

Original Article

Reframing SDG 4 Implementation Gaps in Thailand: An Institutional Risk-Cognition Framework for Sustainable Education Reform

David D. Perrodin^{1*} , Orawan Perrodin² , Ladapa Nakkubua² , Panaporn Kasetvetin² ,
Ananya Keaokrajang² 

¹Institute for Population and Social Research, Mahidol University, Thailand

²Office of Teacher and Educational Personnel Development, Ministry of Education, Thailand

*Correspondence:
daviddperrodin@gmail.com

Abstract

Background: Thailand's secondary education system continues to exhibit a persistent gap between reform aspirations and the quality and equity commitments of Sustainable Development Goal 4 (SDG 4: Quality Education). Although previous research has emphasized structural and implementation constraints, less attention has been given to how sustainability-oriented reform challenges are institutionally framed, interpreted, and translated into action.

Methods: This conceptual study developed the Sustainable Education Cognition and Response Model (SECRM), a three-stage analytical framework comprising perception, processing, and decision/action. The framework drew on risk cognition and decision-making theory and was developed through a purposive synthesis of scholarly literature and Thai and international education policy documents. It was presented as a diagnostic framework and was not empirically tested.

Results: The conceptual synthesis identified recurring institutional patterns in problem framing, reform interpretation, and implementation coupling. These informed a framework that specifies observable indicators across the three SECRM stages and generates propositions for future empirical investigation.

Conclusion: The SECRM provides a theoretically grounded framework for examining how sustainability-oriented reform challenges are represented, interpreted, and operationalized within policy systems. The framework offers observable institutional indicators and analytically testable propositions to support future research on SDG 4 implementation and sustainable education reform in Thailand.

Keywords

education for sustainable development, educational policy implementation, implementation gap, risk cognition, UN Sustainable Development Goal 4, sustainability-oriented reform

INTRODUCTION

Thailand's secondary education system continues to exhibit a persistent tension between reform ambitions and the quality education commitments articulated in Sustainable Development Goal 4 (SDG 4) (Baker, 2015; Kim & Sankey, 2022). National policy frameworks, including the 20-Year National Strategy

(2018–2037) ([National Strategy Secretariat, 2018](#)) and the Basic Education Core Curriculum (2008) ([Ministry of Education Thailand, 2008](#)), emphasize inclusivity, lifelong learning, and global competitiveness. Despite these commitments, reform outcomes remain uneven.

This unevenness is reflected in a range of national and international indicators. Although Thailand has expanded access to basic education, concerns regarding educational quality and equity, learning outcomes, and regional disparities remain persistent. International assessments have repeatedly highlighted challenges in student achievement, while policy reviews have identified continuing implementation gaps between reform objectives and classroom practice ([Global Education Monitoring Report Team, 2023](#); [Organisation for Economic Co-operation and Development \[OECD\] & United Nations Educational, Scientific and Cultural Organization \[UNESCO\], 2016](#)). These patterns suggest that educational reform challenges extend beyond policy formulation alone and raise questions regarding how reform priorities are interpreted, operationalized, and sustained within institutional settings.

Recent analyses of Thailand's education reforms have documented persistent gaps between policy commitments and implementation outcomes, but have focused primarily on structural and governance explanations rather than on institutional interpretation processes ([Darasawang & Watson Todd, 2012](#); [Perrodin et al., 2025](#)). This research has generated important insights on governance weaknesses, resource constraints, policy incoherence, bureaucratic fragmentation, and accountability pressures. However, these explanations primarily identified structural barriers and provided less insight into how educational challenges are perceived, interpreted, normalized, and translated into institutional action. This concern aligned with implementation research emphasizing the role of cognition and interpretation in policy enactment ([Spillane et al., 2002](#)). However, existing implementation scholarship has given comparatively little attention to the urgency of sustainability-oriented reform challenges, routine concerns within the policy systems, and how they shape subsequent institutional responses.

