ELT-Lectura: Studies and Perspectives in English Language Teaching
Volume 13 Number 1, February 2026
ISSN (Print): 2336-8560, ISSN (ONLINE): 2550-0724

English for Food Technology: A Need Analysis and Its Implications for Certification Design

Pratama Irwin Talenta[1], Martina Widhi Hapsari[2], Benedicta Audrey Putri Trisnadewi[3]
[1]*English Education Department, Faculty of Economy, Business, and Humanity, Universitas Nasional Karangturi, Semarang, Indonesia*
[2]*Food Technology Department, Faculty of Science and Technology,Universitas Nasional Karangturi, Semarang, Indonesia*
[3]*Psychology Department, Faculty of Economy, Business, and Humanity, Universitas Nasional Karangturi, Semarang, Indonesia*
**Corresponding author: pratama.irwin@unkartur.ac.id*

Abstract:
This study investigated the English language needs of employees in the food technology industry and explores their implications for certification program design. With globalization and increasing international standards, food and beverage companies are required to comply with technical documentation and safety procedures that were often presented in English. Therefore, identifying specific language skills relevant to the industry becomes a crucial foundation for curriculum and certification development. The research was conducted at PT Marimas Putera Kencana, Semarang, using a needs analysis framework that combined questionnaires, semi-structured interviews, and pilot testing of assessment instruments. Data collection involved production staff, quality control personnel, and supervisors, providing a comprehensive overview of English use in daily operations. Findings indicated that employees require competencies in four primary areas: food safety English, food processing instructions, hygiene and sanitation communication, and technical reporting. Challenges were most evident in writing technical documents and oral communication during workplace interactions. Based on these findings, the study proposed a certification model structured across three basic levels, intermediate, and advanced aligned with Bloom's taxonomy to ensure cognitive progression. To enhance diagnostic precision, the model integrates Cognitive Diagnostic Assessment (CDA), enabling identification of specific strengths and weaknesses across sub-skills such as vocabulary, reading comprehension, writing, and problem-solving communication. Overall, this study underscores the importance of integrating cognitive approaches into English for Specific Purposes (ESP) certification design, ensuring that certification outcomes are directly relevant to the demands of the food technology industry.

Keywords: English for Food Technology; ESP Certification; Cognitive Approach; CDA

1. INTRODUCTION

English for Specific Purposes (ESP) has increasingly become a central component in vocational and professional education, especially in sectors where communication, documentation, and compliance with international standards are essential. In the food and beverage industry, employees are often required to interpret Standard Operating Procedures (SOPs), record Quality Control (QC) data, and communicate hygiene and safety protocols in English. However, limited proficiency in technical English remains a challenge for many workers in Indonesia, particularly within vocational schools and small to medium enterprises. Recent research highlights the urgency of tailoring ESP programs to meet the demands of specific industries such as food technology, agriculture, fisheries, and culinary arts (Musdalifah et al., 2023; Utami et al., 2022; Hajar & Triastuti, 2022). The importance of ESP in this context lies not only in improving linguistic competence but also in ensuring workplace efficiency, safety compliance, and professional credibility, as inaccurate interpretation of technical instructions may lead to procedural errors, product quality issues, or even health risks. Therefore, ESP instruction functions as a strategic bridge between language education and industry performance standards, making it indispensable for workforce readiness in globally oriented sectors.

Needs analysis is widely recognized as the cornerstone for ESP curriculum and assessment development, as it provides an in-depth understanding of the target situation and the specific communicative tasks learners must perform in their professional context (Santika et al., 2022). Findings from several vocational studies confirm that general English courses are insufficient to equip learners with workplace communication skills. Instead, industry-specific ESP courses are necessary, addressing the ability to read and interpret technical documents, write professional reports, follow oral instructions, and interact effectively in work-related contexts (Simanjuntak & Ratmanida, 2024; Utami et al., 2022). This reinforces the argument that ESP is not merely a supplementary subject but a pedagogical necessity, as it aligns instructional content with authentic occupational discourse, task-based communication demands, and domain-specific literacy practices required in real professional environments.

