

Development of an instructional leadership model for teachers in island schools: Evidence from the Phang Nga Primary Educational Service Area Office, Thailand

Parita Sanguansap*, Navarat Waichompu and Jarus Ativittayaporn

Doctor of Education Program in Educational Administration, Faculty of Education and Liberal Arts, Hatyai University, Songkhla, Thailand.

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ABSTRACT

This study aimed to (1) investigate learning management practices in island schools recognized for best practices under the Phang Nga Primary Educational Service Area Office, (2) develop an instructional leadership model for teachers in these schools, and (3) evaluate the model's usefulness and feasibility. A mixed-methods approach was employed within a three-phase research and development framework. Phase 1 included a literature review and investigated learning management practices in three best-practice island schools through interviews with 10 key informants. Qualitative data were analyzed using content analysis. In Phase 2, findings from the literature review and Phase 1 were synthesized to develop the model, which was validated through a focus group discussion with nine experts. In Phase 3, 153 participants, comprising three educational administrators and academic personnel and 150 island-school teachers, evaluated the model. Quantitative data were analyzed using means and standard deviations. Phase 1 revealed context-responsive and learner-centered practices characterized by the use of local resources and community knowledge, instructional innovation, professional collaboration, and continuous improvement. The resulting Island Learning Leadership Development Model (ILD-I Model) comprised four major parts: principles, objectives, model components, and conditions for success. The model components encompassed teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, and the teachers' instructional leadership development process. Overall, the model was rated at the highest level for usefulness ($M = 4.77$, $SD = 0.25$) and feasibility ($M = 4.78$, $SD = 0.25$). Respondents therefore perceived the ILD-I Model as useful and feasible for supporting teachers' instructional leadership development in island schools.

Keywords: Teachers' instructional leadership, instructional leadership development model, island schools, ILD-I Model.

**Corresponding author. E-mail: parita.benzin17@gmail.com. Tel: +66 90 874 9856.

INTRODUCTION

Education systems in the twenty-first century are being reshaped by rapid technological, social, and economic changes. These changes have expanded teachers' responsibilities, particularly in schools affected by geographical inequality and limited resources (Fullan, 2014; OECD, 2019). Teachers are no longer expected only to deliver prescribed lessons; they are increasingly required to design contextually responsive learning experiences, use educational innovations and digital

technologies, assess diverse learner needs, collaborate with colleagues, and continuously improve teaching and learning. Within this changing environment, instructional leadership has become increasingly important for strengthening instructional quality, professional capacity, and sustainable school improvement (Hallinger, 2011; Leithwood et al., 2004).

Instructional leadership has traditionally been conceptualized primarily in relation to school principals

and their influence on curriculum, instruction, teachers, and student learning. In the present study, however, teachers' instructional leadership refers specifically to teachers' capacity to initiate, guide, influence, and improve teaching and learning within their classrooms, professional communities, and schools. It encompasses quality instruction, leadership for innovation and change, professional development and professional learning communities (PLCs), academic networking, instructional supervision, coaching, mentoring and reflection, and participation in academic management. This conceptualization shifts the analytical focus from leadership exercised solely through formal administrative authority to leadership enacted by teachers through instructional expertise, professional collaboration, reflective practice, and influence on the improvement of teaching and learning.

Teachers' instructional leadership is related to, but conceptually distinguishable from, teacher leadership, distributed leadership, and instructional management. Teacher leadership is a broader concept that may encompass instructional and non-instructional influence exercised by teachers within and beyond the classroom, whereas distributed leadership emphasizes how leadership activities and influence are shared among multiple organizational actors. Instructional management, in contrast, primarily concerns the coordination and administration of curriculum, instruction, assessment, and related academic activities. In this study, teachers' instructional leadership is positioned at the intersection of these perspectives but remains specifically focused on teachers' leadership in improving teaching, professional learning, and learner-centered educational practices. Recent research supports the importance of linking teacher leadership with distributed leadership and professional learning communities and indicates that teachers' professional learning represents an important mechanism through which instructional leadership can contribute to instructional improvement (Zheng et al., 2023; Thien and Liu, 2024).

This conceptual distinction is particularly relevant to geographically isolated schools. Recent international research indicates that instructional leadership in rural and geographically disadvantaged settings is shaped by contextual conditions and that professional learning, collaboration, and leadership capacity are important for addressing instructional disparities. Research in rural schools has highlighted the importance of context-sensitive instructional leadership practices (Cox and Mullen, 2023), while evidence from rural and urban schools indicates that teacher professional learning can mediate relationships between instructional leadership and instructional quality. These findings suggest that leadership for teaching and learning cannot be separated from the professional and geographical conditions in which teachers work.

Island schools in Phang Nga Province, Thailand,

represent such a distinctive educational context. The Phang Nga Primary Educational Service Area Office oversees 18 island schools, most of which are small schools serving children from kindergarten to primary education. Their geographical isolation affects transportation, staffing, access to professional development, educational materials, digital infrastructure, and collaboration with external organizations. Teachers may be responsible for multiple subjects or grade levels, while frequent staff turnover can disrupt the continuity of school development. Unstable internet connections and the higher costs of transporting materials and personnel further restrict access to educational resources and professional support (Phang Nga Primary Educational Service Area Office, 2024).