To address this limitation, this study introduces the Sustainable Education Cognition and Response Model (SECRM), a three-stage framework comprising perception, processing, and decision/action. Rather than replacing conventional implementation-gap explanations, the SECRM extends them by providing a diagnostic framework for examining how sustainability-oriented reform challenges are represented, interpreted, and operationalized within policy and governance systems.

Existing educational reform frameworks provide important insights on policy implementation and organizational change. Sensemaking theory emphasizes policy meaning-making ([Weick, 1995](#)); policy enactment theory focuses on institutional interpretation ([Ball et al., 2012](#)); street-level bureaucracy examines frontline discretion ([Lipsky, 2010](#)); and educational change theory addresses organizational transformation ([Fullan, 2015](#)). Rather than replacing these perspectives, the SECRM complements them by applying a risk cognition-informed perspective to examine how sustainability-oriented reform challenges acquire institutional urgency and shape institutional responses.

Structural, political, and resource constraints remain central determinants of educational reform outcomes. The SECRM instead examines how these conditions are perceived, interpreted, prioritized, and operationalized within institutional decision-making. Table 1 summarizes the analytical stages and observable indicators of the framework.

The SECRM is informed by complementary insights from the Looming Vulnerability Model ([Riskind & Rector, 2018](#)), dual-process decision-making theory ([Kahneman, 2011](#); [Zucchelli et al., 2025](#)), and risk cognition research ([Hochman, 2024](#); [Lu, 2025](#); [Slovic, 1987](#)). These perspectives are adapted into institutional-analytic concepts rather than psychological explanations, providing a framework for examining how reform challenges are considered urgent, interpreted within policy systems, and translated into institutional responses. Sustainability functions as a cross-cutting evaluative lens across all three stages.

Table 1. *Defining the Analytical Stages of the Sustainable Education Cognition and Response Model (SECRM)*

SECRM Stage	Core Question	Observable Indicators	Illustrative Examples from Reviewed Policy Frameworks
Perception	How is the reform challenge represented as a policy problem?	Urgency markers, stated priorities, problem definitions, omissions, references to equity and sustainability risks	The 20-Year National Strategy (2018–2037) emphasizes educational competitiveness and human capital development but provides limited crisis-oriented language regarding persistent educational inequities.
Processing	How are reform challenges interpreted and translated into feasible response options?	Evidence-selection practices, feasibility framings, responsibility allocation, implementation assumptions, references to capacity building or training	The Basic Education Core Curriculum (Ministry of Education Thailand, 2008) promotes learner-centered education but leaves substantial discretion to schools regarding implementation, resulting in varied local interpretations.
Decision/ Action	How are reform responses authorized, resourced, and institutionalized?	Budget commitments, binding mandates, implementation guidance, monitoring mechanisms, accountability structures, and assessment alignment	UNESCO (2020) Education for Sustainable Development explicitly links sustainability goals to policy integration, educator capacity building, monitoring systems, and multi-stakeholder implementation mechanisms, illustrating how sustainability priorities may be translated into institutional commitments and accountability structures.

This perspective, which is consistent with scholarship, emphasizes the collective and socially mediated nature of policy interpretation within educational settings. Educational actors do not respond to policy directives in isolation but construct shared understandings through professional interaction and organizational contexts ([Coburn, 2001](#)). Recent evidence from Thailand similarly illustrates how institutional actors mediate reform through interpretive processes. [Boonsuk \(2026\)](#) demonstrated that school administrators act as ideological gatekeepers whose beliefs influence how policy principles are translated into educational practice. The SECRM extends this insight by examining how such interpretive processes become institutionalized within broader patterns of policy representation, interpretation, prioritization, and response.

