

Original Article



Evaluating the Effectiveness and Skill Correlation of ESP-Based Childcare English Materials on Taiwanese Learners' Four Language Skills

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Abstract:

This study investigates the effectiveness of a self-developed English for Specific Purposes (ESP) textbook on improving the four core English skills—listening, speaking, reading, and writing—among Taiwanese childcare students. Excluding needs analysis, the research focused on measuring learning outcomes and analyzing skill correlations. A quasi-experimental design was implemented with 95 sophomore students divided into experimental (ESP) and control (EGP) groups. Pre- and post-tests were conducted, and independent samples t-tests and Pearson correlation analyses were applied. The results revealed that the experimental group significantly outperformed the control group in all four skills. The most notable improvements were observed in speaking and listening. Strong positive correlations were also found between listening and speaking ($r = .76$) and between reading and writing ($r = .73$), suggesting interdependence among skill sets. The discussion emphasizes the pedagogical value of integrating receptive and productive skills in ESP instruction and aligning content with vocational relevance. Implications include adopting integrated-skill course design, enhancing teacher training in ESP pedagogy, and promoting institutional support for profession-specific English education. The study concludes that ESP instruction fosters greater motivation, skill development, and job-readiness for vocational learners in childcare.

Keywords: ESP instruction, four English skills, childcare learners, skill correlation, vocational education

1. Introduction

1.1. Background and Rationale

In recent years, English for Specific Purposes (ESP) has gained growing importance in vocational education worldwide, especially in contexts where learners must acquire not only general English skills but also field-specific communication abilities. In Taiwan, students majoring in Child Care and Education face increasing pressure to become proficient in both general and professional English in order to compete for international employment opportunities, particularly in English-speaking or bilingual work environments such as Singapore. The need for professional, domain-specific language skills has highlighted the limitations of traditional English for General Purposes (EGP)

instruction and emphasized the necessity for ESP-oriented teaching materials (Hyland, 2007& Rodrigo; Basturkmen, 2015).

1.2. ESP and Childcare English

ESP, as an educational approach, adapts language instruction to meet the specific academic, occupational, or social needs of learners in particular domains (Hutchinson & Waters, 1987). In contrast to EGP, ESP prioritizes contextualized and relevant content, fostering more immediate application of language skills in real-life professional settings. For childcare learners, this includes vocabulary, dialogues, and communicative tasks relevant to health and safety, developmental milestones, behavior management, and parent communication. However, Taiwan has

seen a gap in accessible English resources that cater to the unique needs of students preparing for childcare careers (Ko, 2021). As a result, many students enter the workforce underprepared for English-mediated professional communication.

To address this gap, a specialized textbook titled *Practical English for Childcare Learners* was developed based on a prior needs analysis. The textbook includes dialogues and practical vocabulary aligned with real-life childcare scenarios, from feeding routines and emotional regulation to classroom safety and communication with parents. The content was designed to reflect authentic communicative tasks, thereby enhancing learner motivation and facilitating skill transfer (Nunan, 2004).

The shift from EGP to ESP materials represents a broader pedagogical transition toward learner-centered and task-based language education. Unlike traditional approaches focused on grammar and memorization, ESP prioritizes communicative competence in authentic contexts (Dudley-Evans & St. John, 1998). This is particularly advantageous for vocational learners, who often benefit from content that is both relevant and practical. ESP courses have been shown to improve not only learners' language proficiency but also their confidence and readiness to engage in workplace communication (Tsou & Chen, 2014).

Furthermore, ESP studies often examine the interrelationship between the four core language skills—listening, speaking, reading, and writing—within the domain-specific context. These skills are understood to support and reinforce one another, particularly in ESP settings where language use mimics real-world professional interactions (Nation, 2009). Thus, beyond measuring individual improvements in each skill, it is also important to analyze how these skills correlate and interact with one another to inform curriculum development and instructional sequencing.

1.3. Purpose of the Study

This study investigates the impact of ESP-based instruction on the four skills of childcare learners and explores the correlation between receptive (listening and reading) and productive (speaking and writing) skills. It focuses solely on the effectiveness of the ESP instruction and the inter-

skill relationships, excluding the discussion of needs analysis.