The social and cultural characteristics of island communities also influence teaching and learning. Many families depend on fishing, tourism, or temporary employment, and some learners come from migrant or culturally diverse backgrounds. Differences in home languages and opportunities for academic support may affect learners' reading, writing, and use of Thai as the language of instruction. Teachers must therefore design flexible and differentiated learning activities that respond to individual differences while connecting classroom content with local livelihoods, natural resources, community knowledge, and island environments. Effective learning management in this context requires not only instructional competence but also leadership in innovation, resource management, professional collaboration, community engagement, and continuous improvement.

Despite facing broadly similar geographical and resource constraints, island schools in Phang Nga demonstrate considerable differences in learner achievement. The 2024 Ordinary National Educational Test results for the 18 island schools showed that average scores ranged from approximately 27–28 points to 49–50 points, representing an achievement gap of more than 20 points. Lower-performing schools were approximately 8–10 points below the educational service area average, particularly in mathematics, English, and science (Phang Nga Primary Educational Service Area Office, 2024). These differences suggest that geographical location alone may not fully explain variations in educational outcomes. Internal school conditions, including teachers' capacity to organize learning, use educational innovations, collaborate professionally, and adapt instruction to learners' needs, may contribute to differences among schools operating under comparable geographical constraints.

Some island schools have nevertheless developed effective learning practices and have been recognized for best practices in learning management. Their experiences suggest that contextual limitations can be addressed through the strategic use of local resources, professional collaboration, context-based learning, and responsive instructional strategies. Examining learning management

practices in these schools can therefore provide empirical evidence of how successful island schools organize teaching and learning within their distinctive geographical and community contexts. Such evidence can also provide an empirical foundation for identifying relevant elements and approaches for the subsequent development of teachers' instructional leadership.

Despite growing international attention to instructional leadership, teacher leadership, distributed leadership, and professional learning, three gaps remain particularly relevant to island-school contexts. First, instructional leadership research has historically concentrated on principals, leaving comparatively less attention to teachers as instructional leaders whose influence is exercised through classroom practice, professional learning, collaboration, and academic networks. Second, although recent research has examined leadership and professional learning in rural and geographically disadvantaged settings, limited empirical evidence explains how instructional leadership development should be configured specifically for teachers working in island schools, where geographical isolation interacts with resource limitations, staffing constraints, digital access, learner diversity, and dependence on community partnerships. Third, relatively little research has integrated teacher instructional leadership, multiple professional-development approaches, context-responsive learning management, a systematic development process, and enabling conditions into a single empirically grounded and validated development model for island schools. These gaps establish the need to examine successful learning management practices in island schools and to use this empirical evidence, together with relevant theory and expert validation, as a foundation for developing a context-specific instructional leadership model for teachers.

The proposed Island Learning Leadership Development Model (ILD-I Model) addresses these gaps by conceptualizing teachers' instructional leadership as part of an integrated development system rather than as an isolated set of individual competencies. Conceptually, the model connects teachers' instructional leadership with professional learning, context-responsive learning management, a systematic development process, and enabling organizational and community conditions. This perspective is compatible with recent evidence showing that teacher leadership interacts with distributed leadership and professional learning communities (Zheng et al., 2023) and that instructional leadership is linked to teacher professional learning and instructional quality (Thien and Liu, 2024). The model therefore seeks to extend existing leadership perspectives by explaining how teacher-level instructional leadership can be systematically developed within the distinctive conditions of geographically isolated island schools.

Developing such a model also has practical significance. The ILD-I Model is intended to guide schools and educational service area offices in identifying teachers'

development needs, selecting appropriate professional-learning approaches, organizing context-responsive learning management, supporting implementation, and evaluating progress. Rather than assuming that practices developed in well-resourced or mainland settings can be transferred directly to island schools, the model recognizes geographical, organizational, technological, and community conditions as integral to leadership development. The framework may consequently provide a basis for subsequent implementation and evaluation in other island, remote, or geographically disadvantaged educational settings.

Accordingly, this study aimed to: (1) investigate learning management practices in island schools recognized for best practices in learning management under the Phang Nga Primary Educational Service Area Office; (2) develop an instructional leadership model for teachers in these schools; and (3) evaluate the usefulness and feasibility of the developed model. Through these objectives, the study sought to use evidence from successful learning management practices as an empirical foundation for developing a context-responsive and systematically validated framework for supporting teachers' instructional leadership in island schools. The study evaluated stakeholders' perceptions of the model's usefulness and feasibility; it did not test the model's effects on teacher performance or student learning outcomes.

MATERIALS AND METHODS

Research design

This study employed a mixed-methods approach integrating qualitative and quantitative research to develop a model of teachers' instructional leadership in island schools under the Phang Nga Primary Educational Service Area Office, Thailand. The research was conducted in three phases: (1) investigation of learning management practices in island schools recognized for best practices; (2) development of the teachers' instructional leadership model; and (3) evaluation of the usefulness and feasibility of the developed model. Findings from each phase were systematically used to inform the subsequent phase.

Study setting

The study was conducted in 18 island schools under the Phang Nga Primary Educational Service Area Office, Thailand. These schools are located in special geographical areas (island areas) and are characterized by geographical isolation, transportation constraints, small student populations, teacher shortages, restricted access to professional development, and limited educational and technological resources. These contextual characteristics provided the basis for examining learning management

practices in best-practice schools and subsequently developing an instructional leadership model responsive to the specific conditions of island schools.