Development education has evolved from traditional development paradigms toward participatory, learner-centered, and sustainability-oriented approaches that emphasize equity and long-term capability development ([Baker, 2015](#); [Bourn, 2015](#); [Dunlop et al., 2022](#)). Education for Sustainable Development (ESD), as articulated in [UNESCO's \(2020\)](#) Education for Sustainable Development: A Roadmap, extends this orientation by promoting the integration of sustainability principles across educational systems while acknowledging ongoing implementation challenges ([Parry & Metzger, 2023](#)). Within the SECRM, these perspectives provide the conceptual foundation for examining how sustainability priorities are interpreted and implemented within educational institutions.

Despite policy-level endorsement, ESD implementation in Thailand remains uneven. Limited teacher preparation, weak curriculum alignment, fragmented implementation structures, and constrained inter-agency coordination continue to restrict systematic integration. These challenges illustrate how sustainability commitments may be formally endorsed yet remain weakly coupled with implementation mechanisms.

This persistent disconnect motivates the present study and leads to the following research questions: a. How can a risk cognition-informed framework illuminate the disconnect between education policy and practice in Thailand? b. What diagnostic leverage points does it identify to examine institutional interpretive barriers in sustainability-oriented reform?

To address this question, this study makes three contributions. First, it extends risk cognition scholarship into education policy analysis by positioning the SECRM alongside established implementation and change

theories and by identifying institutional processes that remain comparatively underexamined within existing frameworks. Second, it introduces the SECRM as a diagnostic framework for examining how sustainability-oriented challenges are represented, interpreted, and operationalized within policy systems. Third, it proposes analytically testable propositions and observable indicators that may support future empirical research on SDG 4 implementation and sustainability-oriented education reform.

METHODS

Research Design

This study employed a conceptual research design to develop and to illustrate the Sustainable Education Cognition and Response Model (SECRM) within the context of Thailand's secondary education reform. Conceptual research seeks to advance theoretical understanding through the synthesis, integration, and reinterpretation of existing scholarship rather than generating new empirical data (Jaakkola, 2020). The objective was not to evaluate policy effectiveness directly but to construct a theoretically informed framework to examine how sustainability-oriented reform challenges are represented, interpreted, and translated into institutional responses.

As introduced in the conceptual framework, the SECRM comprises three analytically distinct but potentially recursive stages: perception, processing, and decision/action. These stages function as interpretive categories for examining institutional representations of reform challenges rather than as causal or sequential steps. Figure 1 presents the framework as an iterative diagnostic model in which reform challenges may be reinterpreted and reassessed through ongoing institutional feedback processes.

