Linguistic, English Education and Art (LEEA) Journal
Volume 9 Nomor 3, Mei-Agustus 2026
e-ISSN : 2597-3819
p-ISSN : 2597-9248
*DOI :*https://doi.org/10.31539/jaf6dz75

AN ANALYSIS OF TRANSLATION EQUIVALENCE IN ENGLISH–INDONESIAN AGRIBUSINESS TERMINOLOGY: A CASE STUDY AT UNIVERSITAS TIMOR

Iis Aprianti[1]
Universitas Timor

Yoni Rahayu[2]
Universitas Medan Area

Muhammad Muslim Nasution[3]
Universitas Medan Area

Soraya Grabiella Dinamika[4]
Universitas Medan Area

Elitaria Bestri Agustina Siregar[5]
Politeknik Negeri Jakarta

iisaprianti@unimor.ac.id[1]

Submit, 06-07-2026 *Accepted*, 28-06-2026 *Publish*, 30-06-2026

ABSTRACT

This study aimed to analyze the translation equivalence of English agribusiness terminology and its Indonesian equivalents used in the *English for Agribusiness* learning materials at Universitas Timor. The research employed a descriptive qualitative case study design. The data consisted of fifty English agribusiness terms and their Indonesian translations collected from instructional materials used in the Agribusiness Study Program. The data were analyzed by integrating Baker's word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence to evaluate lexical, conceptual, and communicative correspondence between the source and target languages. The findings revealed that 19 terms (38%) of the terms were categorized as equivalent, while 29 (58%) were classified as partially equivalent, and 2 terms (4%) were classified non-equivalent translations were identified. The equivalent translations successfully preserved the lexical meaning and agribusiness concepts of the source terms, whereas the partially equivalent translations involved lexical additions to improve clarity and naturalness in Indonesian without altering the intended meaning. The study concludes that the English for Agribusiness learning materials at Universitas Timor provide a high level of translation equivalence and effectively support students' comprehension of specialized agribusiness terminology in English for Specific Purposes (ESP).

Keywords: *Agribusiness Terminology; English for Specific Purposes (ESP); English–Indonesian Translation; Qualitative Study; Translation Equivalence*

INTRODUCTION

Translation plays a fundamental role in facilitating the transfer of knowledge across languages, particularly in academic and professional fields where specialized terminology is essential. As scientific publications, educational resources, and technical documents are predominantly disseminated in English, the demand for accurate translation has become increasingly significant in non-English-speaking countries. In higher education, effective translation enables students to access disciplinary knowledge while ensuring that technical concepts are conveyed accurately and consistently. In the context of English for Specific Purposes (ESP), translation is not merely a linguistic activity but also a pedagogical strategy that supports students' comprehension of domain-specific concepts and terminology (Albir & Alves, 2023; Wang & Hu, 2024).

Agribusiness is one of the interdisciplinary fields that relies heavily on specialized terminology drawn from agriculture, economics, biotechnology, environmental science, and food production. Many agribusiness concepts originate from international research and are introduced to Indonesian learners through English-language textbooks, journal articles, and teaching materials. Consequently, students are required to understand both the linguistic forms and conceptual meanings of English agribusiness terminology. However, translating technical terminology is considerably more challenging than translating general language because many specialized terms contain scientific concepts that cannot always be represented through direct lexical equivalence. Differences in semantic scope, disciplinary conventions, and contextual usage frequently require translators to balance accuracy, naturalness, and communicative effectiveness.

Translation equivalence remains one of the most widely discussed issues in Translation Studies because it concerns how meaning, function, and communicative intention are transferred from the source language (SL) into the target language (TL). Contemporary scholars argue that equivalence should not be interpreted as absolute linguistic sameness but rather as an appropriate correspondence that enables target readers to understand the intended concept within its disciplinary context (House, 2023; Pym, 2022). Consequently, evaluating translation equivalence requires consideration of lexical meaning, contextual interpretation, and communicative function simultaneously, particularly when translating specialized terminology for educational purposes.

Recent studies have examined translation equivalence in various contexts, including literary translation, legal documents, audiovisual translation, machine translation, and educational materials (Setiawan & Salfarizi, 2022; Amalia, 2022; Indarti & Nurlia, 2025; Noviantina et al., 2025). These studies consistently demonstrate that lexical equivalence alone is insufficient to ensure translation quality

because translators frequently encounter semantic shifts, contextual modifications, and discipline-specific terminology. Furthermore, recent research on machine translation indicates that technical terminology remains one of the most problematic aspects of automated translation, highlighting the continuing importance of human evaluation in assessing translation quality (Indarti & Nurlia, 2025).