Phase 1: Investigation of best practices

Participants

Three island schools—Koh Yao School, Ban Rim Talay School, and Ban Tha Khao School—were purposively selected as best-practice cases. The selection criteria required each school to be located in a special geographical area (island area) under the Phang Nga Primary Educational Service Area Office and to have received an award, recognition, or documented evidence of best practices in learning management from the educational service area or other relevant educational authorities. These schools were selected as information-rich cases for an in-depth investigation of successful learning management practices in island-school contexts.

The primary informants were teachers who were directly responsible for, or played a significant role in, the recognized best practices in learning management at each school. Teachers were purposively selected based on three criteria: (1) being a teacher in an island school under the Phang Nga Primary Educational Service Area Office; (2) having demonstrated achievements, awards, or recognition for best practices in learning management; and (3) being recognized by school administrators, colleagues, or community members for their contributions to learning management and learner development.

Additional data were obtained from school administrators and members of the Basic Education School Committees from the same schools to provide complementary perspectives and facilitate source triangulation. In total, 10 key informants participated across the three schools. The inclusion of teachers, school administrators, and school committee members enabled the researcher to compare information across participant groups and examine the consistency of evidence concerning learning management practices, teacher development, contextual adaptation, and conditions supporting successful practices.

Research instrument

Data were collected using a structured interview protocol developed from a review of relevant documents, concepts, theories, and previous research. The protocol was designed to investigate learning management practices in island schools recognized for best practices in learning management, while also examining teacher development, contextual adaptation, and conditions supporting successful practices as evidence for the subsequent development of the teachers' instructional leadership

model. It consisted of three sections: (1) participants' general information; (2) open-ended questions addressing five areas: learning management practices, teachers' roles in instructional improvement, teacher professional development, adaptation of learning management to the island-school context, and factors and conditions supporting successful learning management practices; and (3) additional recommendations for improving learning management and supporting teacher development in island schools.

The draft interview protocol was reviewed by the research supervisors to assess content coverage, clarity of the questions, and appropriateness of language. Based on their feedback, the protocol was revised to improve its clarity and alignment with the study objectives. Further revisions were made, where necessary, in accordance with the requirements of the human research ethics committee before the final protocol was used for data collection.

Data collection

Official permission to collect data was obtained from Hatyai University and the participating schools. The researcher subsequently contacted the school administrators and key informants to arrange the interviews. Interviews were conducted at Koh Yao School on May 14, 2026, Ban Rim Talay School on May 15, 2026, and Ban Tha Khao School on May 16, 2026.

Before each interview, the researcher explained the study purpose and procedures, participants' rights, confidentiality, and the voluntary nature of participation. Written informed consent was obtained from all participants prior to data collection. With participants' permission, the interviews were audio-recorded and supplemented by field notes to ensure accurate documentation of the data.

To enhance the credibility of the qualitative findings, source triangulation was employed by comparing information obtained from teachers with that provided by school administrators and members of the Basic Education School Committees. This comparison enabled the researcher to examine convergence and divergence in perspectives across participant groups within the selected schools.

Qualitative data analysis

The audio-recorded interviews were transcribed verbatim and analyzed using content analysis following the procedures proposed by Miles and Huberman (1994). The researcher repeatedly read the transcripts to become familiar with the data and gain an overall understanding of participants' perspectives. Meaningful statements relevant to the research objectives were identified and assigned

initial codes. Related codes were then compared, grouped into categories, and synthesized into themes. The analysis initially focused on identifying patterns of learning management practices across the three best-practice island schools, including instructional practices, contextual adaptation, teacher professional learning and collaboration, use of local resources and community participation, and conditions supporting successful practices. The resulting categories were then examined for their relevance to teachers' instructional leadership and its development.

To enhance the credibility and trustworthiness of the qualitative analysis, source triangulation was conducted by systematically comparing data obtained from teachers, school administrators, and members of the Basic Education School Committees. Areas of convergence and divergence across the three participant groups were examined during the coding and categorization process rather than relying on a single source of information. The use of verbatim transcripts and field notes further supported the systematic interpretation of the interview data.

The resulting categories and themes were subsequently compared with findings from the literature review to identify areas of convergence, complementarity, and contextual specificity. This cross-case and literature-based synthesis was used to identify the key elements informing the preliminary ILD-I Model, including teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, the teachers' instructional leadership development process, and conditions for success. The synthesis of evidence from the literature review and the three best-practice cases provided the empirical and conceptual foundation for drafting the preliminary ILD-I Model in Phase 2.

Phase 2: Model development and validation

Model development

The preliminary ILD-I Model was developed by synthesizing findings from the literature review and the empirical findings on learning management practices obtained from the three best-practice island schools in Phase 1. The model consisted of four major parts: (1) principles, (2) objectives, (3) model components, and (4) conditions for success. The model components encompassed teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, and the teachers' instructional leadership development process.

Descriptions of each part, the relationships among the model components, and the intended application of the model were prepared to clarify the overall structure and internal coherence of the ILD-I Model. The preliminary model was subsequently reviewed by the research

supervisors for conceptual accuracy, internal consistency, completeness, and clarity before being submitted for expert validation.

