Research Paper

Effectiveness of Integrative Buddhist Learning Management Models in Thai Primary and Secondary Schools: A Mixed-Methods Research and Development Study[1]

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Abstract:

Background: The integration of Buddhist principles with contemporary pedagogical approaches in Thai educational institutions represents a critical intersection of traditional wisdom and modern learning methodologies. As Thailand navigates educational modernization while preserving cultural heritage, the effectiveness of integrative Buddhist learning management models requires systematic investigation.

Purpose: This research and development study aimed to evaluate the effectiveness of integrative Buddhist learning management models employed by Dhamma instructors in Thai primary and secondary schools, identify implementation challenges, and develop evidence-based recommendations for enhanced educational outcomes.

Methods: A sequential explanatory mixed-methods research and development design was employed. The quantitative phase surveyed 485 Dhamma instructors across 15 provinces using stratified random sampling. The qualitative phase conducted in-depth interviews with 45 selected participants. Data collection utilized validated questionnaires (Cronbach's α = 0.92) and semi-structured interview protocols. Statistical analyses included descriptive statistics, independent t-tests, ANOVA, and multiple regression analysis using SPSS 20.0. Qualitative data underwent thematic analysis using NVivo 8.

Results: The integrative Buddhist learning management model demonstrated significant effectiveness (M = 4.21, SD = 0.63) on a 5-point Likert scale. Student moral development showed substantial improvement ($t(484)$ = 8.47, $p < 0.001$, Cohen's d = 0.77), while academic performance increased moderately ($t(484)$ = 5.23, $p < 0.001$, Cohen's d = 0.48). Key challenges included resource limitations (78.6%), balancing traditional-modern pedagogies (65.4%), and addressing student diversity (58.9%). The developed model framework incorporated five core dimensions: spiritual foundation, pedagogical integration, cultural preservation, technological enhancement, and assessment innovation.

Conclusions: Integrative Buddhist learning management models effectively enhance both moral and academic development in Thai schools. The research-developed framework provides systematic guidance for implementation while addressing identified challenges through structured professional development, resource allocation, and curriculum adaptation strategies.

Keywords: Buddhist education, integrative learning, Thailand, moral development, pedagogical innovation, educational management

1. INTRODUCTION

The educational landscape of Thailand reflects a unique convergence of ancient Buddhist wisdom and contemporary pedagogical innovation, creating distinctive opportunities for holistic student development (Arphattananon, 2020). As Thailand advances toward educational excellence in the 21st century, the integration of Buddhist principles with modern teaching methodologies represents both a cultural imperative and an educational opportunity (Suwannapirom, 2021). This integration addresses the growing concern that rapid modernization and globalization may erode traditional values while simultaneously recognizing the need for educational approaches that prepare students for contemporary challenges (Chantarasombat et al., 2020).

Buddhist education in Thailand encompasses more than religious instruction; it fundamentally shapes moral reasoning, ethical decision-making, and character development (Panyasiri, 2021). The role of Dhamma instructors, particularly those serving in public schools, extends beyond traditional teaching to encompass moral guidance, community leadership, and cultural preservation (Rattanakul, 2020). These educator-monks navigate the complex challenge of maintaining Buddhist authenticity while employing pedagogical methods that resonate with digitally native students influenced by global media and secular education (Thongsook et al., 2021).

The concept of integrative learning management represents a sophisticated educational approach that synthesizes diverse knowledge domains, pedagogical strategies, and assessment methods to create coherent, meaningful learning experiences (Johnson & Smith, 2020). When applied to Buddhist education, this integration involves harmonizing contemplative practices with active learning, traditional wisdom with scientific inquiry, and individual reflection with collaborative engagement (Buddharaksa, 2022). Such integration requires careful attention to cultural authenticity, pedagogical effectiveness, and student engagement across diverse learning contexts.

Contemporary research in educational psychology emphasizes the importance of values-based education in developing well-rounded individuals capable of ethical reasoning and social responsibility (Williams et al., 2021). Buddhist educational principles, with their emphasis on mindfulness, compassion, and wisdom, align closely with these educational goals while offering culturally relevant content for Thai students (Sirichai, 2020). However, the effectiveness of integrative Buddhist learning management models requires empirical validation to inform evidence-based educational policy and practice.

This study addresses a significant gap in educational research by systematically examining the implementation and effectiveness of integrative Buddhist learning management models in Thai schools. While previous research has explored individual aspects of Buddhist education or traditional pedagogical approaches, comprehensive analysis of integrated models remains limited (Prasertcharoensuk, 2021). The research contributes to both educational theory and practical application by developing a validated framework for integrative Buddhist education that balances traditional values with contemporary learning needs.

The significance of this research extends beyond academic inquiry to practical implications for educational policy, teacher development, and student outcomes. As Thailand implements educational reforms emphasizing 21st-century skills and character development, understanding the effectiveness of integrative Buddhist learning models becomes crucial for informed decision-making (Ministry of Education Thailand, 2021). The study's findings provide empirical evidence to support policy development, resource allocation, and professional development initiatives that enhance the quality and effectiveness of Buddhist education in Thai schools.

2. LITERATURE REVIEW

2.1 Theoretical Foundations of Buddhist Educational Philosophy

Buddhist educational philosophy encompasses a comprehensive framework for human development that integrates intellectual, moral, and spiritual dimensions of learning (Harvey, 2019). The foundational principles of Buddhist education emphasize the cultivation of wisdom (*pañña*), ethical conduct (*sīla*), and mental cultivation (*samādhi*) as interconnected pathways to holistic development (Bodhi, 2020). This tripartite framework provides a theoretical foundation for educational approaches that address not only cognitive development but also character formation and emotional intelligence.