2. Literature Review

2.1. ESP in Vocational Education

English for Specific Purposes (ESP) has become a key approach within English language teaching, especially in vocational and professional contexts where learners require tailored instruction to meet specific communicative needs. Defined by Hutchinson and Waters (1987) as “an approach to language teaching in which all decisions as to content and method are based on the learner’s reason for learning,” ESP shifts the focus away from general language structures to language use in target situations. Unlike English for General Purposes (EGP), which offers broad and generalized instruction, ESP is highly contextualized and goal-oriented. It prioritizes practicality, immediate application, and learner relevance—especially important in fields like childcare, where language tasks involve highly specific interactions with children, parents, and colleagues.

2.2. ESP Framework and Application

Since its emergence in the 1960s, ESP has evolved through several theoretical stages, including register analysis, rhetorical and discourse analysis, target situation analysis, skills-centered approaches, and learning-centered frameworks (Basturkmen, 2015). These developments have been underpinned by a growing body of research supporting the effectiveness of ESP for learners in professional and academic domains. Dudley-Evans and St. John (1998) emphasized that ESP courses are distinguished by their focus on authentic materials, purpose-related language tasks, and learner autonomy. Importantly, ESP has been widely applied in fields such as engineering, hospitality, and nursing, with studies reporting improved performance, motivation, and professional preparedness among learners (Tsou & Chen, 2014; Yu & Liu, 2018).

Despite its widespread application, the field of childcare education has received limited attention in ESP research. This oversight is significant, given that English proficiency is increasingly required of childcare workers—particularly in bilingual contexts like Singapore, where professional communication often occurs in

English. Notably, Singaporean preschool institutions frequently recruit early childhood educators from Taiwan, further emphasizing the need for Taiwanese childcare students to develop practical English proficiency for international employment. As Singapore is a bilingual nation where English is the medium of instruction and professional discourse, enhancing Taiwan's ESP curriculum in childcare education is becoming increasingly important. Ko (2021) addressed this gap by designing and evaluating a childcare-specific ESP textbook tailored for Taiwanese learners. Her findings demonstrated significant gains in learners' language performance and positive learner feedback on the course's authenticity and relevance.

One of the major pedagogical strengths of ESP is its ability to integrate the four core language skills—listening, speaking, reading, and writing—into meaningful, real-world tasks. Hyland & Rodrigo (2007) points out that ESP instruction, especially in professional settings, must go beyond isolated grammar instruction to incorporate integrated skill development that reflects actual workplace communication. For childcare learners, these tasks might involve reading health documents, writing reports, speaking with parents, or listening to children's needs. Authentic, task-based instruction thus supports not only language acquisition but also job readiness.

2.3. Integrated Skills and Inter-skill Correlation

Another area of importance in ESP research is the correlation among the four language skills. Studies suggest that certain skills naturally complement and reinforce one another. Listening and speaking, for example, are commonly paired in oral communication, while reading and writing are essential for written discourse. Nation (2009) and Grabe (2009) both argue that improvement in one skill often supports gains in the other due to shared cognitive processes and overlapping language functions. For instance, learners who improve in reading often show enhanced vocabulary and grammatical accuracy in writing, while those who develop listening skills tend to gain fluency in speaking.

These inter-skill relationships are especially

relevant in ESP, where instructional design often aligns receptive and productive tasks to simulate real-world communication. In this context, understanding how skills relate to and influence one another is critical for improving curriculum design. Nation (2009) emphasized that listening and speaking should be taught as interconnected skills, particularly in goal-oriented contexts, as spoken output is often a direct response to auditory input. Similarly, Grabe (2009) highlighted the strong cognitive and linguistic link between reading and writing, noting that reading provides essential models for vocabulary, discourse patterns, and grammar structures that support writing development. These findings suggest that well-designed ESP courses, which integrate input and output tasks in meaningful contexts, can foster both skill-specific development and cross-skill reinforcement. Hyland & Rodrigo (2007) further supported this view by advocating for genre-based, integrated instruction that mirrors the communicative demands of learners' target professions.

Authenticity also plays a critical role in ESP instruction. Learners benefit more from materials and activities that simulate real-life tasks, which increases their motivation and sense of purpose (Nunan, 2004). In the childcare context, this may involve dialogues related to emotional development, routines, classroom behavior, and family interaction—all of which were embedded in the *Practical English for Childcare Learners* textbook. By mirroring real workplace scenarios, the textbook helped learners understand not only the linguistic forms but also the cultural and functional contexts of communication in childcare.

From a theoretical standpoint, these findings are consistent with constructivist views of language learning, which posit that learners acquire language most effectively when they can connect it to meaningful, contextual experiences. By focusing on actual communication tasks rather than abstract grammar drills, ESP facilitates both language acquisition and professional competency. As a result, ESP is particularly well-suited for vocational learners who require immediate, applicable skills for future careers.