Expert participants

Nine experts were selected through purposive sampling based on their knowledge and experience in teachers' instructional leadership, educational administration, teacher professional development, academic management, and education in island or other geographically disadvantaged contexts. The expert group consisted of two higher-education academics, two educational supervisors from primary educational service area offices, and five school administrators, deputy school administrators, or teachers with recognized academic or professional expertise.

The experts reviewed and discussed the four major parts of the model: principles, objectives, model components, and conditions for success. The review of the model components addressed teachers' instructional leadership, development approaches, context-responsive learning management, and the development process, including the relationships among these components. The discussion also considered the intended application of the model within the island-school context.

Validation instruments and procedures

The materials used in this phase comprised the preliminary ILD-I Model and an expert-review form covering its accuracy, appropriateness, consistency, completeness, and contextual relevance. Prior to the focus group discussion, the experts received an overview of the study, the preliminary model, the review form, and the focus-group schedule to facilitate their review and preparation.

A focus group discussion was held on June 27, 2026, from 9:00 a.m. to 12:00 p.m. at Borsan Villa, Phang Nga Province. The researcher served as the moderator. The experts reviewed and discussed the model's principles, objectives, four model components—teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, and the teachers' instructional leadership development process—and conditions for success, as well as the relationships among these elements. The discussion also considered the intended application of the model within the island-school context.

With the experts' permission, the discussion was audio-recorded and supplemented by field notes and completed expert-review forms. The recordings were transcribed verbatim, and the experts' comments and recommendations were coded and categorized according to the major parts of the model. Areas of agreement, concerns, and

proposed revisions were synthesized and used to refine the model. Based on the expert feedback, the ILD-I Model was revised to improve its conceptual accuracy, internal consistency, completeness, clarity, and suitability for the island-school context.

Phase 3: Evaluation of usefulness and feasibility

Participants

The evaluation involved 153 participants from the Phang Nga Primary Educational Service Area Office and its 18 island schools. Three participants were purposively selected educational administrators and academic personnel from the Phang Nga Primary Educational Service Area Office, comprising one deputy director responsible for academic affairs and two educational supervisors. These participants were selected because their roles were directly related to academic administration, instructional supervision, and support for schools within the educational service area.

The remaining 150 participants were teachers from all 18 island schools under the Phang Nga Primary Educational Service Area Office. A census approach was used for the teacher group, whereby all teachers in the target population were included because the population was accessible and sufficiently small to permit complete data collection. Thus, the Phase 3 evaluation primarily represented the perspectives of teachers working directly within the island-school context, supplemented by the perspectives of educational administrators and supervisors at the educational service area level.

Evaluation instrument

The evaluation instrument was a researcher-developed questionnaire designed to assess the perceived usefulness and feasibility of the ILD-I Model. The questionnaire consisted of three sections: (1) respondents' general information; (2) items assessing the usefulness and feasibility of the model; and (3) open-ended questions for additional comments and recommendations.

The second section employed a 5-point Likert scale. A total of 108 items assessed the four major parts of the final ILD-I Model: principles (6 items), objectives (2 items), model components (94 items), and conditions for success (6 items). The 94 items assessing the model components were distributed across four components: teachers' instructional leadership (33 items), methods for developing teachers' instructional leadership (20 items), context-responsive learning management (24 items), and the teachers' instructional leadership development process (17 items). Each item was rated separately for perceived usefulness and feasibility, from 1 (lowest level) to 5 (highest level). Items were grouped a priori according to

the predefined structure of the ILD-I Model, and scores within each group were averaged to obtain part- and component-level scores for usefulness and feasibility. This aggregation reflected the structure established during model development and expert validation rather than groupings derived post hoc from the Phase 3 data.

The questionnaire also contained 10 supplementary items assessing anticipated outputs (5 items) and anticipated outcomes and impacts (5 items). Because these items represented expected results rather than structural parts of the final ILD-I Model, they were evaluated and reported separately and were not included in the calculation of the overall usefulness and feasibility ratings of the model.

The questionnaire was reviewed by five experts to establish content validity and assess the clarity and appropriateness of the items. Each item was rated as +1 when clearly congruent with the intended objective, 0 when its congruence was uncertain, and -1 when it was incongruent. The Index of Item-Objective Congruence (IOC) was calculated for each item, with 0.50 established as the minimum acceptable value. The overall average IOC was 0.997, with item-level values ranging from 0.60 to 1.00. All items met the established criterion and were retained in the final questionnaire.

Data collection

Formal requests for cooperation were sent to the Phang Nga Primary Educational Service Area Office and the 18 participating island schools. The final ILD-I Model, evaluation instructions, informed-consent information, and questionnaire were distributed electronically through Google Forms. Participants reviewed the model and independently evaluated its perceived usefulness and feasibility using the questionnaire.

Before completing the questionnaire, participants were informed of the purpose of the study, the voluntary nature of participation, the confidentiality of their responses, and their right to decline participation. The collected data were treated confidentially and reported only in aggregate form.