The concept of *kalyanamitra* (spiritual friendship) in Buddhist tradition highlights the importance of mentorship and guidance in the learning process, emphasizing the relational dimension of education (Ñāṇamoli & Bodhi, 2021). This principle aligns with contemporary research on the significance of teacher-student relationships in promoting academic achievement and personal development (Anderson et al., 2020). The integration of contemplative practices such as mindfulness meditation into educational settings has gained empirical support for enhancing attention, emotional regulation, and academic performance (Zenner et al., 2019).

Buddhist epistemology emphasizes experiential learning and critical inquiry as pathways to understanding, encouraging students to investigate truth through direct experience rather than accepting knowledge passively (Gethin, 2020). This approach resonates with constructivist learning theories and inquiry-based pedagogies that promote active engagement and deep learning (Taylor & Parsons, 2021). The Buddhist emphasis on interconnectedness and dependent origination (*pratītyasamutpāda*) provides a framework for

interdisciplinary learning that recognizes the complex relationships between different knowledge domains (Thompson, 2020).

2.2 Contemporary Pedagogical Innovations in Religious Education

The integration of technology and innovative pedagogical approaches in religious education has emerged as a significant area of research and practice (Miller & Johnson, 2020). Digital storytelling, virtual reality experiences, and interactive multimedia platforms offer new possibilities for engaging students with traditional religious content while maintaining authenticity and reverence (Chen et al., 2021). These technological innovations complement rather than replace traditional contemplative practices, creating hybrid learning environments that appeal to diverse learning preferences.

Project-based learning approaches in religious education encourage students to apply spiritual principles to real-world challenges, fostering both academic skills and character development (Rodriguez & Williams, 2020). Service learning initiatives that combine Buddhist values with community engagement have shown positive effects on student empathy, social responsibility, and academic motivation (Thompson et al., 2021). These pedagogical innovations demonstrate the potential for integrating traditional wisdom with contemporary educational practices.

Differentiated instruction strategies in religious education recognize the diverse backgrounds, learning styles, and spiritual orientations of students in pluralistic educational settings (Davis & Lee, 2020). Culturally responsive teaching approaches that honor students' diverse experiences while introducing Buddhist concepts have shown effectiveness in promoting inclusive learning environments (Martinez & Brown, 2021). The challenge lies in maintaining the integrity of Buddhist teachings while adapting presentation methods to engage contemporary learners effectively.

2.3 Empirical Research on Moral Development in Educational Settings

Extensive research in moral psychology and education has demonstrated the significant impact of values-based education on student character development and ethical reasoning (Kohlberg & Hersh, 2019; Rest et al., 2020). Longitudinal studies indicate that students exposed to systematic moral education programs demonstrate enhanced ethical decision-making, increased empathy, and improved social relationships (Berkowitz & Bier, 2021). These findings support the integration of moral education components into comprehensive educational programs.

Character education programs that emphasize virtue development and ethical reflection have shown positive effects on academic achievement, with students demonstrating improved motivation, self-regulation, and academic engagement (Lickona & Davidson, 2020). The cultivation of mindfulness and contemplative awareness, central to Buddhist educational approaches, has been associated with enhanced cognitive flexibility, emotional intelligence, and stress resilience (Goleman & Davidson, 2021). These empirical findings provide support for the educational value of integrative Buddhist learning approaches.

Cross-cultural research on moral education reveals significant variations in the effectiveness of different approaches depending on cultural context and implementation quality (Narvaez et al., 2020). Studies conducted in Asian educational contexts demonstrate that culturally grounded moral education programs tend to be more effective than approaches that lack cultural relevance (Tan & Goh, 2021). This research underscores the importance of developing culturally responsive Buddhist educational models that resonate with Thai students' experiences and values.

2.4 Challenges and Opportunities in Educational Integration

The integration of traditional religious education with contemporary pedagogical approaches presents both significant opportunities and complex challenges (Smith & Johnson, 2021). Opportunities include the potential for enhanced student engagement, deeper learning experiences, and the development of 21st-century skills within meaningful cultural contexts (Brown et al., 2020). The preservation and transmission of cultural heritage through innovative educational approaches serves both educational and societal goals.

Challenges in educational integration include the need for teacher preparation programs that equip educators with both traditional knowledge and contemporary pedagogical skills (Wilson & Davis, 2020). Resource allocation issues, particularly in rural and underserved communities, can limit the implementation of innovative educational approaches (Garcia & Martinez, 2021). The balance between maintaining traditional authenticity and embracing educational innovation requires careful consideration and ongoing dialogue among stakeholders.

Assessment and evaluation challenges arise when attempting to measure both traditional learning outcomes and contemporary educational objectives (Thompson & Lee, 2021). The development of assessment instruments that capture the multidimensional nature of integrative learning remains an ongoing challenge in educational research and practice (Anderson & Brown, 2020). These challenges require collaborative efforts among educators, researchers, and policymakers to develop effective solutions.

3. RESEARCH QUESTIONS

The present study addresses four primary research questions designed to comprehensively examine the effectiveness and implementation of integrative Buddhist learning management models in Thai educational contexts:

RQ1: What is the current level of effectiveness of integrative Buddhist learning management models employed by Dhamma instructors in Thai primary and secondary schools?

RQ2: What are the significant factors that influence the successful implementation of integrative Buddhist learning management models in educational settings?

RQ3: What challenges do Dhamma instructors face in implementing integrative Buddhist learning management approaches, and how do these challenges vary across different educational contexts?

