for those accustomed to more conventional methods (Adipat, 2024). By encouraging the study of real-world phenomena from diverse perspectives and ensuring the immediate relevance of acquired knowledge and skills, PhenoBL fosters a deeper understanding of both academic and practical dimensions of learning.

Teacher Competency Development

Developing teacher competency involves more than subject knowledge; it requires experiential learning, reflective practice, and integrated pedagogical skills. Reflective practice allows pre-service teachers to examine their own teaching behaviors, evaluate their effectiveness, and adapt strategies to meet diverse learners' needs (Schon, 1987). Experiential learning, such as designing and implementing real or simulated classroom activities, provides opportunities for teachers-in-training to develop practical skills and confidence (Kolb, 1984). The integrating innovative pedagogies like PhenoBL enhances pre-service teachers' ability to design learning experiences that simultaneously foster academic achievement and EQ–Social competencies. This aligns with the broader educational reform agenda emphasizing competency-based teacher preparation (Ministry of Education, 2017).

METHODOLOGY

Research Design

This study employed a Research and Development (R&D) design with a quasi-experimental approach, aiming to develop and evaluate an instructional model based on the Phenomenon-Based Learning (PhenoBL) framework to enhance emotional and social intelligence (EQ–Social) among pre-service early childhood teachers. The research process was structured into three sequential phases: (1) needs assessment, (2) development and validation, and (3) implementation and evaluation. This design allowed for both formative and summative assessments of the developed instructional guidelines.

Participants

The participants consisted of 29 first-year pre-service teachers enrolled in the course *Activity Design for Promoting Emotional and Social Intelligence in Early Childhood* during the second semester of the academic year 2024. This course was chosen as the context for implementation because it explicitly focuses on integrating socio-emotional competencies into early childhood pedagogy. All participants were female, aged between 18 and 20 years, and had no prior formal experience with PhenoBL-oriented instruction. The sampling method was purposive, selecting a group most relevant to the research objectives.

Research Instruments

A set of research instruments was developed to facilitate data collection and analysis in this study. The PhenoBL-Based Instructional Guidelines served as a framework for designing and conducting activities that integrated emotional and social competencies and were validated by experts in early childhood education. A 30-item multiple-choice Knowledge Test was constructed to assess participants' understanding of instructional design principles and the integration of EQ–Social skills. To measure participants' competencies, a 20-item EQ–Social Self-Assessment Scale was employed, covering five domains: self-awareness, self-regulation, motivation, empathy, and relationship skills. In addition, a 10-item Satisfaction Questionnaire was designed to evaluate participants' perceptions of the instructional guidelines, processes, and their applicability in future teaching practice. Implementation fidelity was monitored using a 10-item Fidelity Checklist completed by observers to ensure adherence to the developed PhenoBL guidelines. All instruments underwent rigorous content validation by three experts in early childhood education and educational measurement, yielding Index of Item-Objective Congruence (IOC) values ranging from 0.80 to 1.00, which indicates high content validity and suitability for use in the study.

Procedures

The research was conducted in three main phases. In Phase 1, a needs assessment was carried out through semi-structured interviews with three early childhood education experts to explore perspectives on integrating PhenoBL with emotional and social development. A survey was also administered to pre-service teachers using a 5-point Likert scale to identify their needs regarding instructional support, activity design, and assessment methods. The results highlighted a strong demand for practical examples, assessment tools, and technological resources to support activity design. Phase 2 focused on development and validation, beginning with the design of a draft version of the instructional guidelines and associated tools informed by literature review, expert input, and student feedback. Content validation was then conducted by three experts using the Index of Item-Objective Congruence (IOC), leading to revisions that enhanced clarity, appropriateness, and alignment with EQ–Social competencies. The finalized instructional package included structured lesson plans, sample activities, self-assessment instruments, and evaluation tools. In Phase 3, the instructional package was implemented with 29 pre-service teachers during classroom sessions. Data were collected through pre-tests using a knowledge test and EQ–Social self-assessment scales, followed by instructional sessions based on the PhenoBL guidelines that emphasized real-world phenomena relevant to socio-emotional learning in early childhood. Post-tests were administered using the same instruments to measure changes in knowledge and competencies, while participant satisfaction was gathered through questionnaires and instructional fidelity was monitored using checklists to ensure consistent delivery.

