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Curriculum Development for Competency-Based Training of Scout Leaders in Thailand: A Design and Development Research Study

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Scout leader training in Thailand has remained essentially unchanged since the 1960s and continues to fall short of the essential basic leadership competencies required for the 21st Century. In response to this pressing issue, we designed, developed, and evaluated a competency-based curriculum in Basic Scout Programs for Thai teacher leaders based on a Design and Development Research (DDR) framework consisting of iterative phases of analysis, design, development, and evaluation. In Phase I (Analysis), we conducted a large-scale curriculum needs assessment (n = 476) with primary school teachers. Using the Modified Priority Needs Index (PNImodified) to analyze the data, we identified and prioritized the gaps in knowledge, skills, and personal characteristics. In Phase II (Design and Development), experts constructed, validated, and piloted the curriculum with 83 teachers and student teachers, analyzing data using inter-rater reliability, means (M), standard deviations (SDs), PNImodified, and t-tests. The five-step training model that emerged consisted of (1) learning to coach, (2) learning to be happy, (3) learning to act, (4) learning new knowledge, and (5) learning to apply new knowledge. Post-training leadership knowledge was significantly and considerably improved ($p < 0.01$). At the same time, performance rates for skills and personal characteristics exceeded the 80% cut-off, indicating the model's efficacy and relevance for modernizing scout leadership in Thailand.

Keywords: competency-building course, curriculum needs assessment, Priority Needs Index, Scout leader competency, Thailand

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INTRODUCTION

Scouting was founded in 1907 by the British Army officer Robert Baden-Powell (Rohm & Osula, 2013) as an original educational method for urban and suburban youth of London to facilitate their self-education through outdoor activities (Kolb et al., 2014; Wijnen-Meijer et al., 2022). Since then, Scouting has been a vital component in non-formal education worldwide (Touati, 2013).

In recent decades, most National Scouting Organizations (NSOs) have adapted their programs to cater to the younger generations of urban and suburban Scouts, with an emphasis on themes such as global citizenship, community service, heritage preservation, and outdoor skills. Over time, the movement evolved into a global educational network spanning more than 170 countries, reaching tens of millions of young people.

Its core pedagogy—*learning by doing* (Leggo, 2017), small-group community living, and character development through outdoor adventure—has been widely recognized as transformative, values-based learning (Dégi & Asztalos, 2021; Gilbertson et al., 2022). In many parts of the world, including Australia (Brookes, 2002), Bhutan (Wangchuk & Tshering, 2021; Wangdi & Tenzin, 2021), the Philippines (Balaria et al., 2023), Poland (Kałużny & Żak, 2022), Sweden (Holmqvist, 2024), the UK (Kirsz, 2007; Rohm et al., 2013) and the United States (Rohm, 2016; Urban, 2022), Scouting has been aligned with outdoor leadership training and curriculum-linked educational outcomes (Brookes, 2002; Kirsz, 2007).

Research shows that when organized according to a clear progression and competency frameworks, Scouting develops outdoor and survival skills, including decision-making skills, teamwork, ethical reasoning, and civic responsibility (Pruner, 2021; Seemiller, 2018). Scouting has also been shown to enhance 21st-century skills, including creativity, collaboration, and digital literacy (Van Auken, 2022). Embedding competency-based education (CBE) within non-formal leadership programs also enhances learning outcomes that are transferable, assessable, and adaptable to diverse cultural and institutional contexts.

Scouting in Thailand: A Legacy System in Need of Modernization

Scouting was introduced in Thailand in 1911, making it the first country in Southeast Asia to establish Scouting with the founding of the Siam Boy Scouts Association. King Rama VI initiated and promoted the Scout movement, as he viewed it as a significant strategy for nation-building. Nowadays, more than 90% of primary school teachers incorporate Scout education into schools where it is taught as a mandatory subject and prescribed as part of the national curriculum (Chatkaew, 2023; Jansup et al., 2018).

Although scouting in Thailand holds enormous influence in Thai culture and institutions, it currently suffers from an official scouts' leader training curriculum that has not been revised since 1964. During the non-digital era, the Basic Unit Leader Training Course (BU LTCB.T.C.) was designed and remains the basic qualification for Thai adult scout leaders. Scouting in Thailand nonetheless remains a legacy system that requires scout leaders to act as mentors, citizenship role models, and educators who can

influence society and education system(s) generally in an integrated way to inspire young people to become active citizens (Sinde & Alves, 2024; Urban et al., 2022). Success is increasingly contingent on multidimensional character traits and competencies to guide scouts in society today, such as cognitive skills and affective traits, including a positive attitude, empathy, and perseverance (Janakiraman et al., 2019).