While the effectiveness of ESP has been established in other fields, additional empirical evidence is needed to validate its impact on

childcare education. Moreover, limited research has examined how integrated skill development and inter-skill correlations manifest in childcare-specific ESP instruction. To address these gaps, the current study focuses on evaluating both the individual and interrelated improvements in learners' four core English skills—listening, speaking, reading, and writing—after the implementation of a customized ESP textbook.

To guide the present study, the following research questions were formulated:

- 1) In terms of listening, speaking, reading, and writing, were there significant differences in the post-test scores between the experimental group and the control group?
- 2) What is the correlation between learners' ESP listening and speaking performance?
- 3) What is the correlation between learners' ESP reading and writing performance?
- 4) How can understanding the interrelationship between listening-speaking and reading-writing inform the design of more effective ESP instruction for childcare learners?

3. Materials and Methods

3.1. Research Design

This study adopted a quasi-experimental design to evaluate the effectiveness of a

self-developed ESP textbook for childcare learners and to explore the correlation between the four language skills—listening, speaking, reading, and writing. The design involved pre-test and post-test assessments administered to two intact classes of sophomore students from the Department of Child Care and Education at a university in northern Taiwan. One class was assigned as the experimental group, receiving instruction based on the customized ESP materials, while the other served as the control group, using traditional English for General Purposes (EGP) content. The independent variable was the type of instructional material (ESP vs. EGP), and the dependent variables were the students' performance in the four language skills.

The study was quantitative in nature, using inferential statistical analysis, including independent samples t-tests to examine group differences and Pearson's correlation coefficient (r) to analyze relationships between skill sets. The

primary aim was to assess whether the ESP-based instruction would lead to significant improvements in learners' post-test scores compared to the control group and to determine the extent to which listening and speaking, as well as reading and writing, were correlated after the intervention.

3.2. Participants

A total of 95 sophomore students participated in the study, all of whom were enrolled in the Department of Child Care and Education. They were divided into two groups based on class enrollment. The experimental group consisted of 48 students who received instruction using the ESP textbook *Practical English for Childcare Learners*. The control group included 47 students who followed a conventional EGP curriculum.

All participants had similar backgrounds in terms of age, academic level, and prior English instruction. None of them held any English certificates, indicating relatively low to intermediate English proficiency. Prior to the intervention, a pilot needs analysis was conducted with 204 students from the same department to determine textbook content; however, the needs analysis findings were excluded from this particular study, which focused only on post-intervention outcomes.

3.3. Instruments

Four sets of skill-specific assessment tools were used as both pre-tests and post-tests:

- 1) A listening test consisting of multiple-choice comprehension questions based on authentic childcare-related dialogues
- 2) A speaking assessment involving structured oral responses to situational prompts (e.g., handling a child's tantrum or explaining safety rules to a parent)
- 3) A reading test with short-answer and multiple-choice questions focused on childcare-related texts
- 4) A writing test requiring learners to compose a brief report or note commonly used in childcare settings

These instruments were designed based on the content of the ESP textbook and

were validated through pilot testing. The

reliability coefficients (Cronbach's α) for the pilot listening and reading tests were 0.713 and 0.731, respectively, indicating acceptable internal consistency. The speaking and writing tasks were scored using standardized rubrics assessing fluency, coherence, vocabulary use, and grammatical accuracy.

3.4. Data Collection

Data were collected over the course of one academic semester (18 weeks). Pre-tests were administered during the first week of instruction to both groups to establish baseline equivalence in all four language skills. Following the instructional period, post-tests were conducted in the final week of the semester using the same formats. All assessments were conducted under controlled classroom conditions.

Additionally, test scores were entered into SPSS for statistical analysis. Independent samples t-tests were used to compare mean differences between the experimental and control groups, while Pearson's r was used to measure the strength and direction of the correlations between listening-speaking and reading-writing within the experimental group.

3.5. Procedure

(1) Week 1:

Pre-tests (listening, speaking, reading, writing) were administered to both the experimental and control groups.

(2) Weeks 2–17:

The experimental group received instruction based on the self-developed ESP textbook, which included thematic units such as child development, behavior management, nutrition, safety, and parental communication. Each unit included integrated tasks involving listening to dialogues, role-playing conversations, reading professional texts, and writing short responses.

The control group received traditional EGP instruction, focusing on grammar drills, reading passages unrelated to childcare, and general

vocabulary development.

(3) Week 18:

Post-tests were administered. Scores were analyzed to assess improvement and determine inter-skill correlations within the experimental group.