Data Analysis

Data analysis employed a mixed-methods approach, integrating both qualitative and quantitative techniques. Content analysis was conducted on interview transcripts to identify key themes related to instructional needs and expert perspectives. Quantitative data from the needs survey, satisfaction questionnaire, and EQ–Social assessments were analyzed using descriptive statistics, including mean, standard deviation, and percentage, to provide an overall summary of participant responses. To evaluate the effectiveness of the intervention, a dependent sample t-test was performed to compare pre-test and post-test scores on the knowledge test and EQ–Social self-assessment, with statistical significance established at the $p < .05$ level. This methodological design ensured a comprehensive evaluation of the instructional approach, capturing both its quality in terms of validity and participant satisfaction, as well as its effectiveness in fostering knowledge gains and improvements in emotional and social competencies.

RESULTS

Content Validity of the Instruments

The instructional guidelines and research instruments were evaluated by three experts in early childhood education and educational measurement. The Index of Item–Objective Congruence (IOC) was calculated for all items. Results showed that the IOC values for every instrument reached 1.00, exceeding the minimum acceptance criterion of 0.50. This finding confirms that the instruments demonstrated a high degree of content validity and were therefore appropriate for use in subsequent phases of the study.

Needs Assessment

The survey administered to 29 pre-service teachers revealed an overall high level of demand for instructional support in integrating EQ–Social development with Phenomenon-Based Learning (PhenoBL). The mean score was $M = 4.05$, $SD = 0.43$, which falls within the “high” category. Among the assessed domains, the highest level of need was expressed in activity design for enhancing emotional and social intelligence ($M = 4.50$, $SD = 0.32$), followed by knowledge of PhenoBL concepts and assessment methods. Conversely, the provision of sample worksheets and practice exercises, while still rated positively, was comparatively lower ($M = 3.49$, $SD = 0.51$). These results indicate that pre-service teachers particularly value clear activity models and concrete design strategies for fostering EQ–Social competencies in early childhood settings.

Knowledge Gains

To evaluate the impact of the PhenoBL-based instructional approach on participants’ theoretical understanding, a 30-item knowledge test was administered before and after the intervention. Results demonstrated a significant increase in post-test scores compared to pre-test scores. Specifically, the mean scores rose from $M = 4.60$ ($SD = 4.57$) to $M = 5.78$ ($SD = 6.52$), with a t -value of 5.74, $p = .000$. These results suggest that the instructional approach effectively improved participants’ knowledge of designing EQ–Social learning activities grounded in the PhenoBL framework.

EQ–Social Development

Participants’ self-assessed emotional and social intelligence was measured across five dimensions: self-awareness, self-regulation, motivation, empathy, and relationship skills. Statistical analysis indicated significant improvement in all five domains following the intervention. The overall composite score increased from $M = 1.56$ ($SD = 1.62$) at pre-test to $M = 4.34$ ($SD = 2.67$) at post-test, with a t -value of 4.98, $p = .000$.

Among the five dimensions, the most pronounced improvements were found in empathy and self-awareness, both of which reached the “highest” interpretive category. For example, students demonstrated increased ability to recognize and articulate their own emotions, as well as greater sensitivity to peers’ emotional expressions and needs. These outcomes highlight the potential of PhenoBL to foster authentic opportunities for reflection, role-taking, and collaborative interaction—critical mechanisms for cultivating EQ–Social competencies in teacher preparation programs.

Learner Satisfaction

Satisfaction with the instructional approach was assessed using a 5-point Likert scale questionnaire. The overall mean score indicated a high level of satisfaction ($M = 4.38$, $SD = 0.68$). The dimension rated highest was the applicability of the instructional guidelines across other courses ($M = 4.78$, $SD = 0.44$), reflecting participants’ recognition of the broader pedagogical transferability of the approach. Other dimensions, such as clarity of the guidelines, the learning process (phenomenon selection, questioning, inquiry, synthesis, and communication), and the use of media and technology, also received consistently high ratings.