Theoretical Framework: Grounding a Modern Curriculum

This study combines various educational theories and design models to address this gap. The primary theoretical foundation, namely Kolb's Experiential Learning Cycle (Wijnen-Meijer et al., 2022), is based on the hypothesis that learning is most effective when it follows a cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation. This is consistent with other studies, including:

- The inductive model of Taba advocates that curriculum should be developed from specific experiences to a general concept (s) (Djamolovna & Gopalan, 2024).
- Backward Design Framework (McTighe & Wiggins, 2014), ensuring that the curriculum is designed to start from achievable competencies.
- Constructivist Theory– Asserts that learners can build their own knowledge actively (Limson, 2025).

This integrated paradigm requires a learner-focused, experiential curriculum that explicitly aims to develop the defined competencies.

The Proposed Five-Phase Model: Structure and Pedagogical Justification

Guided by this theoretical understanding, the authors designed a five–phase training model. These phases do not unfold as discrete, cumulative linear sequences but as an integrated learning journey, with all phases interfusing and supporting one another in generating a holistic, transformative experience. The structure and its pedagogical justification are as follows: Learning to coach, moving the leader's disposition from trainer to facilitator of an organic community of learners in situ. Learning to coach is based on a social constructivist approach, which creates an organic learning community (Richardson et al., 2024).

Learning to Be Happy

It corresponds to the affective domain. It deals with emotional engagement, psychological resilience, and mindfulness. This Phase is a response to the contemporary leadership literature and Thailand's concerted national effort to promote well-being (Zhu et al., 2021). This Phase lays the groundwork for safe and constructive education and learning.

Learning to Act

This is the main experiential Phase, applying straight from Kolb's conception of concrete experience. Here, learners carry out some practical task or activity (Willocks & Rouse, 2014), putting theory into practice.

Learning New Knowledge

This stage reflects Kolb's reflective observation and abstract conceptualization stages of the learning cycle. Participants reflect on their actions, receive feedback from others, and begin to acquire new conceptual knowledge.

Learning to Apply New Knowledge

The last stage completes the experiential learning process through active experimentation. It ensures the transferability of learning, as it requires participants to integrate and apply new skills and knowledge in real-life scouting situations (Dégi & Asztalos, 2021; Sinde & Alves, 2024).

Research Design, Context, and Questions

This study employed a Design and Development Research (DDR) approach (Aris et al., 2025). Beyond technical validation, the DDR process revealed actionable insights into the evolving role of adult leaders in non-formal education. The study therefore contributes to Thailand's national education reform agenda and to global discourse on transformative outdoor learning, leadership development, and youth empowerment. When facilitated by competent and reflective leaders, Scouting can serve as a crucible for sustainable citizenship—particularly within culturally embedded systems, such as Thailand's.

Despite the long-standing impact of Scouting on youth development, training programs for scout leaders in Thailand remain largely traditional and lack integration with competency-based frameworks or the demands of 21st-century skills. Few studies have systematically addressed how such programs can be modernized through empirical needs assessment, curriculum design, and outcome-based evaluation. This study addresses that gap by developing and validating a structured training curriculum that aligns with the Thailand Professional Standard for Scout Leaders (TPSSL) and international educational trends. The research followed a DDR design to construct a pedagogically justifiable, contextually feasible, and practically operational model (Aris et al., 2025).

The development of this course is part of a long-standing tradition of systematic educational reform in Thailand. A documented history of the Thai state’s creation and imposition of standardized curricula for teacher and scout leader training exists, primarily drawn up by the Office of the Basic Education Commission (OBEC) and the Teachers Council of Thailand (Chongchaikit, 2015).

Examples include the ongoing revision of the Basic Unit Leader Training Course (B.T.C.) (Chatkaew & Jamjumrus, 2023), which is the core national training for scout leaders, and the development of the Thailand Professional Standard for Scout Leaders (TPSSL) (Haseesuk & Thamatasenahant, 2020), which is itself a formal curriculum development process professionalizing the function. These initiatives are continuously synthesized with broader national plans such as the National Education Plan (2023–2027) (Phuangsuwan et al., 2024), which includes the ‘necessity to regularly update curricula that respond to the needs of society in the 21st century’. Therefore, our study

directly contributes to this ongoing national process by applying a contemporary, competency-based lens to the traditional curriculum development process, addressing particular gaps in 21st-century skills and application-based training identified through our internal process review. Finally, the authors propose the following research questions (RQs):

RQ1: What are the essential knowledge, skills, and personal characteristics required for basic scout leaders following 21st-century competencies and the TPSSL?