Quantitative and qualitative data analysis

Quantitative data were analyzed using means and standard deviations for individual items, the major parts and components of the model, and the overall usefulness and feasibility dimensions. The supplementary items assessing anticipated outputs and outcomes/impacts were analyzed separately and were not included in the overall model ratings. Mean scores were interpreted using five levels: 4.50–5.00 indicated the highest level, 3.50–4.49 a high level, 2.50–3.49 a moderate level, 1.50–2.49 a low level, and 1.00–1.49 the lowest level.

For the evaluation of the ILD-I Model, a mean score of

3.50 or higher was established as the minimum criterion for indicating a positive level of perceived usefulness or feasibility, as scores at or above this threshold corresponded to the high or highest categories of the predefined interpretation scale. A standard deviation not exceeding 1.00 was used as an additional criterion to indicate that respondents' ratings did not show excessive dispersion around the mean. Accordingly, the model was considered to meet the evaluation criteria when both conditions were satisfied ($M \geq 3.50$ and $SD \leq 1.00$).

Responses to the open-ended questions were analyzed using content analysis. The qualitative responses were categorized according to recurring comments and recommendations and were used to supplement and contextualize the quantitative findings.

Ethical considerations

The study received ethical approval from the Human Research Ethics Committee of Sirindhorn College of Public Health, Yala Province, Thailand (approval no. SCPHYLIRB-2569/348) on April 24, 2026. Prior to data collection, all participants were informed about the purpose and procedures of the study, the voluntary nature of participation, their right to withdraw from the study without penalty, and the measures taken to protect the confidentiality of their information. Written informed consent was obtained from all participants before data collection. Participants' information was treated confidentially and reported in a manner that did not identify individual participants.

RESULTS

Phase 1: Learning management practices in best-practice island schools

The document review and multiple-case investigation revealed common patterns across the three best-practice island schools despite differences in school size, resources, and local conditions. The findings showed that successful learning management was characterized by learner-centered and context-responsive practices, the integration of local resources and community knowledge into learning activities, instructional innovation and technology use, continuous teacher professional learning, and collaboration among teachers, administrators, communities, and educational networks. Schools also used learner achievement and contextual information to identify instructional needs and continuously improve teaching and learning. These learning management practices were subsequently examined in relation to teachers' instructional leadership and synthesized with findings from the literature review. The synthesis identified five key areas that informed the development of the preliminary ILD-I Model: teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, the teachers' instructional leadership development process, and conditions for success (Table 1). Anticipated outputs and outcomes/impacts were also identified as expected results associated with the intended application of the model rather than as structural parts of the model.

Table 1. Cross-case synthesis of findings from best-practice island schools.

Synthesized domain	Key finding
Teachers' instructional leadership	Six dimensions: quality instruction; visionary and change leadership; professional development and PLC; academic networking; supervision, coaching, mentoring, and reflection; and academic management.
Methods for Developing Teachers' Instructional Leadership	Four complementary modes: on-the-job learning, self-directed learning, formal learning, and social or collaborative learning.
Context-responsive learning management	Five areas: context-based and experiential learning, educational equity, 21st-century skills, community participation, and use of local resources and wisdom.
Teachers' Instructional Leadership Development Process	Four stages: needs assessment, preparation, implementation, and evaluation with continuous improvement.
Conditions for success	Engaged learners; teachers' readiness for professional growth; administrative and educational service area support; adequate technology and resources; and participation by families, communities, and partner networks.
Anticipated outputs	Expected improvements in teachers' 21st-century instructional leadership, use of digital technology and AI, instructional innovation and best practices, learner quality, academic management, and academic networks.

Table 1. Continues.

Anticipated outcomes and impacts	Expected longer-term improvements in learner standards, teacher leadership and instruction, systematic administrative support, learning-organization capacity, and community participation.
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Note: PLC = professional learning community; AI = artificial intelligence. Anticipated outputs and outcomes/impacts emerged from the Phase 1 synthesis as expected areas of improvement associated with the development of teachers' instructional leadership. They were not treated as structural parts of the final ILD-I Model and should not be interpreted as empirically demonstrated effects of model implementation.

Representative participant accounts supported the major themes identified in the cross-case analysis. Teachers emphasized continuous professional learning and adaptation to changing instructional demands, while administrators highlighted collaborative development through PLC, coaching, and supervision. The importance of context-responsive learning was also evident, with local occupations, natural resources, and community knowledge being incorporated into teaching. As one administrator explained:

"Instructional leadership does not necessarily mean being the head of academic affairs; it exists in every teacher. Teachers have a leadership role in transferring knowledge to students, and their main responsibility is teaching."

(A1, School Administrator)

A teacher similarly emphasized the importance of continuous professional development and responsiveness to change:

"Teachers need to remain active, continuously seek new knowledge, and adapt their teaching to differences among learners and the school context." (T1, Teacher)

Community participation also emerged as an important condition for successful development. As one school committee member noted:

"The community works closely with the school, supports

school activities, and helps mobilize resources for school development." (C1, School Committee Member)

These perspectives illustrate the complementary roles of teachers, school administrators, and community stakeholders in supporting instructional leadership development in island schools.