The present study yielded several noteworthy findings. First, all instructional instruments developed within the framework of the research demonstrated excellent content validity with an IOC of 1.00, thereby exceeding the established threshold of 0.50. This confirms that the guidelines, tests, assessment scales, and satisfaction questionnaires were well aligned with the research objectives and theoretically sound for implementation in teacher education contexts.

Second, the results of the needs assessment revealed a generally high level of demand from pre-service teachers, particularly with respect to the design of activities aimed at fostering emotional and social intelligence. This indicates that pre-service teachers perceive a gap between their current competencies and the professional expectations for early childhood educators, underscoring the importance of providing structured pedagogical models to support EQ–Social integration.

Third, the findings from the knowledge assessment demonstrated a statistically significant improvement after the intervention. Post-test scores were substantially higher than pre-test scores ($t = 5.74, p < .05$), providing evidence that the PhenoBL-based instructional approach successfully enhanced participants' conceptual understanding of how to design and implement EQ–Social learning experiences.

Fourth, the study revealed significant improvements in EQ–Social competencies across all five assessed dimensions: self-awareness, self-regulation, motivation, empathy, and relationship skills. Among these, the most remarkable growth occurred in empathy and self-awareness, suggesting that the experiential and reflective nature of PhenoBL is particularly effective in cultivating socio-emotional dispositions essential for teaching practice. These findings are consistent with prior research highlighting the role of reflective and collaborative learning in developing emotional intelligence among pre-service teachers.

Finally, participants reported a high level of satisfaction with the instructional model. The highest ratings were given to the applicability of the developed guidelines across multiple courses, reflecting the perceived transferability and practical value of the approach. Other aspects, including clarity, learning process structure, and supporting media, were also rated positively, indicating that the approach was well received and deemed feasible for integration into pre-service teacher training programs.

Collectively, these findings suggest that the PhenoBL-based instructional model is both valid and effective in enhancing pre-service teachers' capacity to design and implement learning activities that foster emotional and social intelligence in young children. Moreover, the model demonstrates strong potential for broader application within teacher education curricula, thereby contributing to the advancement of innovative pedagogical practices in early childhood education.

DISCUSSION

The findings of this study highlight the potential of Phenomenon-Based Learning (PhenoBL) as an innovative pedagogical approach for pre-service early childhood teacher education. Rooted in constructivist principles, PhenoBL emphasizes active participation, inquiry, and real-world relevance, thereby supporting deep and meaningful learning rather than rote acquisition of knowledge (Salovey & Mayer, 1997; Goleman, 1998). By engaging with authentic phenomena and integrating multidisciplinary perspectives, pre-service teachers were encouraged to construct their own understanding and apply knowledge to practical contexts.

The significant gains in empathy and self-awareness among participants are particularly noteworthy. These two competencies form the foundation of emotional and social intelligence, which is critical in early childhood education where teachers must recognize, regulate, and respond to children's emotions appropriately. The results suggest that the experiential and reflective elements of PhenoBL create opportunities for learners to observe, analyse, and internalize emotional cues, while also fostering metacognitive awareness of their own feelings and actions. This aligns with prior studies indicating that active, phenomenon-driven learning enhances socio-emotional growth by allowing learners to situate themselves within authentic social interactions and problem-solving contexts (Bar-On, 2000; Jamison, 2012).

Furthermore, the study's results echo earlier findings that structured social interaction is a powerful tool in fostering socio-emotional development. For example, Badiah (2018) demonstrated that deliberate teacher-mediated activities could significantly improve empathy and prosocial behaviors among young children. In the present study, similar mechanisms appear to operate at the pre-service teacher level, suggesting that the pedagogical strategies effective for children's socio-emotional growth can also be adapted for teacher training programs.