By employing a quasi-experimental design with well-matched groups and aligned testing instruments, this methodology allowed for a reliable investigation into the impact of ESP materials on vocational learners' language development and provided insight into the interconnectedness of the four language skills in a professional context.

4. Results

4.1. Group Differences in Four Language Skills

This section presents the findings based on the four research questions focusing on the effectiveness of ESP-based instruction for childcare learners. The results draw on quantitative data collected from pre-tests and post-tests in listening, speaking, reading, and writing, as well as correlational analyses to explore the relationships between receptive and productive skills. The results are supplemented with tables and visual figures to provide comprehensive insights into the learners' performance and inter-skill dynamics.

Research Question 1: In terms of listening, speaking, reading, and writing, were there significant differences in the post-test scores between the experimental group and the control group?

To evaluate the learning outcomes, post-test scores of the experimental group (who received ESP-based instruction) and the control group (who received EGP instruction) were compared using independent samples t-tests. As illustrated in Table 1 and Figure 1, the experimental group demonstrated significantly higher mean scores across all four language skills.

Table 1: Post-Test Scores of Experimental and Control Groups

Skill	Experimental Mean (SD)	Control Mean (SD)	T Value	Significance Level
Listening	69 (11.53)	38 (11.47)	13.12	$p < .001$
Speaking	80 (10)	40 (10.42)	19.2	$p < .001$

Reading	53 (13.13)	34(10.30)	7.75	$p < .001$
Writing	55 (13.97)	28 (12.76)	9.99	$p < .001$

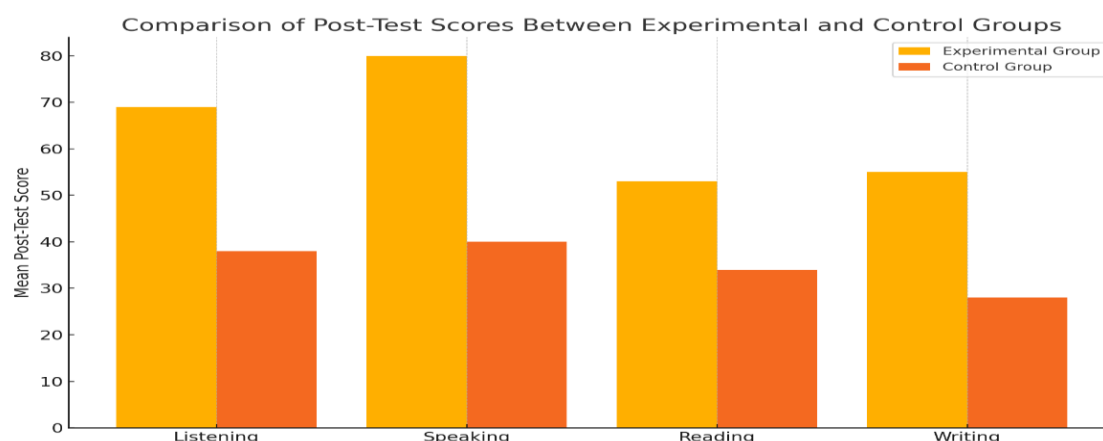


Figure 1: Comparison of Post-Test Scores Between Experimental and Control Groups

The speaking scores showed the most substantial improvement, with the experimental group achieving a mean score of 80 compared to 40 in the control group. Similar large differences were seen in listening (69 vs. 38), reading (53 vs. 34), and writing (55 vs. 28). These findings are consistent with prior ESP research that highlights the effectiveness of profession-specific instruction in improving learners' motivation, performance, and communicative competence. For instance, Basturkmen (2015) emphasized that when ESP courses are designed around learners' specific career needs, they are more likely to produce significant language gains. Hyland & Rodrigo (2007) also argued that ESP instruction grounded in authentic, context-driven tasks enhances learner engagement and real-world readiness. In the Taiwanese context, Tsou and Chen (2014) found

that nursing students receiving ESP training showed substantial improvements in practical communication skills. The large gains observed across all four skills in the present study reinforce the pedagogical value of integrating domain-relevant content into language instruction for vocational learners.

4.2. Correlation Between Listening and Speaking

Research Question 2: What is the correlation between learners' ESP listening and speaking performance?

Pearson's correlation coefficient was calculated using post-test scores from the experimental group. The result revealed a strong positive correlation between listening and speaking ($r = .76$, $p < .01$), as shown in Table 2 and Figure 2.