Phase 2: Development and validation of the ILD-I Model

Findings from Phase 1 and the literature review were integrated to develop the Island Learning Leadership Development Model (ILD-I Model). The nine-member expert focus group confirmed the overall conceptual coherence of the draft and recommended clarifying the relationships among the model components and the contextual conditions supporting their implementation. Following expert validation and revision, the final ILD-I Model comprised four major parts: principles, objectives, model components, and conditions for success (Table 2). The model components comprised teachers' instructional leadership, methods for developing teachers' instructional leadership, context-responsive learning management, and the teachers' instructional leadership development process.

Table 2. Structure of the island learning leadership development model (ILD-I Model).

Model part	Content
Principles	Lifelong learning; context-based learning in island schools; professional development; professional learning communities (PLCs); community and partnership engagement; and learner quality enhancement.
Objectives	To develop teachers' instructional leadership and to develop and enhance the quality of teaching and learning within island-school contexts.
Model components	Teachers' instructional leadership; methods for developing teachers' instructional leadership; context-responsive learning management; and the teachers' instructional leadership development process.
Conditions for success	Readiness and participation of learners and teachers; sustained support from school administrators and the educational service area; sufficient technology and resources; and active participation by communities and partner networks.

Note: The teachers' instructional leadership development process comprises four cyclical stages: needs assessment, preparation, implementation, and evaluation with continuous improvement.

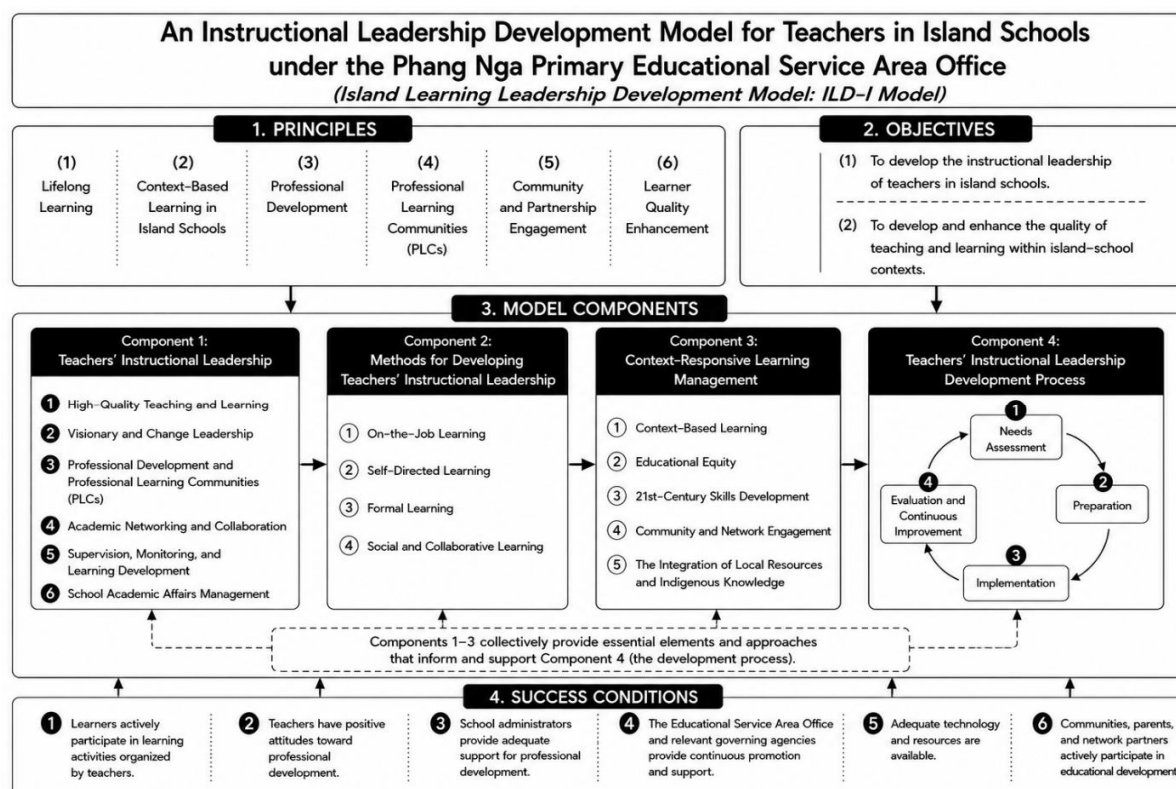


Figure 1. Island Learning Leadership Development Model (ILD-I Model). The model comprises four major parts: principles, objectives, model components, and conditions for success. Components 1–3 provide the essential elements and approaches that inform and support Component 4, which operates as a cyclical process of needs assessment, preparation, implementation, and evaluation for continuous improvement. The conditions for success provide the contextual support necessary for effective implementation of the model.

Phase 3: Feasibility and usefulness of the model

All four major parts of the ILD-I Model were rated at the highest level for both perceived feasibility and usefulness by the 153 respondents. As shown in Table 3, the principles, objectives, model components, and conditions for success were consistently rated at the highest level for both criteria. The objectives, model components, and conditions for success received the highest feasibility

ratings, while the model components received the highest usefulness rating. The relatively low standard deviations indicate consistency in respondents' ratings across the model parts. Given the small differences among the mean scores, these differences should not be interpreted as substantively meaningful. Overall, the findings indicate that respondents perceived the ILD-I Model as feasible and useful for supporting the development of teachers' instructional leadership in island-school contexts.

Table 3. Feasibility and usefulness ratings of the ILD-I Model (n = 153).