Despite these advances, several limitations remain in previous studies. First, most investigations have focused on general texts, literary works, or machine translation outputs, whereas studies examining terminology used in English for Specific Purposes (ESP) learning materials are still limited. Second, existing research generally evaluates translation equivalence using a single theoretical framework, resulting in analyses that emphasize either lexical correspondence or communicative meaning without integrating multiple dimensions of equivalence. Third, only a few studies have investigated agribusiness terminology, despite its importance in agricultural education and the growing internationalization of agribusiness knowledge. These limitations indicate the need for a more comprehensive investigation that examines specialized terminology by integrating complementary theories of translation equivalence within an authentic ESP learning context.

To address these gaps, this study integrates three complementary perspectives on translation equivalence. Baker's word-level equivalence is employed to examine lexical correspondence between English and Indonesian terminology. Nida's dynamic equivalence is used to evaluate whether the translated terms communicate the intended meaning naturally to Indonesian readers, while Koller's denotative equivalence provides a framework for assessing whether the translated terminology accurately represents the same scientific concepts as the source language. The integration of these theories enables a more comprehensive analysis because translation equivalence in technical terminology involves lexical accuracy, conceptual precision, and communicative acceptability simultaneously.

The novelty of this study lies in three aspects. First, it investigates English–Indonesian agribusiness terminology within authentic ESP learning materials used in higher education, an area that has received limited scholarly attention. Second, it combines the theoretical perspectives of Baker, Nida, and Koller to provide a multidimensional framework for evaluating translation equivalence. Third, the study not only identifies the degree of equivalence but also explains linguistic factors contributing to equivalent, partially equivalent, and non-equivalent translations, thereby providing practical implications for terminology development, translation practice, and ESP curriculum design.

Based on the research gaps identified above, this study addresses the following research question: To what extent do the Indonesian translations of English agribusiness terminology used in the *English for Agribusiness* learning materials at Universitas Timor achieve translation equivalence? Accordingly, the objective of this study is to analyze the translation equivalence of English agribusiness terminology and its Indonesian translations by integrating the perspectives of Baker, Nida, and

Koller. The findings are expected to contribute to Translation Studies by enriching the discussion of technical terminology translation and to English for Specific Purposes (ESP) by providing empirical evidence that can support the development of bilingual learning materials, terminology standardization, and translation pedagogy in agribusiness education.

LITERATURE REVIEW

Translation in English for Specific Purposes (ESP)

Translation has evolved from being viewed merely as a linguistic transfer to a multidimensional process involving language, culture, disciplinary knowledge, and communicative purposes. In English for Specific Purposes (ESP), translation serves not only as a language-learning activity but also as a pedagogical tool that enables learners to understand specialized concepts through their first language while developing competence in the target language. Recent studies have demonstrated that translation facilitates vocabulary acquisition, conceptual understanding, and professional communication in discipline-specific education (Albir & Alves, 2023; Wang & Hu, 2024). Consequently, translation has become an integral component of ESP instruction, particularly in higher education where students are required to comprehend technical literature written in English. Unlike general translation, ESP translation requires translators to possess sufficient knowledge of the subject area because technical terminology reflects specific scientific concepts rather than ordinary lexical meanings. Therefore, successful translation depends on both linguistic competence and domain-specific expertise.

Translation Equivalence

Translation equivalence remains one of the central concepts in Translation Studies. Rather than referring to identical linguistic forms, equivalence emphasizes the extent to which the target language reproduces the intended meaning and communicative function of the source language. Contemporary scholars argue that equivalence should be understood as functional correspondence, allowing translated texts to communicate equivalent concepts despite structural differences between languages (House, 2023; Pym, 2022). This study adopts an integrated framework consisting of Baker's, Nida's, and Koller's theories because each theory addresses a different dimension of equivalence. Baker (2018) proposes that equivalence may be analyzed at several linguistic levels, including word level, grammatical level, textual level, and pragmatic level. Since the present study focuses on agribusiness terminology, Baker's concept of **word-level equivalence** provides the primary analytical framework for examining lexical correspondence between English and