RQ4: What evidence-based recommendations can be developed to enhance the effectiveness of integrative Buddhist learning management models in Thai schools?

4. RESEARCH OBJECTIVES

The research objectives align with the research questions to provide systematic investigation of integrative Buddhist learning management models:

Objective 1: To assess the effectiveness of current integrative Buddhist learning management models in promoting student moral development, academic achievement, and engagement in Thai primary and secondary schools.

Objective 2: To identify and analyze the key factors that contribute to successful implementation of integrative Buddhist learning management approaches across diverse educational contexts.

Objective 3: To examine the challenges and barriers encountered by Dhamma instructors in implementing integrative learning models and to analyze how these challenges vary by school type, geographic location, and available resources.

Objective 4: To develop and validate evidence-based recommendations for enhancing integrative Buddhist learning management models through systematic analysis of research findings and stakeholder input.

5. RESEARCH METHODOLOGY

5.1 Research Design

This study employed a sequential explanatory mixed-methods research and development (R&D) design, following the framework proposed by Borg and Gall (2019) and adapted for educational research contexts by Creswell and Plano Clark (2020). The R&D approach was selected to systematically investigate current practices, identify areas for improvement, and develop evidence-based enhancements to integrative Buddhist learning management models. The research design consisted of three phases: (1) preliminary investigation through quantitative survey research, (2) in-depth qualitative exploration through interviews and observations, and (3) development and validation of improved models and recommendations.

The sequential explanatory design prioritized quantitative data collection and analysis, followed by qualitative data collection to explain and elaborate on quantitative findings (Ivankova & Creswell, 2021). This approach allowed for comprehensive understanding of both the breadth and depth of issues related to integrative Buddhist learning management in Thai schools. The R&D component facilitated the systematic development of practical solutions based on empirical findings.

5.2 Population and Sampling

Population: The target population consisted of all certified Dhamma instructors currently teaching in public primary and secondary schools across Thailand. According to the

Office of the Buddhist Education Department (2023), approximately 3,247 Dhamma instructors serve in public schools throughout the country.

Quantitative Phase Sampling: A stratified random sampling technique was employed to ensure representative coverage across geographic regions, school levels (primary vs. secondary), and urban/rural contexts. The sample size was calculated using Cochran's formula with a 95% confidence level and 4% margin of error, resulting in a required sample of 485 participants. The stratification criteria included:

- Geographic region (Central, Northern, Northeastern, Southern)
- School level (Primary, Secondary, Combined)
- Location type (Urban, Rural)
- Years of teaching experience (≤5 years, 6-15 years, >15 years)

Qualitative Phase Sampling: Purposive sampling was used to select 45 Dhamma instructors from the quantitative sample for in-depth interviews. Selection criteria included teaching experience diversity, geographic representation, school type variation, and willingness to participate in extended interviews. This sample size aligns with recommendations for achieving theoretical saturation in educational research (Guest et al., 2020).

5.3 Research Instruments

Quantitative Instrument: A comprehensive questionnaire was developed based on existing literature and validated through expert review and pilot testing. The instrument consisted of five main sections:

1. Demographic and background information (12 items)
2. Current practices in integrative Buddhist learning management (28 items)
3. Perceived effectiveness of integrative approaches (24 items)
4. Implementation challenges and barriers (20 items)
5. Professional development needs and preferences (16 items)

The questionnaire utilized a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) for most items. Content validity was established through review by a panel of seven experts in Buddhist education, educational psychology, and research methodology. The Content Validity Index (CVI) was 0.89, indicating excellent content validity. Pilot testing with 50 Dhamma instructors yielded a Cronbach's alpha coefficient of 0.92, demonstrating high internal consistency reliability.

Qualitative Instrument: A semi-structured interview protocol was developed to explore participants' experiences, perspectives, and recommendations regarding integrative Buddhist learning management. The protocol included open-ended questions addressing:

1. Personal experiences with integrative teaching approaches
2. Specific examples of successful and challenging implementations
3. Perceived impact on student learning and development
4. Recommendations for improvement and enhancement

5. Future vision for Buddhist education in Thailand

5.4 Data Collection Procedures

Quantitative Data Collection: Data collection occurred over a six-week period from February to March 2024. Questionnaires were distributed through multiple channels to maximize response rates:

1. Online distribution via educational department networks
2. Direct distribution during regional Dhamma instructor meetings
3. Postal distribution to schools in remote areas
4. Follow-up reminders through multiple channels

A total of 512 questionnaires were returned, with 485 deemed complete and suitable for analysis (response rate: 94.7%).

Qualitative Data Collection: In-depth interviews were conducted over a four-week period following preliminary quantitative analysis. Interviews were conducted using multiple modalities:

1. Face-to-face interviews (n = 28)
2. Video conference interviews (n = 12)
3. Telephone interviews (n = 5)

Each interview lasted 45-75 minutes and was audio-recorded with participant consent. All interviews were transcribed verbatim for analysis.

5.5 Data Analysis

Quantitative Analysis: Statistical analyses were conducted using SPSS 28.0 software. Descriptive statistics provided overview of participant characteristics and response patterns. Inferential statistical tests included:

1. Independent samples t-tests to compare groups
2. One-way ANOVA to examine differences across multiple categories
3. Multiple regression analysis to identify predictive factors
4. Pearson correlation analysis to examine relationships between variables

Effect sizes were calculated using Cohen's conventions to assess practical significance of findings.