RQ2: What curriculum structure and instructional strategies effectively support the development of these competencies?

RQ3: According to expert review, how valid is the developed curriculum regarding content relevance, instructional alignment, and feasibility?

RQ1: To what extent does engagement improve participants' knowledge, skill performance, and satisfaction with the training program?

METHODS

The study employed a Design and Development Research (DDR) approach to guide the systematic creation, validation, and evaluation of a revised training curriculum for Basic Scout Unit Leaders in Thailand. DDR is an iterative methodology that integrates *analysis, design, development,* and *evaluation* phases to ensure that educational innovations are theoretically grounded and practical (Durkee, 2020).

In this study, the analysis phase identified training needs and competency gaps, and the design and development phase constructed and refined the curriculum through expert review. The evaluation phase assessed its effectiveness through pilot implementation. Evidence from each Phase informed the next, ensuring that the final curriculum was theoretically informed, contextually appropriate, responsive to contemporary leadership demands, and acceptable to stakeholders within Thailand's educational system.

Phase I: Curriculum Needs Assessment

Phase I aimed to assess existing BSL skills, identify skills and knowledge gaps in the current BSL training curriculum, and summarize expert opinions on these skills and knowledge to inform the development of a new theory-informed curriculum. Phase I consisted of three components: document analysis, training curriculum needs assessment, and expert interviews.

Document and Curriculum Review

To summarize best practices and training standards, the research team reviewed books, journal articles, theses, and official Scout training documents from Thailand and abroad, spanning the period from 2015 to 2024. Books, journals, theses, and other official documents were obtained through Thai and overseas academic databases, using keywords and research questions to guide the search process. Where English-language articles were identified, the research team applied inclusion and exclusion criteria, focusing the document review on curriculum comparisons. To compare international leadership curriculum models with the antiquated Thai official curriculum, which has

not been updated since 1964, the Thai curriculum was assessed against standardized leadership training frameworks globally, including leadership structures provided by the World Organization of the Scout Movement.

A Document Analysis and Synthesis Record Form was used to extract the needed information. Data were analyzed using content analysis and content synthesis to identify themes related to the curriculum framework, teaching and learning activities, and 21st-century skills.

Survey-Based Needs Assessment

A formal questionnaire was used to collect the data, with items designed to measure the current and preferred competencies of the scout leaders. The target population consisted of scout leaders who were primary school teachers, out of 16,959 scout leaders in the academic year 2023, in primary schools under the Office of the Basic Education Commission in Nakhon Ratchasima, overall. The sample size table was used to determine the sample size based on Krejcie and Morgan's table with a 95% confidence level (Uakarn et al., 2021). The sample consisted of 476 scout leaders, selected through a stratified random sampling method by primary education service area.

The questionnaire comprised three main competency domains. These were knowledge (e.g., scout theory and operations), skills (e.g., training management, leadership), and personal characteristics (e.g., ethics, adaptability, teamwork) (Pueyo-Garrigues et al., 2022). Each item was rated on a Likert-type scale, ranging from 1 (low) to 5 (high), in terms of its importance, frequency, or agreement. The Index of Item Congruency (IOC) value of the instrument ranged from 0.60 to 1.00, indicating an acceptable-to-high degree of content validity (IOC). In contrast, the internal consistency reliability of the instrument was acceptable, based on the Cronbach's alpha (α) coefficient calculated (α = 0.78). Data were obtained via Google Forms in December 2023.

They were calculated according to $PNI_{modified}$ on Google Sheets to find the needs or gaps between their existing and desired performance levels (Sungkawadee et al., 2026). The figures indicated the extent to which an existing and current competency level fell below the desired competency level (I) or current needs (D), providing evidence for prioritizing curriculum development (Al-Ismail et al., 2023; Ussarn et al., 2022).

Expert Interviews

The ten experts in scouting in southern Thailand were purposively selected based on specific criteria, such as holding at least a Leader Trainer (L.T.) certificate and being in a position of Scout or Assistant Scout Inspector in that particular division. The interview used in this research was based on each expert's expertise in the region, as assessed by the Index of Item Objective Congruence (IOC = 1.00), and addressed the following questions. What are the goals of the curriculum? What should the contents of the curriculum be? How do you pass on the learner? How to evaluation. The experts were interviewed on Zoom in December 2024. Accordingly, experts provided comments and suggestions that could be extracted and applied to the adaptation of the curriculum. The researchers conducted a qualitative content analysis of the transcript to gather expert opinions.