Indonesian technical terms. Nida's concept of **dynamic equivalence** emphasizes that translation should produce the closest natural equivalent for target readers. A translation is considered successful when readers understand the translated message in a manner comparable to readers of the source language. Dynamic equivalence is particularly relevant for technical terminology because translators frequently need to prioritize conceptual clarity rather than literal lexical correspondence. Koller (1995) extends the discussion by introducing several dimensions of equivalence, including denotative, connotative, text-normative, pragmatic, and formal equivalence. Among these, **denotative equivalence** is especially relevant to technical translation because it evaluates whether the translated terminology represents the same scientific concept as the source language. The integration of these three perspectives enables a multidimensional evaluation of translation quality. Baker's framework assesses lexical accuracy, Nida's theory evaluates communicative naturalness, and Koller's concept verifies conceptual correspondence. Together, these theories provide a comprehensive analytical framework for examining English–Indonesian agribusiness terminology.

Agribusiness Terminology

Terminology refers to specialized lexical units that represent concepts within particular fields of knowledge. In scientific communication, terminology plays an essential role because it ensures conceptual precision, consistency, and clarity. Agribusiness terminology encompasses vocabulary related to agriculture, agricultural economics, biotechnology, food production, environmental sustainability, and resource management. Examples include *crop rotation*, *soil degradation*, *food security*, *organic farming*, *precision agriculture*, and *irrigation systems*. Unlike general vocabulary, technical terminology is expected to maintain stable meanings across academic and professional contexts. Consequently, translators must preserve not only lexical forms but also the scientific concepts underlying each term. Inaccurate terminology translation may result in conceptual misunderstanding and reduce the effectiveness of knowledge transfer in educational settings. Recent research indicates that terminology translation remains one of the most challenging aspects of specialized translation because equivalent expressions are not always available across languages. Lexical gaps, differences in disciplinary conventions, and contextual variation frequently require translators to employ adaptation, reformulation, or descriptive translation to achieve acceptable equivalence (Noviantina et al., 2025; Indarti & Nurlia, 2025).

Translation of Technical Terminology

Technical translation differs fundamentally from literary or general translation because it prioritizes conceptual accuracy over stylistic expression. The objective is to preserve scientific meaning while ensuring that the translated terminology is understandable and acceptable within the target language community. Molina and Hurtado Albir (2002) identify several translation techniques frequently employed in technical translation, including literal translation, borrowing, calque, transposition, modulation, adaptation, amplification, and reduction. Recent studies report that translators often combine several techniques when translating specialized terminology to maintain semantic precision while improving readability (Setiawan & Salfarizi, 2022; Noviantina et al., 2025). In agribusiness translation, literal translation is generally appropriate when standardized Indonesian terminology already exists. However, when no established equivalent is available, translators may introduce lexical additions or contextual reformulations to preserve conceptual meaning. Such adjustments frequently produce partially equivalent translations, where the intended scientific concept is maintained despite differences in lexical realization.

Recent studies have explored translation equivalence across various disciplinary contexts. Setiawan and Salfarizi (2022) reported that English technical terminology could generally be translated accurately into Indonesian, although inconsistencies in grammatical realization occasionally affected translation quality. Amalia (2022) demonstrated that lexical equivalence constitutes the foundation of translation quality because inappropriate lexical choices may alter conceptual meaning. More recently, Noviantina et al. (2025) found that translators frequently combine literal translation, borrowing, and modulation when translating local terminology in academic texts. Similarly, Indarti and Nurlia (2025) revealed that machine translation systems still experience considerable difficulty in translating specialized terminology accurately, emphasizing the continuing necessity of human evaluation in technical translation. Although these studies have significantly contributed to Translation Studies, several limitations remain. Most previous investigations examine literary texts, machine translation, or general technical documents rather than terminology used in ESP learning materials. Furthermore, many studies rely on a single theoretical perspective, limiting their ability to explain lexical, conceptual, and communicative dimensions of translation equivalence simultaneously. Research specifically investigating English–Indonesian agribusiness terminology within higher education contexts also remains limited. Accordingly, the present study addresses these limitations by examining authentic agribusiness terminology used in English for Agribusiness learning materials at Universitas Timor.

By integrating Baker's word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence, this study provides a more comprehensive framework for evaluating lexical accuracy, conceptual correspondence, and communicative effectiveness in the translation of specialized terminology.

Conceptual Framework

The conceptual framework of this study positions **translation equivalence** as the central construct linking English agribusiness terminology to its Indonesian translation. English agribusiness terminology serves as the source language data, while the Indonesian translations represent the target language output. The evaluation process integrates Baker's word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence to assess lexical accuracy, communicative naturalness, and conceptual correspondence.

