

THE INFLUENCE OF KNOWLEDGE AND UNDERSTANDING ON THE IMPLEMENTATION
OF SUSTAINABLE DEVELOPMENT GOALS (SDGS)
AMONG EDUCATIONAL PERSONNEL IN PRIVATE HIGHER EDUCATION INSTITUTIONS

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Abstract

This study aimed to: (1) examine the level of knowledge regarding the Sustainable Development Goals (SDGs); (2) investigate the level of understanding and implementation of SDGs; and (3) analyze the influence of knowledge and understanding on SDGs implementation among educational personnel in private higher education institutions. This research employed a quantitative approach. Data were collected using a structured questionnaire from a sample of 600 respondents. Statistical techniques used for data analysis included percentage, mean, standard deviation, independent samples t-test, and multiple regression analysis. The findings revealed that: (1) The overall level of knowledge regarding SDGs was high, with the highest level observed in the Planet dimension, while the Partnership dimension showed the lowest level. (2) The respondents demonstrated the highest level of understanding of SDGs and reported regular implementation, particularly in responsible organizational management. (3) Both knowledge and understanding significantly influenced SDGs implementation at the .001 level, jointly explaining 28.10% of the variance. Additionally, no significant differences were found in knowledge, understanding, and implementation when classified by nationality and educational level. The results indicate that knowledge and understanding are key determinants of SDGs implementation in higher education institutions. Strengthening collaborative partnerships and integrating experiential learning into educational practices are essential to enhance sustainable development outcomes effectively.

Keywords: The Influence of Knowledge, Understanding, Sustainable Development Goals (SDGs)

Introduction

In the context of global development, the Sustainable Development Goals (SDGs), established by the United Nations, have become a universal framework guiding balanced progress across economic, social, and environmental dimensions from 2015 to 2030. Higher education institutions are increasingly recognized as key actors in advancing SDGs, not only through teaching and research but also through institutional governance and organizational sustainability practices. Recent international reports by UNESCO and Times Higher Education (2023–2025) highlight that universities with strong SDG integration tend to demonstrate effective governance structures and sustainability-oriented management systems. However, existing research has predominantly focused on students' knowledge, awareness, and attitudes toward SDGs, while relatively limited attention has been given to educational personnel as critical agents in translating policy into practice. In particular, there remains a significant gap in understanding how organizational-level factors such as institutional policy, leadership support, and resource availability influence the application of SDGs within private higher education institutions.

In Thailand, private higher education institutions play an increasingly important role in shaping human capital and responding to socio-economic changes due to their flexibility and adaptive management structures. This study focuses on a group of private institutions, including Kantana Institute, Panyapiwat Institute of Management, Learning Institute for Everyone, Thai-Nichi Institute of Technology, Suvarnabhumi Institute of Technology, Chulabhorn Graduate Institute, Rajapark Institute, Vidyasirimedhi Institute of Science and Technology, Pacific Institute of Management Science, Ayothaya Institute of Technology, and Arsom Silp Institute of the Arts. These institutions differ in mission, governance, and organizational culture, which may affect how SDGs are understood and implemented by their personnel. Prior studies and practical observations suggest that although many institutions have adopted sustainability-related policies, their implementation often faces challenges such as limited leadership engagement and insufficient resources. Therefore, an empirical investigation focusing on educational personnel is essential to better understand these dynamics within diverse institutional contexts.

This study aims to examine the influence of knowledge and understanding on the implementation of Sustainable Development Goals among educational personnel in private higher education institutions, while incorporating key organizational factors, namely institutional policy, leadership support, and resource availability. The research is conducted

across selected private institutions in Thailand during the year 2026. A quantitative research approach is employed, using structured questionnaires for data collection. Data are analyzed using descriptive statistics and inferential techniques, particularly multiple regression analysis, to determine the relationships and predictive power of the identified variables. This approach enables a systematic understanding of how individual and organizational factors interact to influence SDG implementation within higher education institutions.

This research article presents an analysis of the combined effects of knowledge, understanding, and organizational factors on the implementation of SDGs by educational personnel. The paper is structured into key sections, including literature review and conceptual framework, research methodology, data analysis and results, and discussion with theoretical and policy implications. The findings are expected to contribute to the development of effective institutional strategies and policy guidelines for enhancing SDG implementation in private higher education institutions, thereby strengthening their role in advancing sustainable development at both national and global levels.