Moreover, ESP certification frameworks must move beyond the traditional paradigm of measuring general language proficiency and instead incorporate diagnostic-oriented assessment systems capable of mapping learners' micro-level competencies. Conventional proficiency tests tend to produce aggregate scores that obscure specific linguistic strengths and deficiencies, thereby limiting their pedagogical usefulness for vocational contexts. In contrast, certification models grounded in analytic and criterion-referenced principles allow evaluators to identify discrete sub-skills such as technical vocabulary recognition, procedural comprehension, genre-specific writing ability, and task-based oral interaction. Such multidimensional profiling is particularly critical in occupational domains where communicative precision directly affects operational accuracy and compliance.

One assessment approach that addresses this need is Cognitive Diagnostic Assessment (CDA), which is designed to reveal fine-grained information about learners' cognitive processing and skill mastery patterns. CDA does not merely indicate whether a learner answers correctly or incorrectly; rather, it diagnoses which underlying attributes or knowledge components are present or absent. Empirical findings indicate that CDA-informed evaluation enables instructors and training providers to design targeted remediation, individualized feedback, and adaptive instructional pathways that respond to each learner's diagnostic profile (Rini Ekayati & Meisuri, 2022). Consequently, CDA-based certification strengthens the validity and instructional relevance

of ESP assessment by linking test results directly to pedagogical decision-making and professional skill development.

From a workforce development perspective, the integration of CDA into ESP certification also supports accountability and standardization in professional training systems. Employers require evidence not only of overall communicative competence but also of job-specific linguistic readiness. Diagnostic certification reports can therefore function as competency documentation, allowing companies to verify whether employees possess the precise communicative abilities required for particular operational roles. This level of detail is especially valuable in industries governed by strict procedural regulations, where misinterpretation of written or spoken instructions may compromise safety, product integrity, or regulatory compliance.

In the context of food technology, aligning ESP certification with authentic workplace practices ensures that employees are linguistically equipped to meet both national regulatory requirements and international industry standards related to food safety, sanitation, labeling, and quality assurance. Communication tasks in this sector frequently involve interpreting technical manuals, documenting production data, reporting anomalies, and coordinating with supervisors or auditors using specialized terminology. Without domain-specific linguistic preparation, workers may experience difficulty executing these responsibilities efficiently and accurately, which can ultimately affect organizational performance and risk management.

To examine these issues empirically, the present study was conducted at PT Marimas Putera Kencana, a food and beverage manufacturing company located in Semarang, Indonesia. The company provides a relevant case study environment due to its operational reliance on standardized production procedures, quality control documentation, and compliance reporting systems that involve English-mediated communication. Investigating the English language needs within this professional setting offers insights into how ESP certification can be designed to reflect authentic occupational demands rather than abstract linguistic benchmarks.

Building upon this rationale, the present study was guided by several interrelated research questions. First, it sought to identify the specific English language skills required by employees in the food technology sector to perform workplace tasks effectively. Second, it examined which sub-skills within ESP such as technical vocabulary, procedural reading, report writing, listening comprehension, and oral interaction are most critical for job performance in food and beverage production contexts. Third, the study investigated the gaps between employees' current English proficiency levels and the communicative demands of their professional tasks. Fourth, it explored how Cognitive Diagnostic Assessment (CDA) can be utilized to identify detailed linguistic strengths and weaknesses for certification purposes. Fifth, the research aimed to determine the design principles necessary for developing an ESP certification model that aligns with authentic workplace communication requirements in the food technology industry. Finally, it evaluated the extent to which a CDA-informed ESP certification framework can enhance the validity, diagnostic value, and practical relevance of language assessment for industry stakeholders.

2. METHOD

This study adopted a descriptive qualitative design complemented by quantitative data derived from structured questionnaires, constituting a convergent mixed-methods framework. This design was selected to capture both the contextual complexity of workplace language practices and the measurable distribution of employees' linguistic competencies. The qualitative component enabled an in-depth exploration of authentic communicative tasks, interactional constraints, and

discourse patterns in the workplace, while the quantitative component provided numerical indicators of frequency, difficulty level, and perceived importance of English use across job functions. The integration of these two strands followed a triangulation rationale, allowing findings from one dataset to corroborate and enrich interpretations from the other, thereby strengthening interpretive validity and methodological robustness.

The research was conducted in an industrial workplace setting involving employees from three operational divisions: production, quality control (QC), and research and development (R&D). These departments were purposively selected because they represent distinct communicative domains with different discourse demands, ranging from procedural instruction and documentation to technical reporting and analytical communication. A total of 40 participants were recruited through stratified purposive sampling to ensure proportional representation of job roles, experience levels, and functional responsibilities. Such sampling ensured that the dataset reflected authentic linguistic variation across hierarchical and functional positions within the organization.