Qualitative data were analyzed using thematic content analysis following Braun and Clarke's six-step framework (Naeem et al., 2023). Interview transcripts were coded independently by two researchers to ensure inter-rater reliability (Cohen's $\kappa = 0.82$). Three themes were created: (i) *need for experiential and activity-based learning, (ii) gap in leadership and facilitation skills*, and (iii) *importance of emotional engagement in learning and instruction*. Relevant excerpts from experts were added, including, for example, "*Scout leaders in Bharat Scouts tend to lecture too much instead of encouraging learning by doing*" (Expert 4, Male, L.T.). These themes and associated insights directly informed the redesign of the curriculum's five learning phases, reiterating the added value and authenticity of residential camp-based training formats.

Phase II: Curriculum Development and Evaluation

The findings of Phase I informed the design, validation, and piloting of a novel training curriculum based on experiential and competency-based learning.

Curriculum Design and Validation

The curriculum was developed following the models established by Taba (Dingeç et al., 2023) and Tyler (Ashari et al., 2023), which included: (1) needs analysis; (2) formulating learning objectives; (3) selecting learning content; (4) sequencing learning content; (5) designing learning activities; and (6) planning assessment. The finalized course was in a five-part experiential learning model.

Seven experts (curriculum design, evaluation, and Scouting) evaluated the draft using a Training Course Suitability Assessment Form comprising five sections: background and objectives; curriculum structure; learning content and activities; resources and media; and evaluation methods.

All items were rated from Stufflebeam's scale according to Stufflebeam's (2015) evaluation framework. Findings showed that the IOC of all items was 1.00. The research fieldwork was implemented in December 2024 via a Google form and face-to-face consultation interview. Analyzing data with mean scores and standard deviations was used to interpret the quality of the NL curriculum in the rural public secondary school.

Pilot Implementation and Effectiveness

Participants and Procedure

A sample of 83 participants was selected via simple random sampling from a population of elementary school teachers, student teachers with 3-5 years of experience, and individuals with a general interest in Scouting. All had applied for a training course designed to enhance 21st-century competencies for basic-level scout leaders.

The study employed a pre-test/post-test design. Prior to the training, participants completed a pre-test of their knowledge. During the training, instructors observed and rated participants' skills and personal characteristics. Immediately following the training, participants completed a post-test knowledge assessment and a satisfaction survey.

Measures

The research instruments were rigorously validated:

- Knowledge Test: A 40-item multiple-choice and true-false test. The instrument demonstrated excellent content validity (IOC = 1.00), with item difficulty ranging from 0.23 to 0.73, discrimination power from 0.23 to 0.86, and high reliability (α = 0.72).
- Skills and Characteristics Assessments: These were evaluated using rubric scores, both of which showed strong content validity (IOC range = 0.60–1.00).

Data Analysis

To assess the effectiveness of the training, the following analytical techniques were used:

- Dependent t-tests: To compare pre- and post-test knowledge scores.
- One-sample t-tests: To compare post-training skills and characteristics scores against a proficiency benchmark of 80%.
- Descriptive statistics: To summarize satisfaction ratings and observational scores (*M*, *SD*s).

FINDINGS

Knowledge Gains

A paired-sample t-test was conducted to compare knowledge scores before and after the training. As shown in Table 1, there was a statistically significant increase in knowledge scores, with the post-test mean (M = 26.47, SD = 3.18) being significantly higher than the pre-test mean (M = 19.76, SD = 2.56), $t(82) = 16.36$, $p < .01$.

Table 1
Comparison of pre- and post-training knowledge scores

Competence	Measurement	n	Max. Score	M	SD	t	Sig.
Knowledge	Before Training	83	40	19.76	2.56	16.36**	.00
	After Training			26.47	3.18		

**p<.01

Post-Training Skills and Characteristics

One-sample t-tests were used to determine if the post-training scores for skills and personal characteristics exceeded the 80% proficiency benchmark. The results, detailed in Table 2, indicate that the mean scores for both skills (M=19.23, SD=0.86) and personal characteristics (M=17.79, SD=0.79) were significantly greater than the 80% threshold (16 points for skills, 14.4 points for characteristics), with $t(82) = 34.21$, $p < .01$ and $t(82) = 39.02$, $p < .01$, respectively.