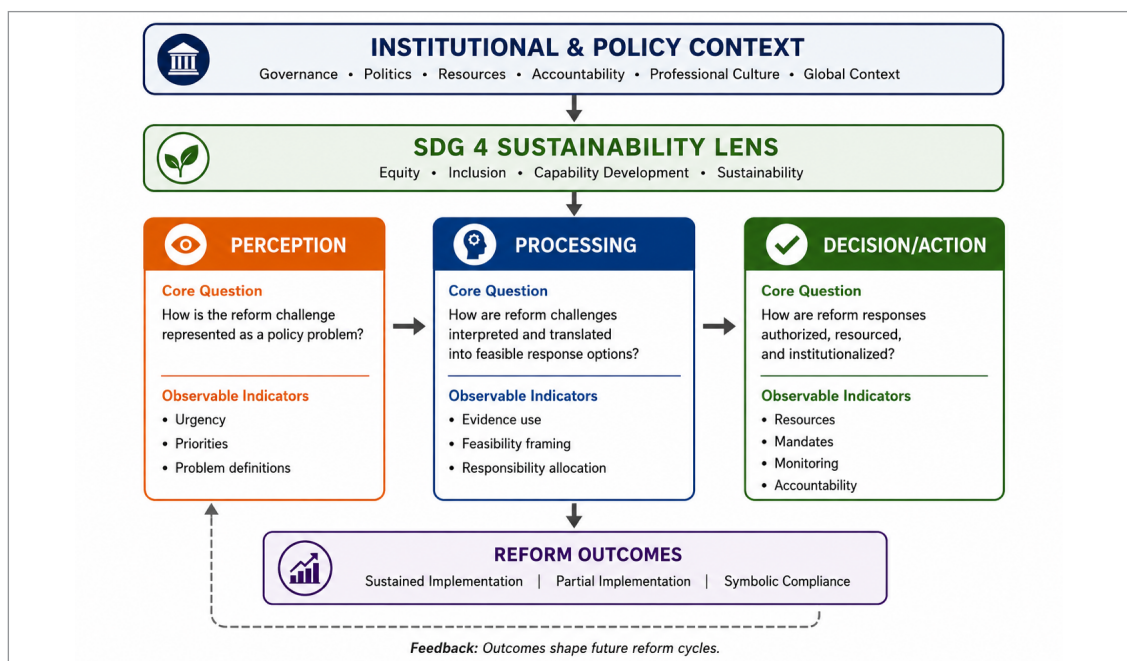


Figure 1. The Sustainable Education Cognition and Response Model (SECRM)

Note: The SECRM conceptualizes sustainability-oriented reform as an iterative process involving perception, processing, and decision/action. Institutional and policy conditions shape all stages, while SDG 4 commitments provide a cross-cutting evaluative lens. Reform outcomes may reinforce or reshape subsequent institutional perceptions and responses through feedback processes.

Source Selection

Sources were purposively selected for conceptual relevance rather than statistical representativeness (Patton, 2015). The selection process focused on scholarly literature and policy documents that could inform the theoretical development of the Sustainable Education Cognition and Response Model (SECRM) and support its application to sustainability-oriented educational reform. Relevant sources were identified through iterative searches of scholarly literature and policy repositories, supplemented by reference chaining from foundational works aligned with the study's conceptual focus.

Sources were retained when they addressed cognitive framing, decision-making, risk perception, institutional interpretation, development education, education for sustainable development (ESD), sustainability-oriented reform, educational change, policy implementation, organizational response, or concepts directly relevant to one or more stages of the SECRM. Sources that did not contribute substantively to the framework's theoretical development or analytical application were excluded. The final policy corpus consisted of Thailand's 20-Year National Strategy (2018–2037), the Basic Education Core Curriculum (Ministry of Education Thailand, 2008), and UNESCO's (2020) Education for Sustainable Development.

Theme Development

Conceptual synthesis proceeded through iterative reading, comparison, and analytical abstraction of the selected literature and policy sources. Following Jaakkola (2020), recurring concepts, explanatory claims, institutional mechanisms, and theoretical propositions were identified and recorded during repeated review cycles.

The analytical process involved three stages. First, concepts related to reform interpretation, sustainability, institutional response, and educational change were identified across sources. Second, conceptually similar ideas were grouped through thematic clustering. Third, clusters were refined and consolidated based on explanatory coherence and relevance to the developing framework.

This process resulted in six analytical themes that captured recurring patterns across the literature. Rather than being mutually exclusive categories, these themes functioned as theoretical building blocks that informed the development of the SECRM's perception, processing, and decision/action stages. The primary analytical emphasis of each theme guided theme-to-stage alignment. Themes concerned with problem representation and issue visibility were aligned with the perception stage. Themes focused on interpretation, feasibility, and response formulation were aligned to the processing stage. Themes emphasizing implementation, institutionalization, monitoring, accountability, or operational commitment were aligned to the decision/action stage. Some themes informed multiple stages with conceptual overlap that was theoretically justified.

The resulting stage assignments were reviewed iteratively against the emerging framework to ensure conceptual consistency between the identified themes and the analytical purpose of each SECRM stage.

Policy Analysis and Cross-Mapping Procedures

To illustrate the analytical utility of the SECRM, three educational policy frameworks were examined: Thailand's 20-Year National Strategy (2018–2037), the Basic Education Core Curriculum (Ministry of Education Thailand, 2008), and UNESCO's (2020) Education for Sustainable Development. These documents were selected because they represent complementary levels of educational governance, including national strategic direction, curricular implementation guidance, and international sustainability-oriented education principles.