Data collection was implemented in three sequential and interrelated phases. The first phase consisted of questionnaire administration. The instrument was constructed based on ESP needs analysis frameworks and workplace communication taxonomies, incorporating Likert-scale items, frequency checklists, and self-assessment descriptors. The questionnaire measured three principal constructs: (1) frequency of English use in job tasks, (2) perceived difficulty of task-specific language use, and (3) perceived importance of English for job performance. Prior to distribution, the instrument underwent expert validation and pilot testing with a small comparable sample to ensure clarity, relevance, and content representativeness. Reliability analysis was conducted using internal consistency estimation, and revisions were made to ambiguous or redundant items. Descriptive statistical procedures, including mean scores, frequency distributions, and percentage analysis, were used to identify general trends and priority skill gaps.

The second phase involved semi-structured interviews designed to obtain richer qualitative insights into workplace communicative practices. Interview participants included supervisors, HR personnel, and selected employees representing different departments and proficiency levels. The interview protocol was developed through adaptation of validated ESP interview frameworks and was reviewed by two specialists in ESP pedagogy and professional communication to ensure construct validity and procedural rigor. Interviews followed a flexible structure that allowed probing questions while maintaining consistency in core topics, such as communicative challenges, task requirements, language expectations, and perceived training needs. All interviews were audio-recorded with permission and transcribed verbatim to preserve linguistic authenticity. This approach enabled the researcher to capture not only explicit responses but also implicit indicators such as hesitation, lexical searching, and code-switching patterns that reflect underlying proficiency issues.

The third phase consisted of pilot testing the proposed assessment instruments intended for ESP certification. Prototype tasks for reading, writing, listening, and speaking were developed based on authentic workplace materials such as SOP excerpts, QC forms, technical instructions, and simulated supervisor-staff interactions. Twelve participants, including employees and interns, were involved in this pilot phase. The purpose was twofold: first, to evaluate task alignment with cognitive complexity levels derived from Bloom's taxonomy; and second, to examine instrument reliability and usability. Performance results were analyzed to determine whether items discriminated effectively between proficiency levels. Participant feedback was also collected

regarding clarity of instructions, perceived difficulty, and authenticity of task scenarios. Necessary revisions were then implemented to optimize task validity, linguistic realism, and assessment fairness.

Qualitative data analysis followed a systematic thematic coding procedure. Transcripts were analyzed using iterative coding cycles consisting of open coding, axial coding, and selective categorization to identify recurrent themes related to communicative needs, barriers, and task-specific language demands. To enhance trustworthiness, coding decisions were reviewed repeatedly and compared across participant groups to ensure consistency. Quantitative questionnaire data were analyzed using descriptive statistics to generate an empirical profile of workplace language use. Integration of datasets occurred during interpretation, where quantitative trends were explained and elaborated through qualitative evidence, producing a comprehensive needs analysis model.

Ethical protocols were rigorously observed throughout the research process. All participants provided informed consent prior to data collection and were informed of their right to withdraw at any stage without penalty. Anonymity was maintained by assigning identification codes instead of names, and all data were stored securely with restricted access. Additionally, organizational permission was obtained to ensure that the research complied with institutional policies and professional standards for workplace studies.

Overall, the methodological procedures were designed to maximize validity, reliability, and practical relevance. Methodological triangulation, expert validation, pilot testing, and systematic analysis collectively ensured that the findings provide a credible empirical basis for developing ESP certification frameworks tailored to workplace communication demands.

3. FINDINGS AND DISCUSSION

3.1 Identified Language Needs

Figure 1. Food Safety Inspection Checklist

Figure 2. Manufactoring Quality Control Template

The triangulated analysis of questionnaire data, semi-structured interviews, and pilot assessment results revealed four dominant domains of English use that are indispensable in food technology workplaces. These domains correspond directly to the communicative demands identified in RQ1, which sought to determine the specific English language skills required for effective job performance. The convergence of quantitative frequency patterns and qualitative narrative evidence strengthens the interpretive validity of these findings and indicates that workplace English needs are not generalized but highly domain-specific, task-embedded, and cognitively structured.