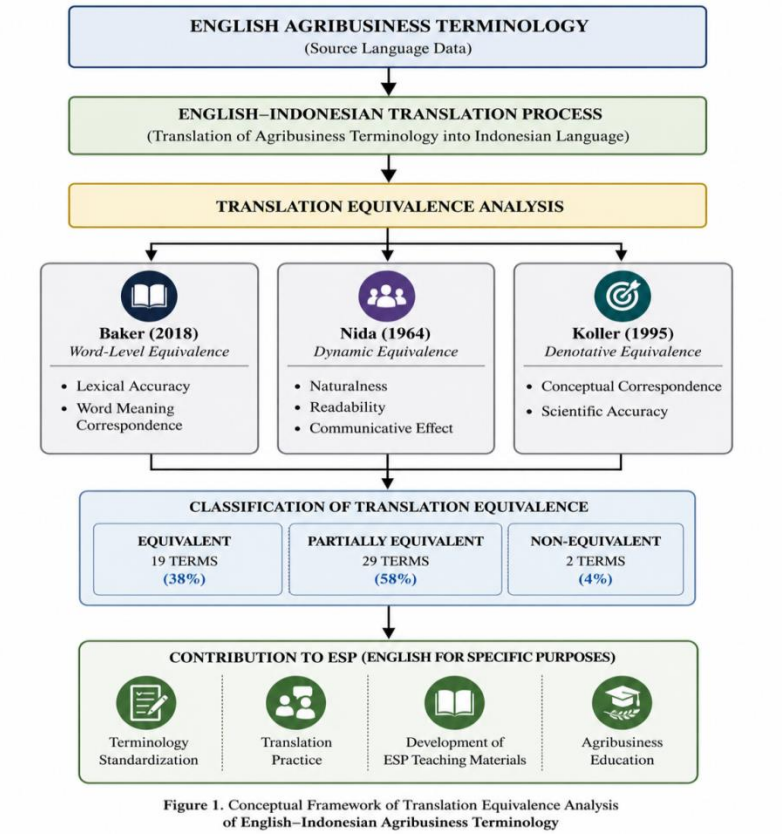

Figure 1. Conceptual Framework of Translation Equivalence Analysis of English–Indonesian Agribusiness Terminology

Based on figure 1, the analysis subsequently classifies each translation as **equivalent**, **partially equivalent**, or **non-equivalent**, providing empirical evidence

regarding the quality of terminology translation in English for Specific Purposes (ESP).

METHOD

This study employed a descriptive qualitative research design using a case study approach to investigate the translation equivalence of English agribusiness terminology and its Indonesian translations in the *English for Agribusiness* learning materials used at Universitas Timor. A qualitative approach was considered appropriate because the study focused on interpreting the lexical, conceptual, and communicative equivalence of translated terminology rather than measuring statistical relationships.

The research was conducted in the Agribusiness Study Program, Faculty of Agriculture, Science, and Health, Universitas Timor. The research object consisted of bilingual agribusiness terminology contained in the *English for Agribusiness* instructional materials used in the course. These materials were selected because they represent authentic learning resources employed by students in English for Specific Purposes (ESP) instruction.

The primary data source was the English–Indonesian vocabulary list contained in the *English for Agribusiness* instructional materials used during the Midterm Examination (UTS). The document contained fifty pairs of English agribusiness terms and their Indonesian translations.

This study employed **total sampling**, in which all fifty terminology pairs contained in the instructional materials were analyzed. Total sampling was selected because the population of agribusiness terminology within the learning materials was relatively small and all terms were considered relevant to the research objective. Consequently, every terminology pair was included in the analysis without exclusion.

The unit of analysis was one pair of English agribusiness terminology and its Indonesian translation.

In qualitative research, the researcher served as the primary research instrument responsible for collecting, classifying, analyzing, and interpreting the data. To ensure systematic analysis, a documentation sheet was developed as a supporting instrument. The documentation sheet contained the following components:

- Code of terminology
- English terminology (Source Language)
- Indonesian translation (Target Language)
- Translation technique
- Equivalence category
- Analytical remarks
- Supporting references

The documentation sheet enabled the researcher to evaluate each terminology consistently according to the analytical framework adopted in this study.