Objective

1. To examine the levels of knowledge, understanding, and the implementation of Sustainable Development Goals (SDGs) among educational personnel in private higher education institutions.
2. To compare differences in knowledge, understanding, and SDG implementation across demographic and job-related characteristics.
3. To analyze the influence of knowledge and understanding on the implementation of SDGs among educational personnel.
4. To investigate the effects of organizational factors, including institutional policy, leadership support, and resource availability, on SDG implementation.
5. To develop an explanatory model of the relationships between individual and organizational factors influencing SDG implementation in private higher education institutions.

Literature Review

1. SDGs in Higher Education Institutions

The Sustainable Development Goals (SDGs), established by the United Nations, have been widely adopted as a global framework for achieving balanced development across economic, social, and environmental dimensions. Within this context, higher education

institutions are increasingly recognized as key drivers of SDG implementation, functioning as “SDG-driven organizations” through their core missions of teaching, research, and community engagement. According to UNESCO, Education for Sustainable Development (ESD) plays a crucial role in equipping individuals with the competencies required to address complex sustainability challenges. Furthermore, reports by Times Higher Education (2023–2025) indicate that universities with strong SDG integration tend to demonstrate higher levels of institutional performance in sustainability. However, the majority of existing studies have primarily focused on students’ knowledge, awareness, and attitudes toward SDGs, while limited attention has been given to the role of educational personnel as key agents in translating SDG policies into practice within institutions.

2. University Governance and Organizational Sustainability

University governance refers to the structures, policies, and decision-making processes that guide institutional performance and strategic direction. It is closely linked to organizational sustainability, which emphasizes the long-term capacity of institutions to operate effectively while addressing sustainability challenges. Recent studies suggest that effective governance, visionary leadership, and strategic resource allocation are critical factors in promoting SDG implementation at the institutional level. These elements contribute to aligning organizational goals with sustainability agendas and enhancing institutional resilience. Nevertheless, much of the existing literature remains focused on macro-level perspectives, such as policy frameworks and institutional strategies, with insufficient attention to how these governance mechanisms influence implementation at the operational level, particularly among educational personnel.

3. Educational Personnel and Organizational Factors in SDG Implementation

From an organizational behavior perspective, educational personnel represent a critical variable in policy implementation processes. Their levels of knowledge and understanding of SDGs significantly influence their decision-making and professional practices. However, recent research highlights that individual-level factors alone are insufficient to ensure effective SDG implementation. Organizational factors such as institutional policy, leadership support, and resource availability play a pivotal role in enabling or constraining the application of sustainability practices. In other words, even when personnel possess high levels of knowledge and understanding, the absence of supportive organizational conditions may hinder effective implementation. Despite this recognition, there remains a lack of integrated

studies that examine both individual and organizational factors simultaneously, particularly in the context of private higher education institutions in Thailand.

Synthesis and Research Gap

The review of literature reveals that prior research has addressed SDG implementation in higher education from multiple perspectives, including student outcomes and institutional strategies. However, three key gaps remain evident:

- (1) the lack of integrated analysis combining individual-level factors (knowledge and understanding) with organizational-level factors;
- (2) the limited focus on educational personnel as primary agents of SDG implementation; and
- (3) the scarcity of empirical evidence within the context of private higher education institutions in Thailand.

Therefore, this study integrates the concepts of SDGs in higher education, university governance, and organizational sustainability with key organizational variables namely institutional policy, leadership support, and resource availability to develop an explanatory model of SDG implementation among educational personnel. This approach is expected to fill the identified knowledge gaps and contribute to both theoretical development and practical policy implications in advancing sustainability within private higher education institutions.

Conceptual Framework

The implementation of SDGs in higher education institutions is not solely determined by individual knowledge and understanding, but is the result of interactions between individual and organizational factors.” Specifically:

Knowledge → Understanding represents cognitive development

Understanding → Implementation reflects behavioral transformation

Organizational factors → Implementation act as enabling or constraining conditions

This aligns with the view that universities function as “SDG-driven organizations”, where educational personnel are key agents in translating sustainability policies into practice through governance and organizational sustainability mechanisms.