1. Food Safety English

Employees consistently reported frequent exposure to specialized terminology related to hygiene protocols, contamination control, sanitation procedures, and hazard identification. Questionnaire data indicated that over two-thirds of respondents regularly encountered English terminology in safety documentation, inspection checklists, and compliance guidelines. Interview findings further revealed that misunderstandings of key safety terms could lead to procedural hesitation or reliance on peer translation. This supports Hyland's argument that ESP instruction must prioritize discipline-specific lexical repertoires because professional communication relies heavily on technical vocabulary precision. Similarly, previous ESP research demonstrates that occupational discourse competence is largely determined by mastery of domain-bound lexis rather than general grammatical proficiency. Thus, the present findings confirm that lexical specialization is foundational for workplace communicative effectiveness.

2. Food Processing Instructions

The interpretation of Standard Operating Procedures (SOPs), production charts, and equipment manuals emerged as one of the most critical communicative tasks. Participants emphasized that these documents often contain dense syntactic structures, including passive voice constructions, embedded clauses, and conditional sequences, which increase processing difficulty. Prior research has shown that technical procedural texts frequently employ syntactic compression and nominalization, which can impede comprehension among non-native professionals. In relation to RQ2, this finding indicates that ESP certification frameworks must explicitly assess procedural

reading comprehension rather than relying solely on general reading tests. The need for such task-specific assessment has also been highlighted in vocational ESP studies showing that learners trained with authentic procedural texts demonstrate significantly higher workplace task accuracy.

3. Hygiene and Sanitation Communication

Beyond receptive comprehension, employees must produce accurate spoken explanations of sanitation procedures, corrective actions, and compliance justifications. Interview transcripts revealed that many participants could recognize terminology but struggled to articulate explanations fluently when required to report deviations or describe corrective measures. This gap between receptive and productive competence confirms output-based language learning theories which posit that productive language use exposes linguistic limitations that remain hidden during comprehension. Previous workplace ESP studies likewise report that employees often possess passive technical vocabulary but lack functional communicative competence for real-time interaction. Therefore, effective ESP programs must integrate speaking tasks that simulate authentic reporting and compliance communication.

4. Technical Reporting Skills

Writing QC reports, production records, and inspection summaries constituted another high-priority language domain. Participants displayed variability in their ability to organize information logically, employ accurate terminology, and express cause effect relationships. Quantitative data indicated that writing tasks received the highest perceived difficulty rating among all skill areas. Prior research on professional discourse demonstrates that workplace writing requires genre awareness, discourse organization skills, and audience adaptation strategies. The present findings suggest that ESP certification systems should incorporate genre-based writing assessments that mirror authentic workplace documentation formats rather than generic essay tasks.

Taken together, these four domains confirm that ESP competence in food technology workplaces is multidimensional, involving lexical knowledge, syntactic processing, pragmatic appropriateness, and discourse organization. This integrated skill profile directly answers RQ1 by demonstrating that workplace English proficiency is defined by task performance capacity rather than abstract language knowledge. Consequently, ESP instruction must be contextually embedded and operationally aligned with actual job responsibilities.

3.2 Implications for Certification Design

Addressing RQ2, which investigates how an ESP-based certification model can effectively respond to identified workplace language needs, the findings strongly support the adoption of a scaffolded three-level certification framework organized according to functional competence progression. This structure is grounded in the principle that professional language ability develops incrementally and must be evaluated through observable task performance rather than generalized proficiency estimates. By sequencing certification stages from foundational to advanced communicative capability, the model operationalizes language competence as a continuum of workplace readiness in which each level reflects increasingly complex cognitive processing, linguistic control, and task autonomy.

The proposed framework is theoretically anchored in criterion-referenced assessment, meaning that candidates are evaluated against explicit performance descriptors derived from authentic job requirements rather than in comparison with other test-takers. Such an approach ensures that certification outcomes represent concrete evidence of occupational communicative competence. Each level is therefore defined by measurable workplace behaviors for example, accurately

interpreting procedural instructions, producing structured technical documentation, or participating effectively in task-based interaction. This design avoids the limitations of norm-referenced testing, which often produces relative rankings but fails to indicate whether an individual actually possesses the language skills necessary for professional performance.

In addition, the model integrates principles of mastery learning, emphasizing that progression to higher certification tiers is contingent upon demonstrated competence at preceding levels. This sequential validation system strengthens assessment validity because it ensures that advanced certification holders have already consolidated prerequisite linguistic and cognitive skills. Mastery-based progression also aligns with vocational training philosophy, which prioritizes skill reliability, procedural accuracy, and performance consistency attributes that are essential in technical industries such as food technology where communication errors may affect safety, quality assurance, and regulatory compliance.