Table 2: Correlation Between Listening and Speaking

Skill Pair	Correlation Coefficient (r)	Significance
Listening - Speaking	0.76	$p < .01$

This finding aligns with Nation (2009), who emphasized that input (listening) naturally supports output (speaking), especially in structured ESP contexts. The results suggest that instructional strategies that integrate listening activities with follow-up speaking tasks are effective for oral language development among vocational learners.

4.3. Correlation between Reading and Writing

Research Question 3: What is the correlation between learners' ESP reading and writing performance?

Similarly, Pearson's correlation coefficient was used to examine the relationship between reading and writing. A strong positive correlation was found ($r = .73$, $p < .01$), indicating that students who performed well in reading also tended to achieve high scores in writing.

Table 3: Correlation between Reading and Writing

Skill Pair	Correlation Coefficient (r)	Significance
Reading - Writing	0.73	$p < .01$

This supports Grabe's (2009) conclusion that learners with improved reading comprehension often produce more coherent and accurate written texts. The integration of reading and writing tasks—such as reading a case study and writing a follow-up report—can foster vocabulary development and structural fluency.

4.4. Implications of Skill Correlation for ESP Design

Research Question 4: How can understanding the interrelationship between listening-

speaking and reading-writing inform the design of more effective ESP instruction for childcare learners?

The strong correlations observed between listening-speaking ($r = .76$) and reading-writing ($r = .73$) suggest that an integrated skills approach should be central to ESP course design. Instruction should follow a cycle where receptive skills (listening or reading) precede and scaffold productive output (speaking or writing). For example, listening to a dialogue about handling a child's illness can be followed by a speaking task simulating the same scenario. Similarly, reading a classroom policy document can support writing practice such as email communication with parents.

These findings are consistent with Hyland & Rodrigo (2007), who argued that effective ESP instruction must reflect the communicative demands of specific professional settings. For childcare learners, the integration of thematically coherent units—combining listening, speaking, reading, and writing in context—enables better preparation for real-world communication.

5. Discussion

The present study aimed to evaluate the effectiveness of a customized ESP (English for Specific Purposes) textbook designed for Taiwanese childcare learners and to investigate the correlations among the four essential English language skills: listening, speaking, reading, and writing. The results derived from statistical analyses provide robust evidence that ESP-based

instruction led to significant improvements in learners' overall English proficiency and that strong correlations exist between receptive and productive skill sets. These findings support the broader literature on ESP's value in vocational education and provide specific insights into how integrated skill development can be achieved through targeted instruction.

5.1. ESP Instruction Promotes Greater Skill Gains

The results from Research Question 1 indicate that learners in the experimental group, who were taught with the ESP textbook Practical English for Childcare Learners, significantly outperformed the control group, who followed a general English (EGP) curriculum, across all four language skills. Among these, speaking and listening showed the most dramatic improvement, with mean gains of over 30 points compared to the control group. These outcomes suggest that learners benefit considerably from instruction aligned with their professional context, as the ESP materials helped bridge the gap between linguistic competence and practical job-related communication.

This observation aligns with Basturkmen (2015), who emphasized that ESP courses, when developed around learners' workplace needs, result in enhanced engagement and more meaningful learning. Furthermore, Ko (2021), whose work inspired this study's material design, similarly reported substantial improvements in childcare learners' English proficiency after implementing a tailored ESP curriculum. These findings collectively reinforce the notion that relevance and contextualization are key drivers of successful language acquisition in ESP environments.

5.2. Listening and Speaking as Interconnected Skills

Research Question 2 addressed the relationship between listening and speaking skills, revealing a strong and statistically significant correlation ($r = .76$, $p < .01$). This finding confirms the interdependence of these two oral skills in language development. Listening provides

essential input that supports the development of speech through modeling, vocabulary acquisition, and pronunciation accuracy. When learners are exposed to real-life audio inputs such as teacher-parent conversations, classroom dialogues, or instructions, they build a foundation for producing similar language in their own speaking tasks.

Nation (2009) supports this interpretation by arguing that listening and speaking should be taught as a unified skill set, especially in contexts where communication is goal-oriented and time-constrained, such as the childcare setting. Instruction that integrates listening comprehension with immediate speaking practice—through activities like role plays, response exercises, or simulations, can reinforce fluency and accuracy in learners. Therefore, these findings strongly support the pedagogical strategy of coupling listening input with speaking output in ESP instruction.