Policy analysis was guided by the three stages of the SECRM. Documents were reviewed for indicators associated with problem representation (perception), interpretive guidance and feasibility assumptions (processing), and implementation-coupling mechanisms (decision/action). Policy elements were classified as

explicit, implicit, or absent according to the analytical criteria summarized in Table 2.

These classifications were not intended to generate quantitative scores or to rank the quality of the selected policy frameworks. Rather, they served as interpretive tools for examining the extent to which sustainability-oriented commitments were connected to institutional implementation mechanisms. Particular attention was given to the distinction between symbolic endorsement and operational commitment, including the presence or absence of dedicated resources, implementation guidance, monitoring systems, accountability structures, and assessment alignment. Accordingly, the policy cross-mapping exercise was used as an illustrative application of the SECRM rather than as a comprehensive evaluation of Thailand's educational policy ecosystem.

Table 2. Analytical Classification Criteria Used in the Policy Cross-Mapping

Classification	Operational meaning	Indicators
Explicit	Clearly articulated and operationally supported	Clear implementation mechanisms, assigned responsibilities, operational guidance, monitoring systems, accountability structures, or resource commitments
Implicit	Present but insufficiently specified	General policy commitment, conceptual reference, or stated priority without clear implementation detail, responsibility, monitoring, accountability, or resource support
Absent	Not meaningfully represented	No substantive reference to the policy element, SECRM-related indicator, or sustainability-oriented implementation mechanism

RESULTS

The outputs of this conceptual synthesis consisted of four interrelated components: six analytical themes derived through iterative synthesis; alignment of those themes to the perception, processing, and decision/action stages of the SECRM; a policy cross-mapping of three educational frameworks; and analytically testable propositions.

Theme Development and SECRM Stage Alignment

Table 3 presents the six analytical themes generated through the conceptual synthesis. These themes emerged through iterative comparison of recurring concepts, explanatory mechanisms, and institutional patterns identified across the reviewed literature and policy documents.

Table 3. Key Themes in Sustainable Education Reform Mapped to SECRM Stages

Themes	Definition / Scope	Illustrative Insight / Example	Relevant SECRM Stage(s)
Historical Development Paradigms	Evolution of global development theory from economic-growth paradigms toward multidimensional approaches integrating social and environmental concerns.	Modernization theory (Gilman, 2018) and dependency theory (Mahoney & Rodríguez-Franco, 2018) shaped early education policy framings. Subsequent critiques foregrounded inequality, local context, and sustainability (Hickel et al., 2022).	Perception
Development Education Paradigm	Shift from expert-driven transmission models toward participatory and experiential learning, emphasizing local agency.	Learner-centered approaches emphasize contextual relevance and co-created knowledge (Bourn, 2015; Dunlop et al., 2022; McCloskey, 2014; O'Flaherty & Liddy, 2017).	Processing
Education for Sustainable Development (ESD)	Integration of economic, social, and environmental objectives within education to support sustainability-oriented capabilities.	ESD links curricula to equity and environmental stewardship (Baker, 2015; Pauw et al., 2015), while implementation challenges include limited teacher preparation and curriculum support (Parry & Metzger, 2023).	Processing & Decision/Action
Institutional Framing of Reform Challenges	The ways educational challenges are represented, prioritized, and made visible within policy discourse and reform agendas.	Policy narratives may influence whether sustainability-oriented concerns are framed as urgent priorities or routine administrative matters (Bialostok, 2015; Slovic, 1987).	Perception

Table 3. continued

Themes	Definition / Scope	Illustrative Insight / Example	Relevant SECRM Stage(s)
Institutional Interpretation and Response	Processes through which reform goals are translated into feasible actions through evidence use, responsibility allocation, and implementation planning.	Institutional routines may shape how sustainability commitments are interpreted and operationalized within educational systems (Hochman, 2024; Patton, 2015).	Processing & Decision/ Action
Systemic Challenges and Barriers	Institutional, cultural, and policy-level conditions that constrain reform implementation.	Barriers include policy–practice disconnects, cultural resistance, limited resourcing, and accountability pressures (Paton & Johnston, 2001; Tronsmo, 2020), which shape perceived urgency and the feasible response space (Bialostok, 2015).	All Stages (especially Decision/Action)