Another important implication is the alignment between certification descriptors and authentic discourse domains identified during needs analysis. Because each level is mapped directly onto real workplace communicative tasks, the certification framework functions simultaneously as an assessment tool and a competency roadmap. Employers can interpret certification results as indicators of job readiness, trainers can use them to design targeted instruction, and employees can use them to monitor professional language development. In this sense, certification becomes not merely a testing mechanism but a structured professional development pathway.

Furthermore, structuring certification according to functional competence progression enhances diagnostic transparency. Since each level corresponds to clearly defined sub-skills such as lexical precision, procedural comprehension, discourse organization, and interactional fluency assessment results can reveal specific strengths and deficiencies. This diagnostic dimension is especially valuable for ESP contexts because it allows training programs to prioritize instruction that directly addresses workplace communication gaps rather than delivering generalized language content.

Taken together, these implications indicate that an ESP certification model designed around scaffolded competence levels, criterion-referenced standards, and mastery progression provides a pedagogically sound and industry-relevant framework. Such a model ensures that certification is not treated as a symbolic credential but as a valid indicator of functional communicative capability that accurately reflects employees' ability to perform language-mediated tasks within their professional environment.

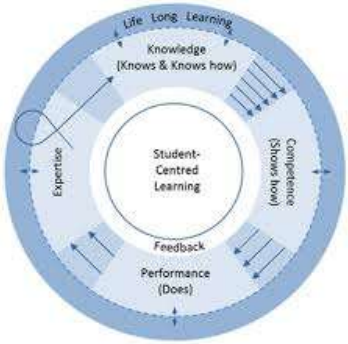

Figure 3. Life Long Learning

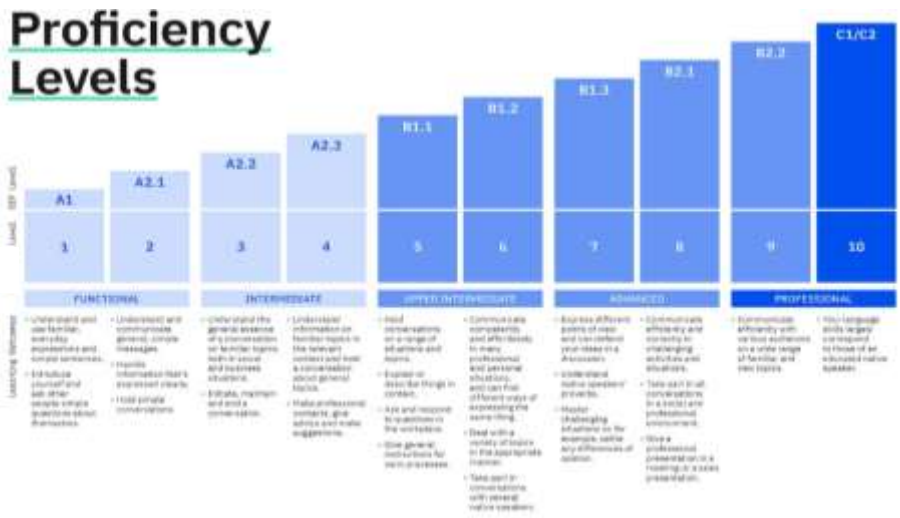

Figure 4. Proficiency Level

Basic Level certification targets foundational receptive competence, including recognition of technical vocabulary, comprehension of SOPs, and interpretation of hygiene instructions. This level reflects threshold lexical competence the minimum vocabulary base required for task comprehension. Assessment tasks therefore emphasize controlled formats such as matching, labeling, and guided comprehension items. Intermediate Level focuses on applied functional competence, requiring employees to interpret instructions, summarize procedures, write brief technical notes, and follow spoken operational directives. Tasks simulate real production scenarios, consistent with task-based language assessment principles that prioritize authenticity and performance validity. At this stage, learners demonstrate not only understanding but also application, corresponding to mid-level cognitive processing skills. Advanced Level measures productive professional competence, including extended report writing, participation in technical discussions, problem-solving communication, and inspection simulations. This level reflects higher-order communicative abilities associated with workplace leadership and decision-making. Research on professional language testing emphasizes that workplace assessments must evaluate discourse management, interactional control, and pragmatic appropriateness, all of which are integrated into this level.