5.3. Reading and Writing: Reinforcing Academic and Practical Literacy

In Research Question 3, a similar positive relationship was found between reading and writing ($r = .73$, $p < .01$), indicating that students who developed strong reading comprehension were also better equipped to write in English. This supports Grabe's (2009) view that reading acts as a cognitive and linguistic scaffold for writing, particularly in the development of vocabulary, grammar, and discourse organization. In the ESP textbook used in this study, learners were exposed to real-world documents such as childcare reports, health guidelines, and lesson plans—all of which contributed to building genre awareness and content knowledge that could then be applied in written output tasks.

The ability to read and produce written materials is critical in childcare professions, where practitioners must complete forms, communicate via written notes with parents, and document observations. Therefore, designing reading tasks with a clear application to writing enhances both comprehension and language productivity. These findings suggest that reading and writing should be viewed as mutually reinforcing in ESP course design and not taught in isolation.

5.4. Integrated Skills Instruction Enhances Transfer and Retention

The results from Research Question 4 reveal that understanding the correlations between listening-speaking and reading-writing provides essential guidance for instructional design in ESP contexts. The integrated development of receptive and productive skills reflects how language is used in real-world professional situations. Hyland & Rodrigo (2007) emphasized the need for ESP courses to reflect authentic communicative demands and suggested that effective ESP instruction should involve theme-based modules where each skill is practiced in meaningful, job-relevant ways.

In this study, each unit of the ESP textbook included listening exercises followed by role-play speaking tasks, and reading passages linked to writing tasks. This cyclical structure encouraged learners to internalize vocabulary and discourse patterns before attempting output. The strong inter-skill correlations observed in the data validate this design, showing that exposure to language input effectively supports language output when the two are aligned.

Moreover, the thematic and contextually relevant nature of the materials likely contributed to learners' motivation. According to Dudley-Evans and St. John (1998), motivation is enhanced when learners see a direct link between classroom content and their future workplace roles. The observed skill gains in this study confirm this theory, suggesting that relevance not only improves engagement but also amplifies learning outcomes.

6. Conclusion and Implications

6.1. Summary of Findings

This study investigated the effects of a customized English for Specific Purposes (ESP) textbook on the development of listening, speaking, reading, and writing skills among Taiwanese childcare students. Using a quasi-experimental design, results showed that the experimental group receiving ESP instruction significantly outperformed the control group across all four skills. Notably, speaking and listening showed the largest gains. Moreover, strong positive correlations were found between listening and speaking

($r = .76$) and between reading and writing ($r = .73$), supporting the interrelated nature of receptive and productive language skills (Nation,

2009; Grabe, 2009).

6.2. Pedagogical Implications

These findings highlight the pedagogical value of integrated ESP instruction in vocational contexts. Basturkmen (2015) emphasizes that domain-specific content increases learner engagement and enhances performance. Hyland & Rodrigo (2007) also notes that learners are more motivated when language tasks are directly aligned with professional situations. In this study, thematically integrated units allowed learners to develop both skill-specific proficiency and cross-skill reinforcement through authentic, task-based learning.

6.3. Institutional and Policy Recommendations

The implications are clear: vocational institutions should implement profession-specific ESP programs for departments such as childcare, nursing, and tourism. Educators should design curricula that scaffold listening-to-speaking and reading-to-writing transitions. Dörnyei (2014) suggests that when learners see relevance in content, their motivation and confidence increase. Furthermore, successful ESP implementation requires teacher training in needs analysis, authentic task design, and thematic unit integration (Dudley-Evans & St. John, 1998). Institutional and policy-level support is also essential, especially as Taiwanese graduates increasingly seek employment in bilingual settings like Singapore (Ministry of Education Singapore, 2020; Taiwan Ministry of Education, 2019).

6.4. Concluding Observations

Taken together, this study not only confirms the effectiveness of ESP instruction in enhancing learners' language competence but also reinforces its role in preparing students for real-world communication. In today's globalized educational and professional landscape, tailored ESP instruction is not merely beneficial—it is essential.

Ethical Approval

This study does not involve any human subjects, clinical trials, or medical interventions. Therefore, ethical approval from an institutional review board (IRB) was not required.

Consent to Participate and Publication

All authors were fully informed of the study's scope and objectives. The sole author voluntarily consented to conduct and publish this research.

Author Contributions

The conceptualization, methodology, literature review, data collection, analysis, interpretation, writing, and revisions were independently completed by Ling-Yao Ko. The author has read and approved the final version of the manuscript.

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Declaration of Competing Interests

The author declares no conflict of interest. There are no known competing financial interests or personal relationships that could have influenced the work reported in this study.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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