Variables Structure

Independent Variables

Individual-Level Factors
Knowledge of SDGs
Understanding of SDGs
Organizational-Level Factors
Institutional Policy
Policy Awareness
Organizational Support
Leadership Support
Resource Availability
Institutional Culture

Process / Context / Target Group

Target group: Educational personnel
Research context: Private higher education institutions
Research instrument: Structured questionnaire
Method: Survey-based data collection and statistical analysis

Dependent Variable

SDGs Implementation

Conceptual Relationships

The relationships among variables can be described as follows:

Individual Factors

(Knowledge → Understanding)



SDGs Implementation



Organizational Factors

(Policy, Leadership, Resources, Culture, Support, Awareness)

Conceptual Summary

Research Methodology

1. Research Design

This study adopts a quantitative research design using a survey method to examine the influence of knowledge and understanding on the implementation of Sustainable Development Goals (SDGs), incorporating both individual and organizational factors. The research framework is grounded in the SDGs framework proposed by the United Nations and the Education for Sustainable Development (ESD) concept of UNESCO.

2. Population and Sample

Population

The population of this study consists of educational personnel (e.g., lecturers, administrators, and academic support staff) working in private higher education institutions in Thailand. These include:

Kantana Institute

Panyapiwat Institute of Management

Institute of Learning for All

Thai-Nichi Institute of Technology

Suvarnabhumi Institute of Technology

Chulabhorn Graduate Institute

Rajapark Institute

Vidyasirimedhi Institute of Science and Technology

Pacific Institute of Management Science

Ayothaya Institute of Technology

Arsom Silp Institute of the Arts

Sampling Technique

This study employs stratified sampling to ensure representativeness across institutions and personnel roles. The population is divided into strata based on:

Institution (each participating institute)

Position (e.g., academic staff, administrative staff, management level) Within each stratum, respondents are selected using proportionate random sampling.

Sample Size

The sample size is determined using appropriate statistical techniques (e.g., Krejcie and Morgan table or power analysis), ensuring sufficient representation for multivariate analysis

such as Structural Equation Modeling (SEM). A minimum sample of 400 respondents is recommended to achieve statistical robustness.

3. Research Instrument

The primary research instrument is a structured questionnaire, divided into the following sections:

Demographic Information

(e.g., gender, age, position, years of experience)

Individual Factors

Knowledge of SDGs

Understanding of SDGs

Organizational Factors

Institutional Policy

Policy Awareness

Organizational Support

Leadership Support

Resource Availability

Institutional Culture

Dependent Variable

SDGs Implementation

All items are measured using a 5-point Likert scale (ranging from strongly disagree to strongly agree).

4. Data Collection

Data will be collected through survey questionnaires distributed to educational personnel across the selected private institutions. Both online and paper-based formats may be used to maximize response rates.

5. Data Analysis

The data will be analyzed using statistical software, with the following procedures: Descriptive statistics: frequency, percentage, mean, and standard deviation Inferential statistics:

t-test and ANOVA (to examine demographic differences)

Correlation analysis

Multiple regression analysis or Structural Equation Modeling (SEM) to examine causal relationships

6. Validity and Reliability

Content validity will be assessed by experts in sustainability and higher education.

Construct validity will be examined using factor analysis.

Reliability will be tested using Cronbach's alpha coefficient (acceptable level ≥ 0.70).

Professor's Critical Notes (Important Adjustments)

Strengths of your revised methodology:

Clearly shifts from student-based $\rightarrow$ personnel-based research

Introduces multi-institutional sampling (stronger external validity)

Incorporates organizational variables (higher academic rigor)

Suggestions for further improvement:

Strongly recommend using SEM instead of simple regression (matches your framework)

Consider adding mediating effect:

Understanding as mediator between Knowledge $\rightarrow$ Implementation Consider testing moderating effects:

Organizational Support or Leadership Support

Results

Table 1 Demographic Characteristics of the Sample (n = 400)

Variable	Category	n	%
Nationality	Thai	286	71.50
	International	114	28.50
	Total	400	100.00
Gender	Male	207	51.83
	Female	193	48.17
	Total	400	100.00
Education Level	Undergraduate	200	50.00
	Graduate	200	50.00
	Total	400	100.00

Table 1 (Ext.)