Table 2
Post-training Competency Scores Compared to 80% Benchmark

Competency	n	Max. Scores	Post-Training Assessment		Benchmark	t	Sig.
			M	SD			
Skills	83	20	19.23	0.86	80	34.21**	.00
Characterisitcs		18	17.79	0.79		39.02**	.00

**p<.01

Expert Contributions (Curriculum Needs Assessment & Validation)

On two separate occasions, scholars and practitioners with relevant expertise played a critical role during the project to ensure the training curriculum was contextually and pedagogically appropriate.

Phase I: Content Focus Scoping

The first panel, consisting of ten scout leaders who were themselves holders of advanced trainer certification, participated in semi-structured interviews. Their feedback concerning the existing basic sectional training included calls to reduce passive lecture time. Provide residential training opportunities. Use opportunities for learning in the real world.

Phase II: Draft Curriculum Review

Seven expert reviewers, who are experts in curriculum design and/or scouting education, took part in an online-based review where they validated each part of the curriculum using a list of Likert-type measurement scales, which provided structured feedback on all dimensions of the curriculum (objectives, content, learning & teaching activities, and evaluation methods). The feedback from the validators was critical in revising the sections that addressed structure, time allocation, and the integration of media and learning resources. Reviewers indicated that the overall suitability of the proposed curriculum is sufficiently high (mean = 4.26/5).

FINDINGS

This section presents the study's findings, organized into two phases: the curriculum needs assessment and the evaluation of the developed training course.

Participant Demographics

Table 3 details the personal characteristics of the 476 primary educators who participated in the needs assessment survey. The vast majority were classroom teachers (n = 430, 90.30%), with only 9.70% (n = 46) serving as school administrators. This respondent profile ensures insights into competency needs are drawn from professionals directly engaged in youth education and scout activities.

Respondents represented a broad range of official scout training qualifications, with the largest group (56.10%) having completed the Wood Badge (W.B.), an internationally recognized intermediate-level training Scouting achievement award (Tevington et al., 2023). Nearly one-third (31.72%) held only the Basic Unit Leader Training Course

(B.T.C.) certification. A small subset (12.18%) were certified trainers, holding either Assistant Leader Trainer (A.L.T.) or Leader Trainer (L.T.) status. This distribution confirms that the respondents are predominantly end-users of training, rather than facilitators, making them an appropriate group for assessing the practical relevance and usability of the current curriculum. Finally, most educators (62.60%) had more than five years of scouting experience, providing a well-informed perspective on existing curriculum gaps. The remaining 37.40% had five years or fewer.

Table 3
Demographic characteristics of survey respondents (n = 476)

Questionnaire Item	Number	%
Position		
School Administrator	46	9.70
Classroom Teacher	430	90.30
Item	476	100.00
Scout Training Qualification		
4-Bead (Leader Trainer, L.T.)	13	2.73
3-Bead (Assistant Leader Trainer, A.L.T.)	45	9.45
2-Bead (Wood Badge, W.B.)	267	56.10
Basic Unit Leader Training Course (B.T.C.).	151	31.72
Item	476	100.00
Years of Scouting Experience		
More than 5 years	298	62.60
Less than 5 years	178	37.40
Item	476	100.00

Phase I: Curriculum Needs Assessment

Competency Framework and Training Process Synthesis

Drawing on documents, expert input, and global curriculum models, a five-phase training framework was synthesized:

1) Learning to Coach – Initiating learning processes through mentoring.
2) Learning to be Happy – Building emotional engagement and knowledge;
3) Learning to Act – Practice-based implementation;
4) Learning New Knowledge – Reflective feedback and evaluation, and
5) Learning to Apply – Integrating learning into real-world scouting contexts.

Scout leader competency was categorized into three core domains. This included knowledge (e.g., scouting theory and operations), Skills (e.g., planning, activity management, adaptability), and Personal Attributes (e.g., empathy, integrity, civic values).

Priority Needs Assessment (PNI) Modified

From the 476 survey responses, the $PNI_{modified}$ revealed the following ranking (Table 4):

- Skills were the highest-priority training gap ($PNI_{modified}$ = 0.41);

- Followed by Knowledge ($PNI_{modified}$ = 0.36);
- Then Personal Characteristics ($PNI_{modified}$ = 0.30);

The most critical individual competency gaps were:

- Application of Skills ($PNI_{modified}$ = 0.46);
- Training Delivery ($PNI_{modified}$ = 0.42);
- Adaptability ($PNI_{modified}$ = 0.43);
- Leadership ($PNI_{modified}$ = 0.41).

These results indicate a greater demand for applied, hands-on competencies over abstract knowledge or dispositional traits.