A Cognitive Diagnostic Assessment (CDA) framework underpins all three certification tiers. CDA enables fine-grained mapping of subskills such as lexical recognition, syntactic decoding, procedural reasoning, and discourse structuring. Previous studies demonstrate that CDA-based testing provides more actionable feedback than traditional scoring methods because it identifies specific skill deficits rather than reporting overall proficiency. In the present study, CDA output profiles allowed trainers to determine precisely which subskills required remediation, thereby enhancing instructional efficiency and personalization.

3.3 Contribution to ESP Theory and Industry Practice

The findings contribute theoretically to ESP scholarship by reinforcing the argument that effective professional language training must integrate linguistic competence, cognitive processing ability, and occupational task performance. This integrated perspective reflects contemporary ESP models positioning the field as a bridge between applied linguistics and professional practice. The present study extends this perspective by empirically demonstrating how workplace needs analysis can directly inform certification architecture, thereby operationalizing ESP principles into measurable training outcomes. From a pedagogical standpoint, the results confirm that authentic task simulation is essential for developing functional communicative competence. Employees who participated in pilot ESP training tasks exhibited improved accuracy in interpreting SOPs, increased confidence during oral briefings, and clearer written documentation. These improvements align with task-based ESP research showing that authenticity enhances transferability of learning to workplace performance. Thus, language instruction that replicates real professional scenarios fosters both linguistic fluency and procedural accuracy.

The study also contributes to assessment research by illustrating the practical value of CDA in workplace certification systems. Traditional assessments often fail to diagnose specific weaknesses, limiting their usefulness for training design. By contrast, CDA-based certification produces diagnostic profiles that guide individualized learning plans. This supports current assessment theory emphasizing diagnostic feedback as essential for formative development and professional skill acquisition. From an industry perspective, aligning ESP training with operational demands yields measurable organizational benefits. Improved technical communication reduces procedural errors, enhances compliance accuracy, and strengthens interdepartmental coordination. Prior workplace communication research consistently demonstrates that language proficiency directly influences productivity, safety, and quality assurance. Furthermore, certification provides employees with formal recognition of competence, which can increase motivation, professional identity, and career advancement opportunities. Importantly, the proposed certification model fosters a culture of continuous professional development. Because each level represents a clearly defined competence stage, employees can track their progress and pursue incremental improvement. This structured progression mirrors lifelong learning frameworks widely recommended in vocational education, emphasizing adaptability and skill sustainability in rapidly evolving industries.

Overall, the discussion demonstrates that the study's findings systematically address both research questions. RQ1 is answered through the identification of four empirically grounded domains of workplace English needs, while RQ2 is addressed through the development of a certification model that maps these needs onto structured proficiency levels and measurable subskills. These findings are consistent with previous ESP needs analysis research emphasizing the importance of context-specific language demands in vocational settings (Hutchinson & Waters, 1987; Basturkmen, 2010). Similar to studies conducted in agricultural and culinary vocational programs (Hajar & Triastuti, 2022; Simanjuntak & Ratmanida, 2024), the present study confirms that technical vocabulary, procedural reading, and task-based communication constitute core competencies in industry-based ESP contexts. However, unlike prior studies that primarily focused on curriculum development, this research extends the discussion by integrating needs analysis outcomes into a structured certification framework supported by Cognitive Diagnostic Assessment (Leighton & Gierl, 2007).

Furthermore, the alignment between workplace discourse demands and assessment descriptors echoes findings by Forey and Lockwood (2007) and Louhiala-Salminen and Kankaanranta (2012), who highlight the functional and performance-oriented nature of professional communication. The present study contributes additional insight by operationalizing these communicative demands into measurable certification levels rather than remaining at the descriptive stage. In doing so, it demonstrates how ESP research can evolve beyond identifying needs toward constructing actionable assessment systems that directly reflect workplace performance indicators. By linking linguistic competence with professional task execution, the study provides a replicable and scalable model for other technical industries seeking to develop workforce-oriented language certification systems. Thus, the research not only reinforces theoretical perspectives on ESP in vocational contexts but also advances practical implementation by integrating needs analysis, diagnostic assessment, and certification design into a coherent framework.