Model part	Feasibility			Usefulness		
	M	SD	Level	M	SD	Level
Principles	4.77	0.49	Highest	4.75	0.49	Highest
Objectives	4.79	0.37	Highest	4.77	0.37	Highest
Model components	4.79	0.34	Highest	4.78	0.35	Highest
Conditions for success	4.79	0.43	Highest	4.76	0.45	Highest
Overall	4.78	0.25	Highest	4.77	0.25	Highest

Note: M = mean; SD = standard deviation; n = number of respondents. Highest = highest level of perceived feasibility or usefulness.

Additional items assessed participants' perceptions of the anticipated results associated with the intended application of the model. The anticipated outputs were rated at the highest level for both feasibility ($M = 4.76$, $SD = 0.47$) and usefulness ($M = 4.77$, $SD = 0.46$). Similarly, the anticipated outcomes and impacts were rated at the highest level for feasibility ($M = 4.72$, $SD = 0.53$) and usefulness ($M = 4.69$, $SD = 0.54$). These anticipated results were evaluated separately and were not treated as structural parts of the ILD-I Model. Overall, respondents perceived both the ILD-I Model and its anticipated results as highly feasible and useful within the island-school context.

DISCUSSION

An integrated and context-responsive model of teachers' instructional leadership

The findings show that instructional leadership in island schools is not confined to formal administrative positions but is also enacted through teachers' roles in instruction, professional learning, collaboration, supervision, innovation, and academic management. The best-practice learning management findings from Phase 1, when synthesized with the literature, highlighted six dimensions of teachers' instructional leadership that position teachers as active contributors to instructional improvement at the classroom, professional-community, and school levels. This interpretation is consistent with Hallinger (2011), who conceptualized leadership for learning as influencing teaching conditions, professional capacity, and student learning, and with Leithwood et al. (2004), who emphasized that leadership influences learning by shaping teachers' work and organizational conditions. The ILD-I Model extends these perspectives by integrating teachers' instructional leadership with professional development approaches, context-responsive learning management, and a continuous development process within the specific constraints of geographically isolated schools. In this way, the model addresses the identified research gap by moving beyond principal-centered leadership frameworks and providing a context-specific framework for developing teachers' instructional leadership in island schools.

Context-responsive learning is a distinctive feature of the ILD-I Model. Across the three best-practice schools, teachers connected curriculum and learning activities with island life, community knowledge, local resources, and learners' everyday experiences. This finding is consistent with Sobel's (2004) view that place-based education strengthens meaningful learning by connecting classrooms with local environments and communities. It also responds to the achievement disparities and contextual constraints identified among island schools in Phang Nga (Phang Nga Primary Educational Service Area Office, 2024). Rather than treating geographical isolation solely as a disadvantage, the ILD-I Model positions the

island community, local environment, culture, and local wisdom as educational resources that can support meaningful and equitable learning. This context-responsive orientation distinguishes the model from more general instructional leadership approaches that do not explicitly incorporate the geographical and sociocultural conditions of island schools.

Professional learning, collaboration and community partnership

The combination of on-the-job, self-directed, formal, and collaborative learning indicates that developing teachers' instructional leadership requires multiple and complementary forms of professional learning. Formal training provides new knowledge, while PLCs, coaching, mentoring, supervision, and reflection enable teachers to apply and refine their practices continuously. This finding is consistent with DuFour and Eaker (1998) and Fullan (2001) and is supported by recent studies showing that teacher leadership and PLCs can facilitate collaborative professional learning and instructional improvement (Zheng et al., 2023; Grimm, 2024; Abrahamsen and Helstad, 2025). The ILD-I Model therefore integrates these approaches into a continuous development process rather than treating professional development as isolated training activities.

Community and network participation also emerged as both a model principle and a condition for successful implementation. This is particularly important in island schools, where geographical isolation may limit access to resources, technology, professional development, and external expertise. Consistent with Epstein (2011), the findings highlight the value of shared responsibility among schools, families, and communities. The ILD-I Model extends this perspective by positioning professional and community networks as mechanisms for mobilizing local knowledge and resources, sharing expertise, and addressing some of the constraints associated with geographical isolation. Thus, collaboration and networking constitute integral mechanisms for strengthening teachers' instructional leadership and supporting continuous improvement in island-school contexts.

Systematic development process and model coherence

The four-stage process—needs assessment, preparation, implementation, and evaluation with continuous improvement—provides an operational mechanism for translating the model's principles and objectives into practice. Needs assessment identifies context-specific strengths and needs; preparation aligns objectives, activities, resources, and responsibilities; implementation applies appropriate development approaches; and evaluation provides feedback for continuous improvement.

Components 1–3 inform and support this cyclical development process, enabling the model to connect teachers' instructional leadership, methods for developing teachers' instructional leadership, and context-responsive learning management with systematic implementation. This process is consistent with Joyce and Weil's (2009) principles of model development and Stufflebeam's (2003) emphasis on evaluation as a means of supporting improvement.

Expert validation further strengthened the coherence among the model's four major parts: principles, objectives, model components, and conditions for success. The ILD-I Model therefore specifies what should be developed, how development should occur, and which contextual conditions are needed to support the process. Rather than functioning as an additional model component, the conditions for success provide the contextual support necessary for implementation. This integration provides island schools with a structured yet adaptable framework for developing teachers' instructional leadership according to their specific needs and contexts.