Table 4
$PNI_{modified}$ scores for Scout leader competency dimensions

Competency Area	Current (D)	Expected (I)	$PNI_{Modified}$	Rank
Knowledge	3.49	4.74	0.36	2
- Understanding of Scouting Operations	3.48	4.65	0.33	2
- Knowledge of Scouting Content	3.49	4.82	0.38	1
Skills	3.39	4.78	0.41	1
- Scout Activity Management	3.41	4.67	0.36	5
- Leadership	3.39	4.79	0.41	3
- Planning	3.45	4.81	0.39	4
- Training Delivery	3.39	4.82	0.42	2
- Application Skills	3.30	4.79	0.46	1
Personal Characteristics	2.78	3.82	0.30	3
- Attitude, Faith, Ideology	3.49	4.77	0.37	3
- Interpersonal Qualities	3.48	4.82	0.39	2
- Lifelong Learning	3.56	4.71	0.32	4
- Adaptability	3.36	4.80	0.43	1
- Compassion and Empathy	3.65	4.71	0.29	5
Overall	3.45	4.76	0.38	—

Expert Panel's Outcomes

The 10-member panel's qualitative insights helped prioritize experiential, problem-based learning, emphasizing leadership, emotional engagement, and adaptability in curriculum content. The seven-member validation panel provided quantitative ratings indicating high suitability across all curriculum dimensions (Table 5), with particular emphasis on the sequencing of learning activities and the relevance of media resources. Their assessments guided refinements that enhanced both instructional feasibility and learner engagement.

Table 5
Expert evaluation of curriculum components (n = 7)

Area	Recommended Guidelines
Foundational Knowledge	Emphasize operational flexibility, innovation, teamwork, and empathy. Build conceptual and human relations skills. Encourage creative problem solving and responsiveness to diverse values.
Content	Modernize outdated content. Add modules on media literacy, global change, and scout safety.
Learning Experience Design	Use lectures to provide foundational knowledge; emphasize practical, real-world activities; and incorporate problem-based and collaborative learning.
Training Methods	Diversify formats: hands-on activities, peer sharing, group dynamics. Reduce passive lecture time.
Duration & Format	Recommend a 3-day, 2-night residential camp format with emphasis on experiential learning.
Evaluation	Utilize integrated assessments to evaluate knowledge, skills, and attributes. Standardize pre- and post-assessments and utilize both individual and group presentations for performance evaluation.

Figure 1 shows $PNI_{modified}$ across competency domains. Key Interpretations from the analysis indicate that:

- • Application skills ($PNI_{modified}$ = 0.46): Leader's struggle to translate theory into practice, highlighting a need for more realistic simulations and applied learning experiences;
- Adaptability ($PNI_{modified}$ = 0.43): Leaders face difficulty adjusting to changing environments, suggesting that resilience and flexibility should be embedded in training.
- Training delivery ($PNI_{modified}$ = 0.42): Even experienced leaders report lacking instructional and facilitation skills;
- Leadership ($PNI_{modified}$ = 0.41): Despite its centrality, this competency remains underdeveloped in current programs.

These findings underscore the importance of a targeted, skill-based training model, particularly for frontline educators.

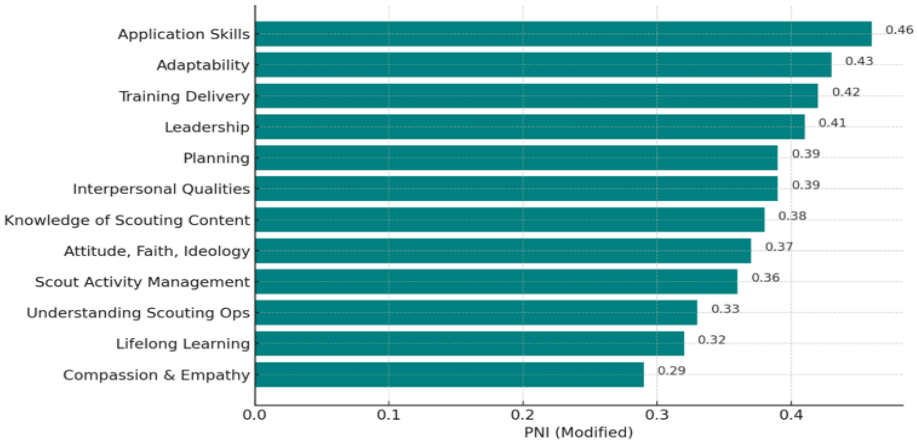

Figure 1
$PNI_{modified}$ across competency domains
Source: The authors using Python 3.8

Phase II: Curriculum Development and Evaluation

Curriculum Structure and Validation

The final training course included 23 lessons organized into six structural components: Course background and rationale; 2) Learning objectives; 3) Curriculum structure; 4) Learning content; 5) Instructional activities and resources; and 6) Evaluation and assessment methods.