4. CONCLUSION

This study demonstrates that English proficiency in food technology workplaces is highly specialized and closely tied to specific job tasks rather than general language ability. Addressing RQ1, the findings reveal that employees require targeted competencies in technical vocabulary, SOP comprehension, hygiene and safety communication, and structured reporting. These needs confirm that workplace communication effectiveness depends on domain-specific linguistic skills and that ESP instruction must be aligned with authentic professional tasks. In response to RQ2, the study proposes a three-level ESP certification model Basic, Intermediate, and Advanced designed to reflect real workplace demands and supported by Cognitive Diagnostic Assessment (CDA) to identify learners' strengths and weaknesses for targeted training.

The study contributes to ESP research and practice by showing that certification frameworks grounded in needs analysis and authentic task performance can bridge the gap between language education and industry requirements. Although conducted within a single organizational context, the proposed model offers a scalable framework for other technical sectors. Future research should validate its applicability across industries and examine its long-term impact on workplace performance, communication accuracy, and professional development.

REFERENCES

Alderson, J. C., Brunfaut, T., & Harding, L. (2015). Towards a theory of diagnosis in second and foreign language assessment: Insights from professional practice. *Applied Linguistics*, 36(3), 317–338.

Arfiandhani, P., & Takeuchi, O. (2025). Grit in L2 Educational Contexts: A Scoping Review. *ELT-Lectura*, *12*(2). https://doi.org/10.31849/egny2q78

Basturkmen, H. (2010). *Developing courses in English for specific purposes*. Palgrave Macmillan.

Basturkmen, H. (2021). ESP and teacher education. In *The Routledge Handbook of English for Specific Purposes*. Routledge.

Belcher, D. (2019). *English for Specific Purposes in theory and practice*. University of Michigan Press.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Douglas, D. (2013). ESP and assessment. In B. Paltridge & S. Starfield (Eds.), *The handbook of English for specific purposes* (pp. 367–383). Wiley-Blackwell.

Ellis, R. (2003). *Task-based language learning and teaching*. Oxford University Press.

Forey, G., & Lockwood, J. (2007). "I'd love to put someone in jail for this": An initial investigation of English in the business processing outsourcing industry. *English for Specific Purposes*, 26(3), 308–326. https://doi.org/10.1016/j.esp.2006.09.001

Hajar, I., & Triastuti, A. (2022). A needs analysis of ESP materials for agriculture students at Indonesian vocational school in West Sulawesi. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(1), 101–116. https://doi.org/10.21093/ijeltal.v7i1.840

Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centered approach*. Cambridge University Press.

Hyland, K. (2016). *English for Specific Purposes: Teaching to perceived needs and imagined futures*. Routledge.

Leighton, J. P., & Gierl, M. J. (2007). *Cognitive diagnostic assessment for education: Theory and applications*. Cambridge University Press.

Louhiala-Salminen, L., & Kankaanranta, A. (2012). Language as an issue in international internal communication: English or local language? *Journal of Business Communication*, 49(4), 262–282. https://doi.org/10.1177/0021943612456030

Musdalifah, A., Yuliana, A., Musrina, & Heriyanti. (2023). Need analysis of ESP material for fish hatchery technology students. *Qalam: Jurnal Ilmu Kependidikan*, 12(1), 74–80.

Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press.

Rini Ekayati, & Meisuri. (2022). Analysis of cognitive diagnostic assessment (CDA) in differentiated learning on English subject phase D. *Randwick International of Education and Linguistics Science Journal*, 4(4), 841–853.

Santika, S., Wirza, Y., & Emilia, E. (2022). A needs analysis for ESP in a multimedia study programme of a vocational high school. *International Journal of Education*, 15(1), 46–57.

Simanjuntak, K. N., & Ratmanida. (2024). Crafting language for culinary excellence: Customizing ESP content to align with student and industry needs. *Voices of English Language Education Society*, 8(2), 232–246. https://doi.org/10.29408/veles.v8i2.26093

Swain, M. (2005). The output hypothesis: Theory and research. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 471–483). Lawrence Erlbaum.

Tardy, C. (2012). Genre-based pedagogy. In *The Encyclopedia of Applied Linguistics*. Wiley.

Utami, G. A. P. A., Jaya Putra, N. A., & Ramendra, D. P. (2022). Developing English material for food and beverage service for XI grade students of SMK SMSR Ubud. *Indonesian Journal of Educational Research and Review*, 3(2), 133–144.