Table 1. Sample of Documentation Sheet

Code	Source Language (SL)	Target Language (TL)	Equivalence Category	Remarks
AG-01	Crop Rotation	Rotasi Tanaman	Equivalent	Standard agricultural terminology
AG-02	Increase Food	Meningkatkan Produksi Pangan	Partially Equivalent	Additional lexical element improves conceptual clarity

The data were collected through documentation techniques. The procedures consisted of the following steps:

1. Collecting the *English for Agribusiness* instructional materials.
2. Identifying all English agribusiness terminology contained in the materials.
3. Pairing each English term with its Indonesian translation.
4. Coding each terminology pair using identification codes (AG-01 to AG-50).
5. Recording all terminology pairs in the documentation sheet.
6. Preparing the coded data for qualitative analysis.

The data were analyzed using an integrated framework consisting of Baker's (2018) word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence.

The integration of these three theories was considered appropriate because each explains different dimensions of translation equivalence. Baker's framework evaluates lexical correspondence between source and target terms, Nida's theory examines whether the translated terminology communicates naturally to Indonesian readers, and Koller's denotative equivalence assesses whether both terms refer to the same scientific concept. Combining these complementary perspectives enables a more comprehensive evaluation of agribusiness terminology than relying on a single theoretical framework.

The analysis followed six stages:

1. Identifying English agribusiness terminology.
2. Comparing each English term with its Indonesian translation.
3. Evaluating lexical, conceptual, and communicative correspondence.
4. Identifying the translation technique applied.
5. Classifying each translation according to the degree of equivalence.
6. Interpreting the findings based on the integrated theoretical framework.

Each terminology pair was assigned an identification code to facilitate systematic analysis.

Table 2. Example of Coding Process

Code	English Term	Indonesian Translation	Category
AG-01	Disease Resistant Crop Varieties	Varietas Tanaman Tahan Penyakit	Equivalent
AG-02	Increase Food	Meningkatkan Produksi Pangan	Partially Equivalent
AG-03	Agricultural Mechanization	Mekanisasi Pertanian Modern	Partially Equivalent
AG-04	Soil Fertility	Kesuburan Tanah	Equivalent
AG-05	Precision Farming	Pertanian Presisi	Non-equivalent*

The translated terminology was evaluated using three categories:

Equivalent

The Indonesian translation accurately preserves the lexical meaning, scientific concept, and communicative function of the English terminology without requiring semantic modification.

Partially Equivalent

The Indonesian translation conveys the principal concept but includes lexical additions, semantic adjustments, or contextual reformulations to improve clarity and naturalness.

Non-equivalent

The Indonesian translation fails to preserve the essential scientific concept of the source terminology, resulting in semantic mismatch or conceptual inaccuracy.

Trustworthiness of the Data

To enhance the credibility of the findings, expert judgment and triangulation were employed.

Expert validation involved **two experts**. The first expert was a lecturer specializing in Translation Studies with experience in translation theory and bilingual text analysis. The second expert was a lecturer in Agribusiness with expertise in agricultural terminology. Both experts independently evaluated the categorization of translation equivalence and provided recommendations where disagreements occurred. The final classification was determined after discussion and consensus between the researcher and the validators.

Methodological triangulation was also conducted by comparing the translated terminology with standardized Indonesian agricultural terminology published by the Ministry of Agriculture, bilingual agricultural dictionaries, and relevant scientific literature. This triangulation ensured that the equivalence judgments were supported

not only by theoretical considerations but also by accepted terminology used in professional and academic contexts.

FINDING

This study analyzed fifty English agribusiness terms and their Indonesian translations extracted from the *English for Agribusiness* instructional materials used in the Agribusiness Study Program at Universitas Timor. Each terminology pair was examined to determine the degree of translation equivalence and subsequently classified into three categories: equivalent, partially equivalent, and non-equivalent.

The analysis demonstrates varying degrees of translation equivalence across the fifty terminology pairs. Nineteen terms (38%) were categorized as equivalent, twenty-nine terms (58%) as partially equivalent, and two terms (4%) as non-equivalent.

Table 3. Distribution of Translation Equivalence

Category	**Number of Terms**	**Percentage**
Equivalent	19	38%
Partially Equivalent	29	58%
Non-equivalent	2	4%
Total	**50**	**100%**

The findings indicate that although most translated terminology successfully conveyed the intended agribusiness concepts, a considerable number required lexical expansion or contextual reformulation to achieve naturalness and conceptual clarity in Indonesian. Only two translations failed to represent the intended scientific concepts adequately.

The proportional distribution of the three categories is illustrated in Figure 2.

- Equivalent = 38%
- Partially Equivalent = 58%
- Non-equivalent = 4%

Nineteen terminology pairs were categorized as equivalent because the Indonesian translations accurately represented the lexical meaning and scientific concept of the English source terms.