Expert review (n = 7) produced an overall suitability rating of mean = 4.26, SD = 0.78. The learning activities component received the highest mean score (mean = 4.52), while curriculum objectives received the lowest but still acceptable rating (mean = 3.80). The values were reached using a 5-point Likert psychometric scale (Sugiyono, 2014).

Pilot Implementation and Effectiveness

The pilot curriculum was conducted on 83 participants (teachers and student teachers). Data from post-training evaluation indicate improvement in knowledge and skill performance among the participants. The average knowledge score from the pre-test to the post-test achieved statistically significant gains ($p < .01$). The Percentage of skills and personal characteristics that surpassed 80% of the curriculum's skills and personal characteristics was greater than 80%. This demonstrated the effectiveness of the developed curriculum in promoting 21st-century knowledge and skills. Participants reported high satisfaction levels in optional satisfaction surveys, emphasizing the components of instructional activities and media.

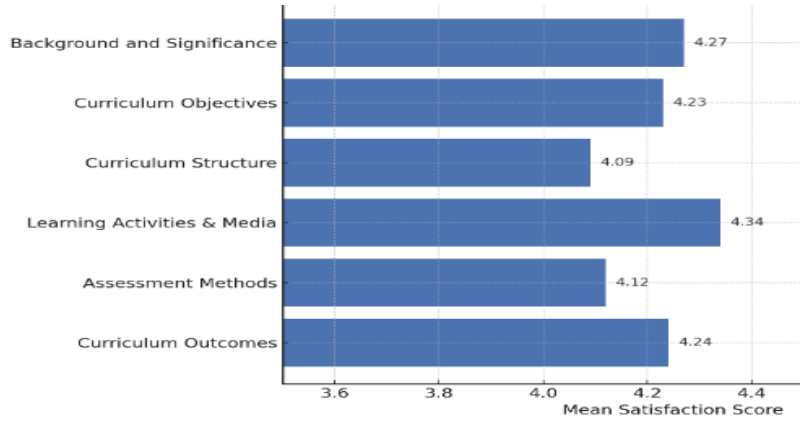

Figure 2
Trainee satisfaction with the curriculum component
Source: The authors using Python 3.8

DISCUSSION

This study designed and validated a competency-based training curriculum for Thai scout leaders, aligning it with 21st-century skills. The discussion is organized around the four research questions that guided this study.

RQ1. What Competencies Scout Leaders Should Have in the 21st Century

The analysis revealed that the competency gap primarily focused on application, facilitation, adaptability, and leadership in a dynamic context. This is common, and the result reflects specific needs identified worldwide in scouting education, which aim to refocus efforts on a competency-based approach, favoring practical, experiential learning over the accumulation of knowledge (Pruner, 2021). The high PNI-modified in regards to application and facilitation shows a classic dilemma the modern worldwide scout movement had to face, which is that even if Scouting has been primarily a movement of practice, many scouting training systems have focused on the theory aspect while letting scouts figure out how to cope with the situation (Kirsz, 2007).

In Thailand, these gaps reflect a mismatch with today's realities of the Thailand Professional Standard for Scout Leaders (TPSSL). Leaders reported that they found it very hard to put theoretic knowledge into practice, especially in conflict management and event organization (Kirsz, 2007). Accordingly, the curriculum was explicitly reoriented to “learning by doing”, coaching and reflective practice, which were thought to be the key competencies needed to fulfill the TPSSL and effectively lead young people in the twenty-first Century.

RQ2. Effective Curriculum Structure and Instructional Strategies

The study developed a five-phase model representing a pedagogical shift from passive instruction to active transformation, addressing these competency gaps. The model is grounded in Kolb's Experiential Learning Cycle and Mezirow's Transformative

Learning Theory (Kolb, 2014; Mezirow, 2000; Rojo et al., 2023), integrating continuous reflection, experimentation, and feedback to facilitate learning.