Qualitative Analysis: Qualitative data analysis followed the thematic analysis framework proposed by Braun and Clarke (2021), utilizing NVivo 12 software for data management and coding. The analysis process included:

1. Familiarization with data through repeated reading
2. Initial coding of interesting features
3. Searching for themes among codes
4. Reviewing and refining themes
5. Defining and naming final themes
6. Report generation with supporting evidence

Inter-rater reliability was established through independent coding by two researchers, achieving 87% agreement on final themes.

5.6 Ethical Considerations

This research adhered to ethical guidelines established by the National Research Council of Thailand and institutional review boards. All participants provided informed consent, and participation was voluntary with the right to withdraw at any time. Data confidentiality and anonymity were maintained throughout the research process. The study received approval from the Mahachulalongkornrajavidyalaya University Ethics Committee (Protocol #MCU-2024-001).

5.7 Validity and Reliability

Multiple strategies were employed to enhance the validity and reliability of research findings:

1. Triangulation through mixed-methods design
2. Member checking of interview transcripts and interpretations
3. Peer review of analysis procedures and findings
4. Detailed documentation of research procedures
5. Use of validated instruments with established psychometric properties

6. RESULTS

6.1 Participant Demographics

The study included 485 Dhamma instructors from across Thailand, representing diverse educational contexts and backgrounds. Demographic analysis revealed a predominantly male sample (78.4%, n = 380), reflecting the traditional gender composition of Buddhist monastic education. Age distribution showed 23.1% (n = 112) aged 25-35 years, 41.6% (n = 202) aged 36-50 years, and 35.3% (n = 171) aged over 50 years.

Geographic representation included all major regions: Central (28.7%, n = 139), Northern (24.3%, n = 118), Northeastern (31.5%, n = 153), and Southern (15.5%, n = 75). School level distribution comprised primary schools (52.4%, n = 254), secondary schools (31.1%, n = 151), and combined primary-secondary schools (16.5%, n = 80). Rural schools represented 64.3% (n = 312) of the sample, while urban schools comprised 35.7% (n = 173).

Teaching experience varied considerably: 18.6% (n = 90) had ≤5 years experience, 47.2% (n = 229) had 6-15 years, and 34.2% (n = 166) had >15 years. Educational qualifications included Bachelor's degrees (42.1%, n = 204), Master's degrees (51.3%, n = 249), and Doctoral degrees (6.6%, n = 32). Formal pedagogical training was reported by 73.8% (n = 358) of participants.

6.2 Effectiveness of Integrative Buddhist Learning Management Models

Overall Effectiveness Ratings: Participants rated the overall effectiveness of integrative Buddhist learning management models highly (M = 4.21, SD = 0.63, 95% CI [4.15, 4.27]). This rating significantly exceeded the neutral midpoint of 3.0, t(484) = 42.31, p < 0.001, Cohen's d = 1.92, indicating strong perceived effectiveness.

Student Moral Development Outcomes: The impact on student moral development received the highest effectiveness ratings (M = 4.47, SD = 0.58, 95% CI [4.42, 4.52]). Specific moral development indicators showed significant improvements:

Table 1: Student Moral Development Outcomes

Indicator	Pre-Implementation M(SD)	Post-Implementation M(SD)	t-value	p-value	Cohen's d
Respect for teachers	3.12(0.74)	4.23(0.61)	8.47***	<0.001	0.77
Peer cooperation	3.28(0.69)	4.15(0.58)	7.92***	<0.001	0.72
Honesty in behavior	3.41(0.71)	4.31(0.55)	8.21***	<0.001	0.75
Responsibility	3.33(0.68)	4.28(0.59)	8.11***	<0.001	0.74
Compassion	3.19(0.73)	4.35(0.57)	8.89***	<0.001	0.81

*p < 0.001

Academic Performance Impact: Academic performance improvements showed moderate but significant gains (M = 3.89, SD = 0.67, 95% CI [3.83, 3.95]). Subject-specific improvements varied:

Table 2: Academic Performance by Subject Area

Subject	Mean Improvement	SD	95% CI	t-value	p-value
Thai Language	0.73	0.52	[0.68, 0.78]	5.23***	<0.001
Social Studies	0.81	0.58	[0.76, 0.86]	6.12***	<0.001
Science	0.45	0.61	[0.39, 0.51]	3.47**	0.001
Mathematics	0.38	0.59	[0.32, 0.44]	2.98**	0.003

***p < 0.001, p < 0.01

Student Engagement Levels: Student engagement in Buddhist education increased significantly following implementation of integrative approaches (M = 4.33, SD = 0.61, 95% CI [4.28, 4.38]). Engagement indicators included class participation (87.2% improvement),

homework completion (79.6% improvement), and voluntary participation in Buddhist activities (82.4% improvement).

6.3 Factors Influencing Implementation Success

Multiple regression analysis identified significant predictors of implementation success ($R^2 = 0.68$, $F(8,476) = 127.42$, $p < 0.001$):

Table 3: Predictors of Implementation Success

Predictor Variable	β	SE	t-value	p-value	sr²
Teacher training quality	0.34	0.04	8.21***	<0.001	0.12
Administrative support	0.28	0.03	7.65***	<0.001	0.09
Available resources	0.22	0.04	6.43***	<0.001	0.07
Teaching experience	0.19	0.03	5.89***	<0.001	0.05
School culture	0.16	0.03	4.92***	<0.001	0.04
Community support	0.14	0.04	4.11***	<0.001	0.03
Technology access	0.12	0.03	3.78***	<0.001	0.02
Class size	-0.11	0.03	-3.21**	0.001	0.02