Table 4. Examples of Equivalent Translation

No	English Terminology	Indonesian Translation
1	Disease Resistant Crop Varieties	Varietas Tanaman Tahan Penyakit
2	Irrigation System	Sistem Irigasi
3	Crop Rotation	Rotasi Tanaman
4	Soil Fertility	Kesuburan Tanah
5	Organic Fertilizer	Pupuk Organik
6	Food Security	Ketahanan Pangan
7	Pest Management	Pengendalian Hama
8	Agricultural Extension	Penyuluhan Pertanian
9	Biodiversity	Keanekaragaman Hayati
10	Soil Conservation	Konservasi Tanah

These translations preserve the scientific concepts of the source language and correspond to standardized Indonesian agribusiness terminology commonly used in educational and professional contexts.

Twenty-nine terminology pairs were classified as partially equivalent. These translations generally retained the principal meaning of the source terminology but required lexical additions, semantic reformulation, or contextual adaptation to produce natural Indonesian expressions.

Table 5. Examples of Partially Equivalent Translation

No	English Terminology	Indonesian Translation
1	Increase Food	Meningkatkan Produksi Pangan
2	Enhance Human Life	Meningkatkan Kualitas Hidup Manusia
3	Agricultural Innovation	Inovasi di Bidang Pertanian
4	Modern Farming	Sistem Pertanian Modern
5	Improve Crop Quality	Meningkatkan Kualitas Hasil Pertanian
6	Agricultural Productivity	Produktivitas Sektor Pertanian
7	Natural Resources	Sumber Daya Alam Hayati
8	Climate Adaptation	Adaptasi terhadap Perubahan Iklim
9	Crop Improvement	Peningkatan Mutu Tanaman
10	Agricultural Development	Pembangunan Sektor Pertanian

These translations remain understandable to Indonesian readers; however, they include additional lexical elements or contextual reformulations that are not explicitly expressed in the source language.

Only two terminology pairs were categorized as non-equivalent because the Indonesian translations failed to adequately represent the intended agribusiness concepts.

Table 6. Examples of Non-equivalent Translation

No	English Terminology	Indonesian Translation
1	Precision Farming	Pertanian Presisi
2	Agricultural Resilience	Ketahanan Pertanian

Although these translations are linguistically acceptable, they do not sufficiently communicate the technical concepts intended in the instructional materials. Consequently, students may experience conceptual ambiguity when interpreting these terms without additional explanation.

DISCUSSION

The findings demonstrate that the translation of English agribusiness terminology into Indonesian exhibits varying degrees of equivalence, indicating that technical terminology translation extends beyond lexical substitution. Of the fifty terminology pairs analyzed, only nineteen (38%) achieved full equivalence, while twenty-nine (58%) were classified as partially equivalent and two (4%) as non-equivalent. These results suggest that translating specialized agribusiness terminology requires translators to balance lexical accuracy, conceptual precision, and communicative clarity to ensure that the intended scientific meaning is successfully transferred to the target language.

The relatively low proportion of fully equivalent translations indicates that lexical equivalence alone is often insufficient in technical translation. Many agribusiness terms represent complex scientific concepts that cannot always be transferred through direct word-for-word translation. Instead, translators frequently employ lexical expansion, contextual reformulation, or semantic adjustment to produce expressions that are more comprehensible to Indonesian readers. This finding supports Baker's concept of word-level equivalence, which acknowledges that complete lexical correspondence between two languages is not always attainable because of differences in vocabulary systems and semantic boundaries.

The predominance of partially equivalent translations (58%) reflects the linguistic characteristics of English and Indonesian in expressing technical concepts. Several English terms are concise lexical units, whereas their Indonesian counterparts require additional lexical elements to preserve conceptual clarity. For example, the term *Increase Food* was translated as *Meningkatkan Produksi Pangan*. Although the Indonesian version introduces the additional word *produksi*, this lexical expansion helps communicate the intended agribusiness concept more explicitly. Similarly,

Agricultural Development was rendered as *Pembangunan Sektor Pertanian*, where the inclusion of *sektor* narrows the interpretation and aligns the translation with terminology commonly used in Indonesian agricultural discourse. These examples illustrate that semantic expansion may improve comprehensibility without substantially altering the original concept.