Variable	Category	n	%
Field of Study	Health Sciences	88	22.00
	Science and Technology	131	32.83
	Social Sciences and Humanities	181	45.17
	Total	400	100.00

2. Level of Knowledge of the SDGs

Overall, respondents demonstrated a high level of knowledge of the SDGs (Mean = 0.648; 82.40%).

The Planet dimension had the highest score (93.35%), followed by Peace (88.70%). The Partnership dimension had the lowest score (74.05%).

Table 2 Level of Knowledge of the Sustainable Development Goals (SDGs)

SDG Dimension	Mean	S.D.	% Score	Level
People	0.578	0.34	78.90	Moderate
Prosperity	0.539	0.32	76.95	Moderate
Planet	0.867	0.21	93.35	High
Peace	0.774	0.24	88.70	High
Partnership	0.481	0.27	74.05	Moderate
Overall	0.648	0.13	82.40	High

3. Level of Understanding of the SDGs

Respondents demonstrated the highest level of understanding overall (Mean = 4.49).

Table 3 Level of Understanding of the SDGs

Aspect	Mean	S.D.	Level
Sufficiency Economy Philosophy	4.69	0.26	Very High
National Strategy (2018–2037)	4.30	0.31	Very High
Overall	4.49	0.20	Very High

4. Implementation of the SDGs

Overall implementation was at the level of regular practice (Mean = 4.43).

Table 4 SDG Implementation

Dimension	Mean	S.D.	Level
Local Implementation	4.19	0.38	Frequent Practice
Monitoring and Evaluation	4.14	0.36	Frequent Practice
Responsible Organizational Management	4.95	0.12	Regular Practice
Overall	4.43	0.18	Regular Practice

5. Influence of Knowledge and Understanding on SDG Implementation

Both knowledge and understanding significantly influenced SDG implementation ($p < .001$).

Table 5 Multiple Regression Analysis

Model	Variable	β	t	p-value	R	R ²	Adj. R ²	Std. Error
1	Knowledge	.427	7.690	< .001*	.427	.182	.181	.174
2	Understanding	.332	10.673	< .001*	.332	.110	.109	.179
3	Knowledge	.130	-	< .001*	.531	.281	.280	.175
	Understanding	.160	-	< .001*				

*Significant at the .05 level

6. Differences by Demographic Characteristics

No statistically significant differences were found ($p > .05$).

Table 6 Comparison by Nationality

Variable	Thai (Mean $\pm$ S.D.)	International (Mean $\pm$ S.D.)	t	p-value	Result
Knowledge	.65 $\pm$.13	.65 $\pm$.13	.936	.962	Not significant
Understanding	4.50 $\pm$.20	4.49 $\pm$.20	.318	.751	Not significant
Implementation	4.42 $\pm$.18	4.43 $\pm$.17	-.469	.639	Not significant

Table 7 Comparison by Education Level

Variable	Undergraduate	Graduate	t	p-value	Result
Knowledge	.65 $\pm$.13	.65 $\pm$.13	-.287	.774	Not significant
Understanding	4.50 $\pm$.20	4.48 $\pm$.20	.784	.433	Not significant
Implementation	4.43 $\pm$.18	4.43 $\pm$.17	-.119	.905	Not significant

Discussion

The findings of this study provide important insights into students' levels of knowledge, understanding, and implementation of the Sustainable Development Goals (SDGs). These results can be discussed in relation to relevant theoretical frameworks and prior studies as follows.

1. Level of Knowledge of the SDGs. The results indicate that the overall level of SDG knowledge among respondents was high, particularly in the environmental dimension (Planet). This finding is consistent with Environmental Literacy Theory, which suggests that

environmental education is continuously emphasized within formal education systems, leading to higher levels of awareness and knowledge in this domain. In contrast, the Partnership dimension demonstrated the lowest level of knowledge. This may reflect limitations explained by Stakeholder Theory, which posits that understanding cross-sector collaboration requires practical experience and active engagement within complex systems, rather than solely theoretical knowledge.