Feasibility, usefulness and significance of the findings

The consistently high ratings for both feasibility and usefulness indicate that respondents perceived the ILD-I Model positively across all four major parts. The narrow range of mean scores and relatively low standard deviations suggest a high degree of consistency in respondents' perceptions; however, the small differences among model parts should not be interpreted as substantively meaningful. The concentration of ratings near the upper end of the scale may also suggest a possible ceiling effect. Thus, the findings provide evidence of high perceived feasibility and usefulness rather than demonstrated effectiveness of the model.

These findings should be interpreted with caution. The model was evaluated prior to implementation, and 150 of the 153 respondents were teachers from the same educational service area. The ratings may therefore reflect shared contextual experiences and expectations and should not be interpreted as evidence of broad stakeholder acceptance or causal effectiveness. Future research should pilot the ILD-I Model in practice and examine changes in teachers' instructional leadership, instructional practices, learner outcomes, and sustainability over time. Testing the model across other island and geographically isolated settings would also help determine its transferability and the extent to which contextual adaptation is required.

Relationship to the research objectives and conceptual expectations

The findings address all three research objectives. Phase 1 identified learning management practices in island

schools recognized for best practices, including context-responsive and learner-centered practices, the use of local resources and community knowledge, instructional innovation, professional collaboration, and continuous improvement; Phase 2 integrated these findings with the literature review to develop the ILD-I Model, which was subsequently refined through expert validation; and Phase 3 showed that respondents perceived the developed model as highly feasible and useful. Together, the three phases demonstrate a systematic progression from the investigation of best-practice learning management to model development and evaluation.

As this research and development study did not formulate a statistical hypothesis, the findings were interpreted in relation to the conceptual expectation that a model grounded in relevant theory, best-practice evidence, stakeholder perspectives, and expert review would be responsive to the island-school context and perceived positively by its intended users. The convergence of qualitative findings, expert validation, and quantitative ratings supports this expectation. Overall, the findings suggest that developing teachers' instructional leadership in island schools requires an integrated system combining professional learning, context-responsive instruction, organizational support, and community partnership rather than relying on stand-alone professional development activities.

Policy implications beyond Thailand

Although the ILD-I Model was developed within the context of island schools in Thailand, its findings may offer relevant policy considerations for education systems serving island, remote, and geographically isolated communities. These include strengthening teachers' instructional leadership, providing continuous and context-responsive professional learning, developing professional networks, ensuring equitable access to technology and learning resources, and promoting partnerships among schools, families, communities, and educational agencies.

For geographically isolated schools, professional development policies may benefit from sustained, school-based, and network-supported approaches tailored to local needs rather than uniform strategies. However, because the ILD-I Model was developed and evaluated within one educational service area in Thailand and has not yet been tested in other national contexts, these implications should be regarded as context-sensitive policy considerations rather than universally applicable recommendations. Further research is needed to examine the model's relevance and adaptability in other geographically isolated education systems.

Conclusions

This study developed the Island Learning Leadership

Development Model (ILD-I Model) through a three-phase research and development process grounded in literature, best-practice evidence, expert validation, and evaluation by intended users. The model integrates teachers' instructional leadership, multiple professional development methods, context-responsive learning management, a cyclical development process, and supportive conditions.

The ILD-I Model provides a context-responsive framework that positions teachers as active instructional leaders in island schools. Respondents perceived all four major parts as highly feasible and useful; however, these findings represent perceptions rather than demonstrated effectiveness. The model therefore provides a foundation for pilot implementation and further empirical evaluation of its effectiveness, sustainability, and adaptability in island and other geographically isolated educational settings.

Limitations

This study has several limitations. Phase 1 involved three purposively selected best-practice island schools within a single educational service area and may not represent the diversity of geographically isolated schools. Phase 3 assessed perceived feasibility and usefulness before model implementation, rather than actual effectiveness, and 150 of the 153 respondents were teachers from the same educational service area, limiting the diversity of stakeholder perspectives. The concentration of ratings near the upper end of the scale may also indicate a possible ceiling effect. Furthermore, the model's transferability beyond the educational and sociocultural context of Phang Nga cannot yet be assumed. Future research should pilot the model, examine changes in teacher and learner outcomes over time, and assess its adaptability across different contexts.

PRACTICAL RECOMMENDATIONS

For practical implementation, the four-stage development process may serve as a roadmap for coordinating stakeholder roles. During needs assessment, teachers and administrators should identify instructional leadership needs, learner needs, and contextual challenges. During preparation, schools should set development priorities, select appropriate professional learning approaches, assign responsibilities, and identify required resources and support. During implementation, teachers should engage in context-responsive instruction and professional learning through appropriate combinations of on-the-job, self-directed, formal, and collaborative learning, while administrators and educational service area personnel provide necessary support. During evaluation and continuous improvement, stakeholders should review indicators of professional and instructional progress, reflect on implementation, and use the findings to inform

the next development cycle. Communities, parents, and network partners may contribute local knowledge, resources, and expertise throughout the process. This roadmap is intended to guide pilot implementation and should be adapted to each school's needs, resources, and geographical context.

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