From the perspective of Nida's dynamic equivalence, the lexical additions identified in the partially equivalent translations can be interpreted as efforts to produce natural and communicatively effective expressions for Indonesian readers. Rather than maintaining strict formal correspondence, these translations prioritize reader comprehension by adapting the terminology to linguistic conventions familiar within Indonesian academic and professional contexts. Such adaptation is particularly important in English for Specific Purposes (ESP), where students must understand technical concepts accurately before applying them in academic or professional communication.

Koller's denotative equivalence further explains why most partially equivalent translations remain acceptable despite lexical modifications. Denotative equivalence emphasizes conceptual correspondence rather than formal similarity. The majority of partially equivalent translations preserved the same scientific reference as the source terminology even though additional lexical elements or structural adjustments were introduced. Consequently, the translated terminology continued to represent identical agribusiness concepts despite differences in linguistic realization.

Only two terminology pairs were classified as non-equivalent. These translations failed to convey the intended scientific concepts with sufficient precision, creating the possibility of conceptual ambiguity. For instance, the translation of *Precision Farming* as *Pertanian Presisi* may be linguistically acceptable; however, without contextual explanation, Indonesian readers may not immediately associate the term with technology-based agricultural management involving digital monitoring, data analysis, and precision input application. Likewise, *Agricultural Resilience* translated as *Ketahanan Pertanian* may not fully communicate the broader concept of adaptive capacity within agricultural systems, particularly regarding responses to climate change, economic uncertainty, and environmental stress. These findings demonstrate that lexical equivalence does not necessarily guarantee conceptual equivalence when specialized terminology is involved.

The present findings are consistent with previous studies reporting that technical terminology frequently requires contextual adaptation rather than literal translation. Setiawan and Salfarizi (2022) observed that translators commonly combine literal translation with semantic adjustment to preserve conceptual accuracy. Similarly, Noviantina et al. (2025) found that specialized terminology often undergoes reformulation to improve clarity and readability while maintaining the intended meaning. Furthermore, recent studies on machine translation indicate that automated systems continue to experience difficulties in accurately translating discipline-specific terminology because they often overlook contextual and conceptual nuances (Indarti & Nurlia, 2025). The current study supports these

findings by demonstrating that human evaluation remains essential for determining translation equivalence in specialized educational materials.

However, this study also extends previous research in several respects. Most earlier studies examined literary texts, general technical documents, or machine translation outputs. In contrast, the present research specifically investigates English–Indonesian agribusiness terminology within authentic English for Agribusiness learning materials used in higher education. Moreover, unlike previous studies that generally adopted a single theoretical perspective, this study integrates Baker's word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence. This integrated framework enables a more comprehensive evaluation by simultaneously considering lexical accuracy, communicative effectiveness, and conceptual correspondence.

The findings also have important implications for English for Specific Purposes (ESP). Since more than half of the translated terminology required contextual or semantic modification, ESP learning materials should not rely solely on literal bilingual glossaries. Instead, terminology should be accompanied by contextual explanations, definitions, or examples illustrating how each term is used within agribusiness discourse. Such an approach can improve students' conceptual understanding and reduce the likelihood of misunderstanding technical terminology. Furthermore, collaboration between translation specialists and agribusiness experts is recommended to ensure that bilingual terminology used in educational materials accurately reflects both linguistic conventions and disciplinary knowledge.

Overall, the study demonstrates that translation equivalence in specialized terminology should be evaluated from multiple perspectives rather than through lexical correspondence alone. The integration of lexical, communicative, and conceptual dimensions provides a more comprehensive understanding of translation quality and offers practical guidance for the development of bilingual instructional materials in agribusiness education.

CONCLUSION

This study investigated the translation equivalence of English agribusiness terminology and its Indonesian translations in the *English for Agribusiness* learning materials used at Universitas Timor by integrating Baker's word-level equivalence, Nida's dynamic equivalence, and Koller's denotative equivalence. The analysis of fifty terminology pairs revealed that 19 terms (38%) were categorized as equivalent, 29 terms (58%) as partially equivalent, and 2 terms (4%) as non-equivalent. These findings indicate that although most translated terms successfully communicated the intended agribusiness concepts, many required lexical expansion or contextual reformulation to achieve naturalness and conceptual clarity in Indonesian.

The study demonstrates that evaluating technical terminology should not rely solely on lexical correspondence. Instead, lexical accuracy, communicative effectiveness, and conceptual correspondence should be considered simultaneously to ensure high-quality translation. The integration of Baker's, Nida's, and Koller's theoretical perspectives provides a comprehensive framework for assessing translation equivalence in English for Specific Purposes (ESP), particularly in the translation of specialized agribusiness terminology.