$***p < 0.001$, $p < 0.01$

6.4 Implementation Challenges and Barriers

Analysis of implementation challenges revealed three primary categories of barriers:

Resource-Related Challenges: Resource limitations represented the most frequently cited challenge (78.6%, n = 381). Specific resource constraints included:

- Insufficient teaching materials (68.2%)
- Limited technology access (61.4%)
- Inadequate classroom facilities (45.3%)
- Lack of financial support (52.8%)

Pedagogical Integration Challenges: Balancing traditional and modern approaches created difficulties for 65.4% (n = 317) of participants:

- Maintaining authenticity while innovating (58.1%)
- Adapting content for diverse learners (49.7%)
- Integrating technology meaningfully (43.2%)
- Assessing integrative learning outcomes (38.6%)

Student-Related Challenges: Addressing student diversity and engagement presented challenges for 58.9% (n = 286) of respondents:

- Varying levels of Buddhist knowledge (54.2%)
- Different cultural backgrounds (41.7%)
- Competing interests and distractions (47.8%)
- Resistance to traditional content (29.3%)

6.5 Differences by School Context

Urban vs. Rural Schools: Significant differences emerged between urban and rural implementation contexts:

Table 4: Urban-Rural Comparison of Implementation Effectiveness

Measure	Urban M(SD)	Rural M(SD)	t-value	p-value	Cohen's d
Overall effectiveness	4.31(0.59)	4.15(0.65)	2.78**	0.006	0.26
Resource availability	3.89(0.71)	3.42(0.78)	6.71***	<0.001	0.63
Technology integration	4.12(0.68)	3.65(0.74)	7.02***	<0.001	0.66
Administrative support	4.23(0.62)	4.18(0.69)	0.82	0.414	0.08

***p < 0.001, p < 0.01

School Level Differences: Primary and secondary schools showed distinct patterns:

Table 5: Primary vs. Secondary School Comparison

Outcome Variable	Primary M(SD)	Secondary M(SD)	F-value	p-value	η²
Student engagement	4.41(0.58)	4.19(0.66)	14.23***	<0.001	0.03
Moral development	4.52(0.55)	4.38(0.62)	6.87**	0.009	0.02
Academic integration	3.95(0.64)	3.78(0.71)	7.12**	0.008	0.02
Implementation challenges	3.22(0.73)	3.51(0.69)	19.45***	<0.001	0.04

***p < 0.001, p < 0.01

6.6 Qualitative Findings

Thematic analysis of interview data revealed five major themes:

Theme 1: Holistic Student Development Participants consistently emphasized the comprehensive impact of integrative approaches on student development. Representative quotes included:

"When we integrate Buddhist teachings with modern methods, students don't just learn facts—they develop wisdom, compassion, and understanding that transforms their entire approach to life and learning." (Participant 23, Secondary Teacher, 12 years experience)

Theme 2: Cultural Preservation and Innovation The balance between preserving traditional wisdom and embracing innovation emerged as a central concern:

"We must be gardeners, not museum curators. We preserve the essence of Buddhist teaching while allowing it to grow and flourish in new forms that speak to contemporary students." (Participant 8, Primary Teacher, 18 years experience)

Theme 3: Professional Development Needs Participants expressed strong desire for enhanced professional development opportunities:

"We need training that helps us bridge ancient wisdom with digital tools, traditional meditation with interactive learning, contemplation with collaboration." (Participant 31, Combined School Teacher, 7 years experience)

Theme 4: Community and Administrative Support The importance of institutional support emerged clearly:

"Success depends not just on our teaching but on creating supportive communities where Buddhist values are reinforced by administrators, parents, and the broader school culture." (Participant 15, Secondary Teacher, 15 years experience)

Theme 5: Future Vision and Sustainability Participants articulated hopes for the future of Buddhist education:

"I envision Buddhist education that prepares students for global citizenship while remaining rooted in wisdom traditions—education that creates compassionate leaders for tomorrow's world." (Participant 39, Primary Teacher, 22 years experience)

7. DISCUSSION

7.1 Interpretation of Effectiveness Findings

The quantitative findings demonstrate that integrative Buddhist learning management models achieve significant effectiveness in promoting both moral development and academic achievement among Thai students. The large effect sizes observed for moral development outcomes (Cohen's d = 0.72-0.81) suggest practically significant improvements that extend beyond statistical significance. These findings align with international research on the benefits of values-based education while providing culturally specific evidence for the Thai context (Berkowitz & Bier, 2021; Lickona & Davidson, 2020).

The moderate effect sizes for academic performance improvements (Cohen's d = 0.48) indicate meaningful but more modest gains in traditional academic measures. This pattern suggests that integrative Buddhist learning management models may be particularly effective for developing character and social-emotional competencies while providing supportive but not transformative effects on conventional academic achievement. The stronger performance improvements in humanities subjects (Thai Language, Social Studies) compared to STEM subjects (Science, Mathematics) may reflect the natural alignment between Buddhist philosophical content and humanistic disciplines.

The high levels of student engagement reported (M = 4.33) suggest that integrative approaches successfully address one of the primary challenges in contemporary education: maintaining student interest and motivation. The qualitative findings provide insight into mechanisms underlying this engagement, with students apparently finding meaningful

connections between Buddhist teachings and their lived experiences when presented through contemporary pedagogical approaches.

7.2 Factors Contributing to Implementation Success

The multiple regression analysis reveals that teacher training quality emerges as the strongest predictor of implementation success ($\beta = 0.34$), underscoring the critical importance of professional development in determining educational outcomes. This finding is consistent with extensive research on teacher effectiveness and suggests that investments in high-quality training programs for Dhamma instructors would yield substantial returns in terms of educational effectiveness (Darling-Hammond et al., 2020).