Collectively, the six themes illustrated the evolution of educational reform from traditional development paradigms to sustainability-oriented approaches while highlighting the institutional processes through which reform challenges are framed, interpreted, and operationalized (Baker, 2015; Bialostok, 2015; Bourn, 2015; Patton, 2015). Historical development paradigms and institutional framing were aligned most closely with the perception stage, whereas development education, education for sustainable development, and institutional interpretation primarily informed the processing and decision/action stages. Systemic challenges and barriers cut across all three stages, reflecting the continuing influence of governance, accountability, resource constraints, and institutional routines on reform implementation (Paton & Johnston, 2001; Tronsmo, 2020).

Table 4 summarizes the analytical alignment of the reviewed frameworks, the six themes, and the corresponding SECRM stages.

Table 4. Cross-Mapping of Education Policy Frameworks With SECRM Themes and Stages

Framework	Historical Development Trajectory	Development Education Paradigm	Education for Sustainable Development (ESD)	Institutional Framing of Reform Challenges	Institutional Interpretation and Response	Systemic Challenges and Barriers	Relevant SECRM Stage
Thailand's 20-Year National Strategy (2018–2037)	Frames human-centered development primarily through competitiveness and economic growth.	Top-down reform priorities; limited operational guidance for participatory implementation.	Broad sustainability commitments with emphasis on economic development.	Prioritizes educational quality and competitiveness; limited emphasis on persistent inequities.	Strategic objectives with broad institutional discretion.	Recognizes bureaucratic and capacity barriers without clear implementation mechanisms.	Perception and Processing
Basic Education Core Curriculum (Ministry of Education Thailand, 2008)	Moves beyond rote learning toward global awareness within conventional curriculum structures.	Learner-centered principles with limited operational guidance.	Limited ESD integration across curriculum, assessment, and teacher preparation.	Holistic development emphasized; limited urgency for sustainability challenges.	Extensive school- and teacher-level interpretive discretion.	Acknowledges resource and teacher preparation constraints.	Processing (limited Decision/ Action)
UNESCO (2020) Education for Sustainable Development	Positions education as a driver of sustainable societal transformation.	Promotes participatory, learner-centered, action-oriented learning.	Integrates ESD through curriculum, teacher development, and whole-institution approaches.	Frames sustainability challenges as urgent and interconnected.	Promotes evidence-informed planning, collaboration, and institutional learning.	Identifies capacity, implementation, monitoring, and teacher preparation barriers.	Decision/ Action (integrating Perception and Processing)

Policy Cross-Mapping

At the perception stage, the 20-Year National Strategy (2018–2037) frames education primarily in terms of competitiveness, human capital development, innovation, and national prosperity. Although educational quality and inclusion are acknowledged, comparatively little language presents persistent inequities as urgent educational risks requiring immediate intervention.

At the processing stage, the Basic Education Core Curriculum (Ministry of Education Thailand, 2008) promotes learner-centered education, critical thinking, and holistic development while leaving considerable discretion to schools and to teachers. Implementation guidance remains broadly defined, resulting in substantial variation in local interpretation and enactment.

At the decision/action stage, UNESCO (2020) Education for Sustainable Development demonstrates the strongest implementation coupling across all three SECRM stages, with its primary emphasis on decision/action. The framework links sustainability commitments to implementation-oriented mechanisms, including curriculum integration, educator capacity building, assessment reform, monitoring systems, whole-institution approaches, youth engagement, and cross-sector collaboration. Compared with the Thai policy frameworks, it provides the clearest illustration of how sustainability priorities may be translated into operational implementation mechanisms.