The findings have practical implications for the development of bilingual ESP learning materials, terminology standardization, and translation practice in higher education. They also highlight the importance of collaboration between translation specialists and subject-matter experts to produce translations that are linguistically accurate and conceptually appropriate for educational use.

This study is limited to fifty English–Indonesian agribusiness terminology pairs extracted from instructional materials used at a single university. Therefore, the findings cannot be generalized to all ESP contexts or other disciplinary fields. Future research is recommended to investigate larger terminology datasets, compare terminology across different academic disciplines, and evaluate the effectiveness of machine translation and artificial intelligence-assisted translation in producing equivalent technical terminology. Further studies may also explore students' comprehension of translated terminology to examine how translation quality influences learning outcomes in ESP classrooms.

REFERENCES

Albir, A. H., & Alves, F. (2023). Translation competence and translator education in the era of artificial intelligence. *Perspectives: Studies in Translation Theory and Practice, 31*(4), 521–539.

Amalia, R. (2022). Translation equivalence in English–Indonesian technical texts: A semantic analysis. *Journal of Language and Linguistic Studies, 18*(2), 1023–1038.

Anthony, L. (2018). *Introducing English for Specific Purposes*. Routledge.

Baker, M. (2018). *In Other Words: A Coursebook on Translation* (3rd ed.). Routledge.

Basturkmen, H. (2019). *Developing Courses in English for Specific Purposes* (2nd ed.). Palgrave Macmillan.

Catford, J. C. (1965). *A Linguistic Theory of Translation*. Oxford University Press.

Dudley-Evans, T., & St John, M. J. (1998). *Developments in English for Specific Purposes*. Cambridge University Press.

FAO. (2023). *FAOSTAT Statistical Yearbook 2023*. Food and Agriculture Organization of the United Nations.

Food and Agriculture Organization. (2024). *The State of Food and Agriculture 2024*. FAO.

House, J. (2023). Translation quality assessment in multilingual communication: Recent developments and future directions. *Target, 35*(2), 215–236.

Indarti, D., & Nurlia, A. (2025). Evaluating the accuracy of AI-assisted translation for technical terminology in higher education. *Indonesian Journal of Applied Linguistics, 15*(1), 56–71.

Koller, W. (1995). The concept of equivalence and the object of translation studies. *Target, 7*(2), 191–222.

Larson, M. L. (1998). *Meaning-Based Translation: A Guide to Cross-Language Equivalence* (2nd ed.). University Press of America.

Molina, L., & Hurtado Albir, A. (2002). Translation techniques revisited: A dynamic and functionalist approach. *Meta, 47*(4), 498–512.

Nation, I. S. P. (2022). Learning vocabulary in ESP contexts: Current perspectives. *TESOL Quarterly, 56*(4), 1352–1371.

Newmark, P. (1988). *A Textbook of Translation*. Prentice Hall.

Nida, E. A. (1964). *Toward a Science of Translating*. Brill.

Nida, E. A., & Taber, C. R. (1982). *The Theory and Practice of Translation*. Brill.

Noviantina, R., Hidayat, T., & Suryani, D. (2025). Translation strategies for Indonesian technical terminology in academic discourse. *Journal of Language and Education, 11*(2), 95–112.

Pym, A. (2022). Translation and multilingual communication in the digital era. *Translation Spaces, 11*(1), 1–18.

Rahman, M., & Yuliana, S. (2024). Specialized vocabulary learning in English for Specific Purposes classrooms. *Asian ESP Journal, 20*(1), 33–55.

Setiawan, A., & Salfarizi, M. (2022). English–Indonesian translation equivalence in scientific and technical texts. *Studies in English Language and Education, 9*(3), 1221–1237.

Suwandi, S., & Pratiwi, R. (2023). English for Specific Purposes in Indonesian higher education: Current practices and future challenges. *Indonesian Journal of Applied Linguistics, 13*(2), 445–459.

Wang, Y., & Hu, X. (2024). Translation as a pedagogical tool in English for Specific Purposes: A systematic review. *English for Specific Purposes, 74*, 101–116.

Xu, H., & Zhang, L. (2024). Technical terminology translation in multilingual higher education. *The Interpreter and Translator Trainer, 18*(2), 168–186.

Zheng, Y., & Li, M. (2023). Domain-specific terminology translation and knowledge transfer in higher education. *Perspectives: Studies in Translation Theory and Practice, 31*(5), 689–707.