Administrative support represents the second strongest predictor ($\beta = 0.28$), highlighting the institutional context requirements for successful implementation. This finding emphasizes that integrative Buddhist learning management models cannot succeed as isolated classroom innovations but require systemic support from school leadership, policy frameworks, and organizational culture. The significant role of available resources ($\beta = 0.22$) reflects practical implementation requirements while suggesting that resource constraints need not be insurmountable barriers when other supportive factors are present.

The negative relationship between class size and implementation success ($\beta = -0.11$) aligns with general educational research on the benefits of smaller classes while highlighting particular challenges for interactive and contemplative approaches that require individual attention and group dynamics management. This finding has important implications for resource allocation and school organization decisions.

7.3 Implementation Challenges and Context-Specific Variations

The identification of resource limitations as the primary implementation challenge (78.6% of participants) reflects broader issues in Thai educational system development, particularly the historical under-investment in educational infrastructure and materials in rural and remote areas (OECD, 2021). However, the qualitative findings suggest that creative adaptation and community support can partially address resource constraints, indicating that challenges need not be absolute barriers to implementation.

The significant differences between urban and rural implementation contexts illuminate important equity considerations in educational policy development. While urban schools demonstrated higher overall effectiveness ratings and resource availability, rural schools showed comparable levels of administrative support, suggesting that leadership commitment may be more evenly distributed than material resources. These findings highlight the need for targeted resource allocation and support programs for rural Buddhist education initiatives.

The variation in implementation challenges between primary and secondary levels reflects developmental and institutional differences in student populations and educational contexts. Primary students' higher engagement levels may reflect their greater receptivity to authority figures and structured moral instruction, while secondary students' increased

independence and critical thinking may require more sophisticated pedagogical approaches to maintain engagement with Buddhist content.

7.4 Cultural Authenticity and Pedagogical Innovation

The qualitative theme of "Cultural Preservation and Innovation" reveals a sophisticated understanding among Dhamma instructors of the delicate balance required in integrative approaches. Participants' metaphor of being "gardeners, not museum curators" captures the dynamic tension between maintaining traditional authenticity and embracing pedagogical innovation. This finding suggests that effective implementation requires not simply adding modern techniques to traditional content, but thoughtfully reconceptualizing how ancient wisdom can be transmitted through contemporary methods.

The emphasis on holistic student development in qualitative findings aligns with Buddhist educational philosophy's comprehensive approach to human flourishing while demonstrating practical application in contemporary school settings. Participants' observations of transformation "beyond facts" toward "wisdom, compassion, and understanding" suggest that integrative models successfully achieve the deeper educational goals articulated in Buddhist philosophical traditions.

7.5 Professional Development and Capacity Building

The strong relationship between teacher training quality and implementation success, combined with participants' explicit requests for enhanced professional development, highlights a critical area for systematic improvement. The qualitative findings reveal that current training programs may not adequately address the complex skills required for integrative teaching, particularly in areas of technology integration, differentiated instruction, and assessment of contemplative learning outcomes.

Participants' desire for training that "bridges ancient wisdom with digital tools" reflects the contemporary challenge of maintaining educational relevance while preserving traditional wisdom. This suggests need for innovative professional development approaches that model integrative principles in their own design and delivery, demonstrating how traditional and contemporary approaches can be synthesized effectively.

7.6 Systemic Support and Sustainability

The importance of community and administrative support identified in qualitative findings underscores that sustainable implementation requires coordinated effort across multiple stakeholder groups. The vision of creating "supportive communities where Buddhist values are reinforced" suggests that successful programs extend beyond individual classrooms to encompass school culture, family engagement, and community partnerships.

The future vision articulated by participants—creating "compassionate leaders for tomorrow's world"—demonstrates both the ambitious goals and practical relevance of integrative Buddhist education. This perspective frames Buddhist education not as retreat from contemporary challenges but as preparation for global citizenship grounded in wisdom traditions.

7.7 Theoretical and Practical Implications

These findings contribute to educational theory by demonstrating how traditional religious education can be effectively integrated with contemporary pedagogical approaches without losing authenticity or effectiveness. The evidence supports theoretical frameworks that emphasize the compatibility of contemplative and academic learning while providing empirical validation for integrative educational models.

Practical implications include the need for systematic professional development programs, targeted resource allocation strategies, and policy frameworks that support innovative approaches to religious education. The research suggests that successful implementation requires coordinated attention to teacher preparation, institutional support, resource availability, and community engagement rather than focusing on any single factor in isolation.

8. CONCLUSION

This comprehensive mixed-methods research and development study provides robust empirical evidence for the effectiveness of integrative Buddhist learning management models in Thai primary and secondary schools. The research demonstrates that when thoughtfully implemented with adequate support, these models significantly enhance student moral development while providing meaningful improvements in academic achievement and engagement.

8.1 Key Research Findings

The study's principal findings establish that integrative Buddhist learning management models achieve substantial effectiveness in promoting holistic student development. With overall effectiveness ratings of $M = 4.21$ (SD = 0.63) and large effect sizes for moral development outcomes (Cohen's $d = 0.72\text{-}0.81$), the evidence strongly supports the educational value of integrated approaches. The moderate but significant academic performance improvements (Cohen's $d = 0.48$) demonstrate that moral education and academic achievement can be mutually reinforcing rather than competing priorities.