2. Level of Understanding of the SDGs. The study found that respondents exhibited the highest level of understanding overall, particularly in relation to the Sufficiency Economy Philosophy and the National Strategy. This result can be explained by Constructivist Learning Theory, which emphasizes that learners develop deeper understanding when they are able to connect new knowledge with their prior experiences and socio-cultural contexts. Furthermore, the findings reflect successful integration of SDGs into national policy frameworks, aligning with Policy Integration Theory, which highlights the importance of linking global development agendas with local and national contexts.

3. Implementation of the SDGs. The findings reveal that SDG implementation among respondents was at the level of regular practice, particularly in terms of responsible organizational management. This result is consistent with the Theory of Planned Behavior (TPB), which explains that individual behavior is influenced by attitudes, behavioral intentions, and perceived behavioral control. The high levels of both knowledge and understanding observed in this study likely contributed to consistent and sustained implementation behaviors among students.

4. Influence of Knowledge and Understanding on Implementation. The regression analysis demonstrated that both knowledge and understanding significantly influence SDG implementation. Moreover, when combined, these variables explain a greater proportion of variance in behavior. This finding supports the Knowledge–Attitude–Practice (KAP) Model, which posits that knowledge forms the foundation, attitudes (or understanding) act as mediating factors, and ultimately lead to behavioral practices. The increase in R^2 when combining the variables reflects the “power of integration,” which is also emphasized in the literature on Education for Sustainable Development (ESD). This highlights the importance of developing both cognitive and conceptual competencies to effectively promote sustainable behaviors.

5. Differences by Demographic Characteristics. The study found no significant differences in knowledge, understanding, or implementation when comparing respondents by

nationality or educational level. This result can be explained by the concept of Global Citizenship Education (GCED), which aims to develop learners with a global perspective, enabling them to understand and engage with global challenges such as the SDGs regardless of their personal background. These findings suggest that the SDGs function as a “universal language” that can be equally accessed and applied across diverse groups of learners.

In summary, the findings confirm that both knowledge and understanding are critical factors influencing SDG implementation behavior. The integration of these two factors significantly enhances the effectiveness of sustainability-driven actions.

At the same time, the absence of differences across demographic groups highlights the universal nature of the SDGs as a development framework. This suggests that SDGs can be effectively applied across diverse educational contexts and learner backgrounds, reinforcing their role as a globally relevant and inclusive agenda for sustainable development.

New Knowledge Contribution

Based on the findings of this study, a novel conceptual framework referred to as the “Student SDGs Implementation Model” is proposed to explain the causal relationships among key variables: knowledge, understanding, and implementation of the Sustainable Development Goals (SDGs).

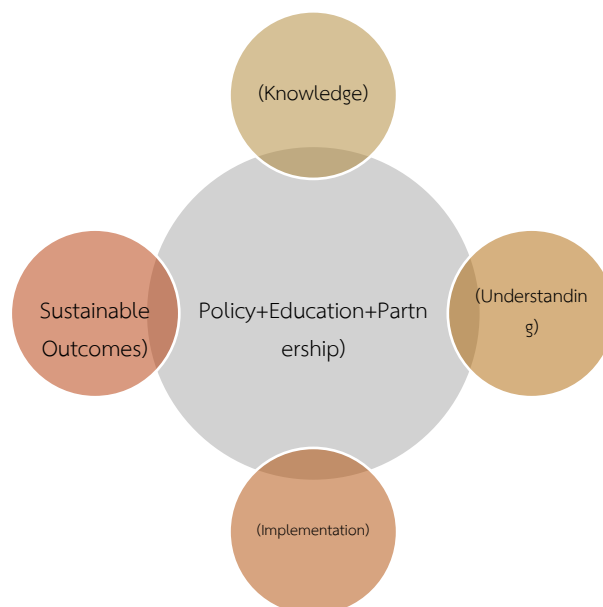


Figure 1 Student SDGs Implementation Model Explanation of the Model

Figure 1 illustrates that knowledge serves as the foundational driver in developing understanding, which subsequently leads to the practical implementation of SDGs. This process ultimately contributes to achieving sustainable outcomes over the long term.

Importantly, knowledge and understanding exhibit a synergistic relationship, reinforcing each other in a way that enhances behavioral outcomes. This is consistent with the statistical findings of this study, which demonstrate that the combined effect of knowledge and understanding significantly increases the explanatory power of SDG implementation behavior.