Policy and Institutional Integration for Scalability

The proposed model is designed for direct institutionalization within Thailand's educational infrastructure, ensuring sustainability and alignment with national goals. Three synergistic pathways are proposed:

1. **Formal Curriculum Integration**: Embedding the model into the Basic Unit Leader Training Course (B.T.C.) under the Office of the Basic Education Commission (OBEC) (Chatkaew & Jamjumrus, 2023). This would update the national scout leader credential at its source.
2. **Professional Development & Micro-Credentialing**: Adapting the framework into a micro-credential within the Teachers Council of Thailand's professional development system (Chongchaikit, 2015), allowing current educators to certify these competencies incrementally.
3. **National Scaling via Established Networks:** Disseminating the program through Teacher Professional Development Network Centers (TPDNCs) (Popiashvili, 2021), using both residential and blended formats (Pimdee et al., 2025) for efficient nationwide rollout.

This institutional strategy aligns with Thailand's National Education Plan (2023–2027), prioritizing lifelong learning, competency development, and educational quality (Asvathitanont et al., 2024; Phuangsuwan et al., 2024).

RQ3. Curriculum Validity: Content, Alignment, and Feasibility

The expert validation and pilot testing results confirmed that the proposed curriculum was highly valid, relevant, and feasible. The quantitative results revealed that objectives, activities, and assessment were highly aligned:

- A significant improvement in learning was achieved on knowledge-based content, verifying that the redesigned content was more effective in developing conceptual depth of understanding.
- Performance on skills and personal attributes exceeded the 80% benchmark, confirming that focusing on the application of skills and development of attributes was beneficial.
- Evaluation showed positive participant satisfaction levels. In particular, this was the case for content that was activity-based and experiential in nature.

These findings address Stufflebeam’s (2015) CIPP model's criteria for accountability, demonstrating practical context, input, process, and product. The assessment strategy, which utilizes a multidimensional rubric, aligns with best practices in competency-based education (Ashari et al., 2023). Qualitatively, participants described gains in self-confidence, teamwork, and empathy—affective outcomes theorized by transformative learning and providing convergent evidence of the model’s pedagogical efficacy.

RQ4. Impact on Participant Knowledge, Skills, and Satisfaction

The experiential format fostered high engagement, which proved crucial to achieving measurable gains in knowledge, skills, and satisfaction. This engagement-driven impact demonstrates the model's effectiveness at the participant level. More importantly, the study design ensures this impact can be scaled nationally through deliberate policy mechanisms.

LIMITATIONS AND FUTURE RESEARCH

While this pilot has yielded promising results, its limitations must also be acknowledged. The study was conducted with a small sample of 83 individuals from a single region of Thailand, so caution should be exercised when generalizing the findings of this pilot to Thailand as a whole. We also collected some data via self-report, such as satisfaction and personality traits, whose measures can be unintentionally biased due to a participant's tendency to answer in a positive manner. Perhaps most importantly, we only measured outcomes immediately after completion of training, as we lacked knowledge of how long these new skills would be retained and utilized in practice during real scout activities. Future research building on this work should recruit larger and more diverse sample sizes, use objective measures of performance, and follow up on the retainment and use of skills over time.

CONCLUSIONS

Based on the findings of this study, the following conclusions are drawn, each corresponding directly to a primary research question.

In response to RQ1, the essential competencies for 21st-century Thai scout leaders extend beyond traditional scouting knowledge to critically include application skills (e.g., conflict resolution, event management), adaptive training delivery, and personal characteristics of emotional resilience and leadership in dynamic contexts, as identified through robust training needs analysis and aligned with the Thailand Professional Standard for Scout Leaders (TPSSL).

To answer RQ2, a successful curriculum structure is a multi-phased, experience-based curriculum grounded in transformative learning theory, supported by instructional methods that integrate active experimentation, guided reflection, and coaching. Strategic cultural adaptation is implemented to ensure its relevance and acceptance in the specific pedagogical context of Thailand.

Concerning RQ3, the expert review and pilot implementation support indicate that the curriculum developed exhibits high validity and feasibility, as it demonstrates high content relevance, strong instructional alignment, and effectiveness in providing meaningful knowledge gain for participants, achieving over 80% skill performance, and high satisfaction.

In answering RQ4, our training program significantly increased participants' knowledge, skill performance, and satisfaction, mediated by the engaging experience inherent in the experiential learning design. Based on the model's effectiveness and policy alignment, it can be institutionalized through formal curriculum settings,

professional micro-credentialing, and scale nationally via the existing teacher development network.

This study developed and validated a competency-based curriculum that creatively addresses pressing gaps in Thai scout leader training. By redefining leadership development in 21st-century terms, this curriculum charts a course for Thai Scouting to become a global model of transformative, culturally sensitive education. The curriculum thus provides a clear, pragmatic roadmap for sustainable national implementation.

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