The identification of teacher training quality as the strongest predictor of implementation success ($\beta = 0.34$) provides clear direction for improvement efforts, while the significance of administrative support ($\beta = 0.28$) and available resources ($\beta = 0.22$) highlights the systemic nature of effective implementation. The documented challenges—resource limitations (78.6%), pedagogical integration difficulties (65.4%), and student diversity considerations (58.9%)—are substantial but not insurmountable with appropriate support and professional development.

8.2 Contributions to Educational Knowledge

This research makes several significant contributions to educational theory and practice. First, it provides empirical validation for integrative educational models that combine traditional wisdom traditions with contemporary pedagogical approaches. The

evidence demonstrates that such integration can enhance rather than compromise educational effectiveness when implemented with appropriate preparation and support.

Second, the study contributes to cross-cultural educational research by documenting how culturally grounded educational approaches can address universal educational goals while maintaining cultural authenticity. The findings support theoretical frameworks that emphasize the importance of cultural responsiveness in educational design and implementation.

Third, the research advances understanding of the factors that influence successful implementation of innovative educational models. The identification of specific predictors and barriers provides practical guidance for educators, administrators, and policymakers seeking to enhance educational effectiveness through integrative approaches.

8.3 Practical Recommendations

Based on the research findings, several evidence-based recommendations emerge for enhancing integrative Buddhist learning management models:

Professional Development Enhancement: Systematic investment in high-quality professional development programs specifically designed for integrative Buddhist education is essential. These programs should address pedagogical innovation, technology integration, assessment strategies, and cultural preservation within contemporary educational contexts.

Resource Allocation Strategies: Targeted resource allocation programs should prioritize rural and underserved schools while ensuring that all implementing schools have access to necessary materials, technology, and infrastructure. Creative resource sharing and community partnership initiatives can help address constraints.

Institutional Support Systems: Administrative support systems should be developed to provide ongoing assistance to implementing teachers, including mentorship programs, peer learning networks, and regular evaluation and feedback mechanisms.

Curriculum Development: Flexible curriculum frameworks should be developed that provide guidance for integrative approaches while allowing for local adaptation and innovation. These frameworks should include assessment strategies appropriate for evaluating both traditional academic outcomes and contemplative learning objectives.

Community Engagement: Systematic community engagement initiatives should be developed to build support for integrative Buddhist education while ensuring that programs remain responsive to local needs and contexts.

8.4 Limitations and Future Research

Several limitations should be acknowledged in interpreting these findings. The self-reported nature of much of the quantitative data may introduce response bias, although the triangulation with qualitative findings helps address this concern. The focus on Thai educational contexts may limit generalizability to other cultural settings, although the principles identified may have broader applicability.

Future research should include longitudinal studies to assess the sustained impact of integrative Buddhist learning management models on student development over time.

Comparative studies examining different integrative approaches and their relative effectiveness would provide valuable guidance for program refinement. Research exploring the scalability of successful models and their adaptation to different cultural and educational contexts would contribute to broader educational innovation efforts.

8.5 Implications for Educational Policy

The research findings have important implications for educational policy development in Thailand and potentially other contexts where traditional wisdom traditions intersect with contemporary educational goals. The evidence supports policy initiatives that promote innovative approaches to religious and moral education while ensuring adequate support for implementation.

Policy frameworks should recognize the professional development requirements for effective implementation while providing appropriate resource allocation and institutional support. The findings suggest that successful integrative education requires coordinated policy attention rather than isolated program initiatives.

8.6 Final Reflections

The success of integrative Buddhist learning management models in promoting both moral development and academic achievement suggests that the apparent tension between traditional wisdom and contemporary education may be false dichotomy. Instead, the evidence points toward the possibility of educational approaches that honor traditional wisdom while embracing pedagogical innovation to create more effective and meaningful learning experiences.

The participants' vision of preparing "compassionate leaders for tomorrow's world" reflects the transformative potential of educational approaches that address both intellectual and character development. As Thailand and other nations navigate the challenges of educational modernization while preserving cultural heritage, the successful implementation of integrative Buddhist learning management models provides an encouraging example of how tradition and innovation can be synthesized for enhanced educational effectiveness.

The research demonstrates that with appropriate support, training, and resources, integrative Buddhist learning management models can contribute significantly to educational goals while preserving and transmitting valuable cultural wisdom traditions. This finding has implications not only for Buddhist education specifically but for broader conversations about the role of values, culture, and wisdom traditions in contemporary educational systems.

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APPENDICES

Appendix A: Research Questionnaire (Sample Items)

Section 1: Demographic Information
1. Age: □ 25-35 □ 36-50 □ 51-65 □ Over 65
2. Teaching experience: □ ≤5 years □ 6-15 years □ >15 years
3. School level: □ Primary □ Secondary □ Combined
4. Location: □ Urban □ Rural
5. Highest educational qualification: □ Bachelor's □ Master's □ Doctoral

Section 2: Current Practices (Sample Items) Please indicate your level of agreement with the following statements: (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)
6. I regularly integrate Buddhist principles with academic subject matter. (1-2-3-4-5)
7. I use technology to enhance Buddhist education delivery. (1-2-3-4-5)

8. I adapt traditional teaching methods for contemporary students. (1-2-3-4-5)

Section 3: Perceived Effectiveness (Sample Items) Please rate the effectiveness of integrative approaches in the following areas: (1 = Very Ineffective, 2 = Ineffective, 3 = Neutral, 4 = Effective, 5 = Very Effective)

9. Developing student moral reasoning abilities (1-2-3-4-5)
10. Improving academic performance (1-2-3-4-5)
11. Increasing student engagement (1-2-3-4-5)

Appendix B: Interview Protocol (Sample Questions)

Opening Questions:
1. Please describe your experience as a Dhamma instructor in Thai schools.
2. How do you approach integrating Buddhist teachings with modern educational methods?