Furthermore, the study identifies policy, education, and partnership as key enabling factors that function as systemic accelerators, strengthening the effectiveness of the implementation process. Among these, partnership emerges as a critical area requiring further development, as it showed comparatively lower levels in the empirical results.

Conclusion

This study aimed to examine the levels of knowledge, understanding, and implementation of the Sustainable Development Goals (SDGs) among students, as well as to analyze the influence of these variables and compare differences across demographic characteristics.

The findings revealed that the sample demonstrated a high level of knowledge, a very high level of understanding, and a regular level of SDG implementation. Both knowledge and understanding were found to have statistically significant influences on SDG implementation. Moreover, when considered together, these variables enhanced the explanatory power of implementation behavior.

In addition, no significant differences were found in knowledge, understanding, or implementation when comparing respondents by nationality or educational level. This suggests the universal nature of the SDGs, indicating that they can be equally understood and applied across diverse groups of learners.

The key contribution of this study is the development of the Student SDGs Implementation Model, which highlights the relationships among knowledge, understanding, and implementation. This model provides a practical framework that can be applied to guide policy development, curriculum design, and the promotion of sustainability-oriented behaviors at both institutional and national levels.

Policy Recommendations

Based on the findings, several policy-oriented recommendations can be proposed to enhance the implementation of the Sustainable Development Goals (SDGs):

1. Institutional Level (Higher Education)

Higher education institutions should systematically integrate SDGs into curricula across all disciplines (curriculum integration) to strengthen students' sustainability competencies.

Active learning approaches, such as project-based learning and problem-based learning, should be promoted to enhance critical thinking and practical engagement.

In addition, institutions should develop an SDGs Competency Framework to assess student learning outcomes related to sustainability.

2. Development of Knowledge and Understanding

Learning activities should be designed to bridge the gap between knowledge and real-world practice, fostering deeper learning outcomes.

Experiential learning opportunities such as fieldwork, community engagement, and real-world projects should be expanded.

Particular attention should be given to strengthening knowledge in the Partnership dimension, especially in cross-sector collaboration and teamwork.

3. Promotion of Practical Implementation

Institutions should support community-based SDG projects to create tangible social impacts.

A structured Monitoring and Evaluation (M&E) system should be developed to assess outcomes systematically.

Incentive mechanisms such as academic credits, awards, and recognition should be introduced to encourage sustained engagement in SDG-related activities.

4. National Policy Level

Policymakers should strengthen the alignment between SDGs and national development strategies in a concrete and continuous manner.

Greater investment should be allocated to Education for Sustainable Development (ESD) initiatives.

Collaboration among universities, the private sector, and local communities should be enhanced to build a sustainability learning ecosystem.

5. Strengthening Partnership (Key Priority Area)

SDG networks among educational institutions should be established and expanded.

Public–Private Partnerships (PPP) should be promoted to support SDG initiatives.

International collaboration should be encouraged to facilitate knowledge exchange and global engagement.

Practical Implications

The findings of this study can be applied in several ways:

1. Knowledge Development

Although students demonstrated high levels of SDG knowledge particularly in the environmental dimension limitations were identified in the Partnership dimension.

Thus, institutions should:

Develop activities focusing on cross-sector collaboration

Promote teamwork and networking skills

Support engagement with external organizations and communities

2. Enhancing Understanding

Students demonstrated very high levels of understanding and the ability to connect SDGs with policy contexts.

Therefore, institutions should:

Promote integrated learning linking SDGs with national policies

Develop curricula that connect theory with practice

Encourage case-based learning approaches

3. Strengthening Implementation

Students reported regular implementation of SDGs, with knowledge and understanding significantly influencing behavior.

Thus, institutions should:

Promote continuous practice-based activities

Develop support mechanisms such as monitoring systems and incentives

Create enabling environments that encourage sustainable behaviors in daily life

Recommendations for Future Research

This study contributes a key conceptual model describing the relationship among knowledge, understanding, and SDG implementation. Future research should further extend this work in the following areas:

In-depth analysis of factors influencing Partnership, as it remains the weakest dimension

Experimental research to develop and test SDG learning models
Longitudinal studies to examine changes in implementation behavior over time
Comparative studies across institutions or countries
Structural Equation Modeling (SEM) to provide a more comprehensive explanation of variable relationships

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