Propositions for Empirical Examination

The thematic synthesis and policy cross-mapping generated three analytically testable propositions corresponding to the perception, processing, and decision/action stages of the SECRM. These propositions represent theoretically informed expectations intended to guide future empirical investigation.

Proposition 1: Where educational challenges are framed as routine administrative concerns rather than time-sensitive policy risks, sustainability-oriented reform challenges are less likely to be framed as urgent policy priorities, particularly in contexts where policy attention is concentrated on competitiveness, economic performance, or short-term educational outcomes.

Proposition 2: Where reform challenges are interpreted through established institutional routines and feasibility assumptions, reform responses are more likely to favor incremental rather than transformative change, particularly when implementation authority is decentralized and operational guidance remains limited.

Proposition 3: Where sustainability-oriented commitments are weakly coupled to implementation mechanisms, symbolic compliance is more likely, particularly when dedicated resources, monitoring systems, accountability structures, and implementation guidance are absent or inconsistently applied.

Together, these propositions illustrate how thematic synthesis and policy cross-mapping informed the conceptual architecture of the SECRM and provided a basis for future empirical examination of sustainability-oriented education reform.

DISCUSSION

Together, Tables 3 and 4 illustrate how sustainability-oriented reform commitments may be represented, interpreted, and operationalized through recurring institutional traces. The argument does not mean that cognition displaces governance, resourcing, accountability systems, or political constraints. Rather, institutional perceptions, processing routines, and decision processes are shaped by these conditions and may be diagnosed through observable policy signals, implementation guidance, resource commitments, and accountability structures.

At the perception stage, the analysis suggests a persistent gap between rhetorical acknowledgment of educational challenges and the urgency required for transformative change. This interpretation is consistent with broader evidence concerning Thailand's educational performance. OECD reviews and international

assessment data have repeatedly identified persistent challenges related to educational quality, equity, and learning outcomes despite successive waves of policy reform (OECD & UNESCO, 2016). Similarly, UNESCO monitoring reports continue to emphasize the importance of strengthening implementation capacity, reducing disparities, and improving the alignment between educational commitments and measurable outcomes (Global Education Monitoring Report Team, 2023).

Across the reviewed policy and scholarly discourse, this pattern aligns with processes of normalization described in risk cognition research, suggesting that repeated exposure to unresolved problems may reduce perceived urgency and motivation to respond (Paton & Johnston, 2001; Perlstein, 2024). Sustainability-related inequities may, in some contexts, become normalized as chronic conditions rather than being framed as time-sensitive risks requiring sustained intervention.

At the processing stage, interpretive dynamics further constrain reform. Although policy documents increasingly adopt the language of development education and ESD, implementation remains uneven. The operationalization of sustainability-oriented commitments also depends upon professional knowledge, collaborative cultures, and institutional learning processes. Research on professional capital suggests that meaningful reform requires not only policy direction but also sustained investments in human, social, and decisional capital within educational systems (Hargreaves & Fullan, 2012).

Institutional routines and organizational heuristics may contribute to reframing systemic challenges as technical or administrative problems, favoring incremental adjustment over structural transformation. The exercise of professional agency is also shaped by contextual, cultural, and structural conditions, suggesting that reform responses emerge through interactions between institutional actors and their environments rather than through policy directives alone (Priestley et al., 2015). Policy cross-mapping suggests that while international frameworks emphasize participatory and sustainability-oriented reform, national curricular structures often delegate substantial interpretive responsibility to local actors, creating variability in implementation and limiting system coherence.

Similar dynamics have been observed in recent research on educational leadership in Thailand. Boonsuk (2026) found that school administrators function as ideological gatekeepers whose interpretations of policy and reform principles influence how alternative educational approaches move from policy discourse into practice. Although examined in the context of Global Englishes, the findings support the broader proposition that institutional actors mediate reform through interpretive processes that shape the feasibility, legitimacy, and implementation of policy commitments.