The contribution of this research lies in its provision of an innovative instructional model that directly addresses a persistent challenge in Thai higher education: the gap between theoretical coursework and practical teaching competencies. Many pre-service teacher programs emphasize content knowledge and general pedagogy but offer limited opportunities for experiential practice in designing socio-emotional learning activities (Thin, 2025). By embedding EQ–Social competencies within a PhenoBL framework, this study bridges the gap between theory and practice, offering pre-service teachers hands-on, reflective experiences that prepare them for the complex socio-emotional demands of early childhood classrooms (Weemer and Wodika, 2023).

In addition, the transferability of the instructional model across courses, as reflected in participants' high satisfaction ratings, indicates its potential scalability within teacher education curricula. However, as Shapira and Amzalag (2025) highlights, there is often a gap between teachers' self-reported SEL competencies and their actual classroom behaviors, suggesting that pre-service training must ensure authentic implementation rather than relying solely on satisfaction measures. This suggests that PhenoBL can serve not only as a method for developing socio-emotional intelligence but also as a broader strategy for enhancing professional readiness in line with 21st-century teacher competencies (Nanda, Satapathy, Panda and Praghan, 2025).

Overall, the study affirms that integrating PhenoBL into teacher preparation contributes to a more holistic and practice-oriented form of professional training. Such integration is critical for cultivating teachers who are not only knowledgeable in theory but also emotionally competent, socially responsive, and pedagogically innovative, thereby advancing the quality of early childhood education in Thailand and beyond.

CONCLUSION AND IMPLICATIONS

This study developed and evaluated a Phenomenon-Based Learning (PhenoBL) instructional approach aimed at enhancing emotional and social intelligence (EQ–Social) competencies among pre-service early childhood teachers. The results demonstrated that the developed model was valid, effective, and feasible for implementation. Instruments achieved high content validity (IOC = 1.00), participants expressed strong needs for activity design guidelines, and post-intervention assessments revealed significant improvements in both knowledge and EQ–Social competencies, particularly empathy and self-awareness. Moreover, satisfaction ratings indicated that the instructional model was not only useful within the target course but also transferable to other contexts in teacher education.

The findings underscore the importance of embedding EQ–Social training in pre-service teacher education, thereby addressing an existing gap in Thai higher education where theoretical coursework often outweighs experiential practice. By applying PhenoBL, pre-service teachers were given the opportunity to engage in authentic, multidisciplinary, and reflective learning processes, aligning with the 21st-century demands of preparing emotionally competent and socially responsive educators.

IMPLICATIONS FOR PRACTICE

Pre-Service Teacher Preparation

The model enhances teacher readiness to design and implement EQ–Social learning experiences. Integrating this approach into teacher education curricula equips pre-service teachers with not only technical skills but also socio-emotional competencies essential for effective classroom practice.

Early Childhood Classroom Practices

The study provides concrete strategies and activity models for promoting children’s socio-emotional growth, particularly in empathy, self-regulation, and collaborative play. These strategies can be directly adapted by teachers in early childhood centers and primary education contexts.

Professional Development

The PhenoBL-based model can be further adapted for in-service teacher training, supporting continuous professional growth and the development of lifelong learning skills among practicing educators.

RECOMMENDATIONS FOR FUTURE RESEARCH

Broader Implementation:

Future research should apply this instructional model across multiple courses and teacher education institutions to validate its effectiveness and scalability.

Longitudinal Studies:

Follow-up studies are needed to examine whether competencies gained during pre-service training are transferred and sustained in real teaching practice after graduation.

Model Adaptation:

Research should explore ways of tailoring the PhenoBL–EQ/Social model for in-service teacher development, ensuring its relevance to diverse educational contexts and career stages.

In conclusion, the study makes a significant contribution to the field of early childhood teacher education by offering a rigorously tested instructional innovation that addresses a crucial gap in preparing teachers for the socio-emotional dimensions of learning. The PhenoBL-based approach thus holds promise for fostering emotionally intelligent, socially responsible, and pedagogically innovative teachers, ultimately advancing the quality of early childhood education in Thailand and beyond.

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