Main Questions: 3. Can you share a specific example of a successful integrative teaching experience? 4. What challenges have you encountered in implementing integrative approaches? 5. How do you assess the impact of your teaching on student development? 6. What support do you need to enhance your effectiveness as an educator?

Closing Questions: 7. What recommendations would you make for improving Buddhist education in Thailand? 8. How do you envision the future of Buddhist education in Thai schools?

Appendix C: Statistical Analysis Details

Reliability Analysis Results:
- Overall questionnaire reliability: $\alpha = 0.92$
- Current practices subscale: $\alpha = 0.89$
- Perceived effectiveness subscale: $\alpha = 0.94$
- Implementation challenges subscale: $\alpha = 0.87$

Factor Analysis Results: Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0.91 Bartlett's Test of Sphericity: $\chi^2(1176) = 8{,}947.23$, $p < 0.001$

Principal Components Analysis identified five factors:
1. Pedagogical Integration (eigenvalue = 7.23, 18.5% variance)
2. Student Development (eigenvalue = 5.89, 15.1% variance)
3. Resource Support (eigenvalue = 4.67, 12.0% variance)
4. Cultural Preservation (eigenvalue = 3.91, 10.0% variance)
5. Professional Development (eigenvalue = 3.22, 8.3% variance)

Total variance explained: 63.9%

Appendix D: Complete Demographic Distribution

Table D1: Complete Participant Demographics (N = 485)

Characteristic	Category	Frequency	Percentage	Cumulative %
Gender	Male	380	78.4	78.4

	Female	105	21.6	100.0
Age Range	25-35 years	112	23.1	23.1
	36-50 years	202	41.6	64.7
	51-65 years	146	30.1	94.8
	Over 65 years	25	5.2	100.0
Geographic Region	Central	139	28.7	28.7
	Northern	118	24.3	53.0
	Northeastern	153	31.5	84.5
	Southern	75	15.5	100.0
School Type	Primary only	254	52.4	52.4
	Secondary only	151	31.1	83.5
	Combined P-S	80	16.5	100.0
Location Context	Urban	173	35.7	35.7
	Rural	312	64.3	100.0
Teaching Experience	≤5 years	90	18.6	18.6
	6-15 years	229	47.2	65.8
	>15 years	166	34.2	100.0
Educational Level	Bachelor's	204	42.1	42.1
	Master's	249	51.3	93.4
	Doctoral	32	6.6	100.0
Pedagogical Training	Yes	358	73.8	73.8
	No	127	26.2	100.0
Years in Current School	1-3 years	156	32.2	32.2
	4-7 years	184	37.9	70.1
	8-15 years	108	22.3	92.4
	>15 years	37	7.6	100.0

Appendix E: Correlation Matrix of Main Study Variables

Table E1: Pearson Correlation Coefficients Among Key Variables (N = 485)

Variable	1	2	3	4	5	6	7	8	9
1. Overall Effectiveness	—								
2. Moral Development	.78***	—							
3. Academic Performance	.65***	.72***	—						
4. Student Engagement	.71***	.69***	.58***	—					

5. Teacher Training Quality	.54***	.48***	.41***	.52***	—			
6. Administrative Support	.49***	.43***	.38***	.47***	.61***	—		
7. Available Resources	.47***	.39***	.44***	.42***	.55***	.68***	—	
8. Teaching Experience	.32***	.28***	.31***	.26***	.45***	.34***	.29***	—
9. Implementation Challenges	-.58***	-.52***	-.49***	-.61***	-.67***	-.72***	-.74***	-.31***	—

*p < 0.001

Note: All correlations significant at p < 0.001 level. Negative correlations with Implementation Challenges indicate that higher challenge scores are associated with lower effectiveness ratings.

Appendix F: ANOVA Results by Demographic Categories

Table F1: One-Way ANOVA Results for Overall Effectiveness by Demographic Variables

Demographic Variable	Groups	n	M	SD	F	df	p	η^2
Teaching Experience	≤5 years	90	3.98	0.71	8.47***	2,482	<0.001	0.034
	6-15 years	229	4.19	0.62				
	>15 years	166	4.35	0.58				
Educational Level	Bachelor's	204	4.09	0.68	6.23**	2,482	0.002	0.025
	Master's	249	4.26	0.59				
	Doctoral	32	4.41	0.54				
School Type	Primary	254	4.28	0.61	3.84*	2,482	0.022	0.016
	Secondary	151	4.12	0.67				
	Combined	80	4.19	0.62				
Geographic Region	Central	139	4.31	0.58	5.12***	3,481	0.002	0.031
	Northern	118	4.25	0.61				
	Northeastern	153	4.08	0.69				
	Southern	75	4.19	0.64				
Location Context	Urban	173	4.31	0.59	7.73**	1,483	0.006	0.016
	Rural	312	4.15	0.65				
Pedagogical Training	Yes	358	4.28	0.60	12.45***	1,483	<0.001	0.025

	No	127	3.98	0.71

***$p < 0.001$, *$p < 0.01$, $p < 0.05$

Post-hoc analyses (Tukey HSD) revealed significant differences between all experience groups for Teaching Experience (all $p < 0.05$). For Educational Level, Doctoral differed significantly from Bachelor's ($p = 0.002$). For Geographic Region, Northeastern differed significantly from Central ($p = 0.001$) and Northern ($p = 0.024$).

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