At the decision/action stage, institutional and political conditions further dilute the momentum for reform. Short-term policy cycles, bureaucratic rigidity, and examination-centered accountability frequently prioritize stability and risk avoidance. Similar implementation tensions have been observed in analyses of Thailand's SDG 4 reform trajectory, where governance challenges, policy fragmentation, accountability pressures, and uneven implementation have contributed to persistent gaps between policy aspirations and educational practice (Perrodin et al., 2025).

The SECRM complements these explanations by examining how such structural conditions are represented, interpreted, and translated into institutional responses. This pattern is also consistent with the policy cross-mapping results, which indicated that comparable implementation guidance, monitoring mechanisms, or accountability structures did not always accompany sustainability commitments within the reviewed Thai frameworks. As a result, sustainability-oriented commitments may become weakly coupled to implementation mechanisms, producing symbolic endorsement without sustained operational follow-through.

A potential counterargument is that Thailand's reform implementation gap can already be explained through governance challenges, resource constraints, assessment pressures, or political conditions. The SECRM does not reject these explanations. Instead, it complements them by examining how such structural

conditions are represented, interpreted, normalized, and operationalized within institutional practice. Governance arrangements, accountability systems, and resource limitations do not operate independently of institutional interpretation. The contribution of the SECRM is therefore not to replace existing implementation-gap explanations but to provide a diagnostic framework for examining how structural conditions become embedded within institutional decision processes and reform responses. Accordingly, the framework is intended to complement rather than compete against established perspectives on implementation, governance, and educational change.

Several limitations warrant acknowledgment. The framework was developed through purposive conceptual synthesis rather than systematic review procedures; therefore, the findings should be interpreted as theory-building rather than exhaustive representations of all relevant scholarship. Future research may apply the model through interviews, surveys, document analysis, or observational methods to examine how the perception, processing, and decision/action stages manifest in practice. Comparative studies across educational systems may further refine the model and assess the extent to which institutional cognitive processes contribute to sustainability-oriented reform outcomes. Future empirical research may also examine how governance arrangements, accountability systems, institutional capacity, resource availability, and other contextual conditions shape or constrain the operation of the perception, processing, and decision/action stages within different educational settings.

CONCLUSION

Thailand's pursuit of quality and equitable education under Sustainable Development Goal 4 (SDG 4) continues to be characterized by a persistent gap between policy aspirations and institutional practice. This study introduced the Sustainable Education Cognition and Response Model (SECRM) as a conceptual framework to examine how sustainability-oriented reform challenges are represented, interpreted, and translated into institutional action. The framework examines reform through three interconnected stages—perception, processing, and decision/action—and highlights how institutional framing, interpretive routines, and implementation structures may contribute to persistent implementation gaps. The model remains conceptual and should therefore be viewed as a diagnostic framework rather than an empirically validated explanation. Future research should examine the framework through policy analysis, interviews, surveys, school-level case studies, and comparative investigations across educational contexts. Such work may help refine the SECRM and assess its utility in understanding how sustainability-oriented reform commitments become embedded in institutional decision-making processes and in implementation practices.

Author Contributions

D. D. Perrodin: Conceptualization, Methodology, Writing—Original draft preparation; **O. Perrodin:** Data curation, Formal analysis, Writing—Reviewing and Editing; **L. Nakkubua:** Formal analysis, Visualization, Writing—Reviewing and Editing; **P. Kasetvetin:** Investigation, Formal analysis, Validation; **A. Keaokrajang:** Validation, Writing—Reviewing and Editing. All authors read and approved the final manuscript.

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Ethical Approval

Not applicable. This study is a conceptual analysis and did not involve human participants, personal data, or human subjects research.

Competing Interests

The authors declare no conflicts of interest.

Data Availability

Data will be made available by the corresponding author on request.

Declaration of Artificial Intelligence Use

In this work, the authors used ChatGPT (OpenAI) to support language refinement and organizational clarity. After using this tool, the authors evaluated and revised the content as necessary and took full responsibility for the published content.

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