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Research Article

FUTURE-ORIENTED ESP FOR BUSINESS PROFESSIONALS: DESIGNING COMPETENCY-BASED ENGLISH LEARNING FOR GLOBAL WORKPLACE COMMUNICATION

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Abstract
English for Specific Purposes (ESP) has become increasingly important for business professionals who need to communicate effectively in global workplace environments. However, many English learning programs still emphasize general language proficiency rather than workplace-based communication competencies. This article proposes a conceptual and methodological framework for designing competency-based ESP learning for business professionals using the Entropy-TOPSIS decision-making approach. The framework identifies key ESP competencies, including business presentation, professional writing, meeting participation, negotiation, intercultural communication, digital workplace communication, networking, report writing, client communication, and professional confidence. It also compares six learning strategies: task-based learning, simulation-based training, case-based learning, technology-enhanced learning, project-based learning, and workplace-integrated learning. The Entropy method is proposed to calculate objective criterion weights, while TOPSIS is used to rank learning strategies according to their closeness to the ideal solution. The illustrative application suggests that digital workplace communication and intercultural business communication may be important competency priorities, while simulation-based training, workplace-integrated learning, and technology-enhanced learning may be suitable strategies for professional ESP programs. The study contributes to ESP curriculum design by offering a systematic model for linking workplace communication needs, competency-based learning, and multi-criteria decision-making.

Keywords: English for Specific Purposes, business professionals, competency-based learning, Entropy method, TOPSIS, workplace communication, global business communication

INTRODUCTION

English has become a strategic communication resource for professionals operating in global business environments. In the contemporary workplace, English is used not only for general conversation but also for business presentations, email communication, negotiation, meetings, intercultural

collaboration, customer service, reporting, networking, and digital workplace interaction. As businesses become more international, digitally connected, and knowledge-intensive, professionals are increasingly expected to use English in ways that are accurate, purposeful, persuasive, culturally appropriate, and context-sensitive.

This reality has important implications for English language education. Traditional English learning programs often emphasize general grammar, vocabulary, reading comprehension, and conversational fluency. Although these skills remain important, they are not always sufficient for professional performance in global workplace settings. Business professionals need English learning that reflects authentic workplace tasks, professional genres, business communication functions, digital communication practices, and intercultural expectations. English for Specific Purposes (ESP) responds to this need by designing language learning around the specific purposes, target situations, and communicative demands of learners in particular academic, occupational, or professional contexts.

Business English and professional ESP have developed significantly as fields of research and practice. Research has emphasized the importance of needs analysis, authentic materials, genre awareness, professional discourse, workplace communication, and business communication pedagogy (Chan, 2009, 2018, 2019; Cheng et al., 2019; Evans, 2010, 2013; Gimenez, 2014; Louhiala-Salminen et al., 2005; Malicka et al., 2019; Rogerson-Revell, 2007; Zhang, 2017a, 2017b). In parallel, business communication scholarship has increasingly emphasized competency-based curriculum design, simulation, strategic communication, and workplace readiness (Drury-Grogan & Russ, 2013; Lucas & Rawlins, 2015). These developments suggest that ESP for business professionals should not be treated merely as English language instruction, but as a future-oriented professional learning model that supports communication competence, employability, and lifelong learning.

Despite this progress, an important gap remains. Many ESP programs identify relevant skills but do not provide a systematic method for prioritizing which competencies and learning strategies should receive the greatest attention. In real educational and professional contexts, curriculum designers must make decisions under constraints of time, resources, learner diversity, industry expectations, and institutional capacity. Therefore, a structured decision-making model is needed to help determine which ESP competencies and learning strategies are most important for business professionals.

To address this gap, this article proposes an Entropy-TOPSIS model for designing competency-based ESP learning for global workplace communication. The Entropy method is used to calculate objective weights for competency criteria, while TOPSIS is used to rank alternative ESP learning strategies. This integration allows ESP curriculum design to move beyond descriptive needs analysis toward a more systematic and data-informed prioritization process.

This study is guided by the following research questions:

1. What are the most important ESP competency criteria for business professionals in global workplace communication?
2. What are the objective weights of ESP competency criteria based on the Entropy method?
3. Which competency-based ESP learning strategy has the highest priority based on the TOPSIS ranking?
4. How can the Entropy-TOPSIS results inform future-oriented ESP curriculum design for business professionals?

LITERATURE REVIEW

English for Specific Purposes and Business Professional Communication

ESP is a learner-centered and context-driven approach to language education. Its central principle is that language learning should be designed based on the specific needs, communicative situations, and professional purposes of learners. Needs analysis is therefore not a preliminary administrative step, but a core methodological foundation for designing relevant ESP tasks, materials, and learning outcomes (Malicka et al., 2019). In business and professional contexts, ESP focuses on the language, genres, discourse practices, and communication tasks required in workplace settings.

Chan (2009) emphasized the importance of connecting research and pedagogy in the evaluation of Business English materials. This is highly relevant because many Business English courses use textbooks or materials that may not fully reflect actual professional communication. Later, Chan (2018) proposed a research-informed approach to curriculum development for specific Business English topics,

showing that ESP curriculum design should be grounded in evidence about workplace communication needs. Chan (2019) further emphasized that long-term workplace communication needs of business professionals provide important insights for ESP and higher education, particularly for preparing future professional leaders.

Workplace communication research has also shown that professional English requires more than linguistic correctness. Cheng et al. (2019) examined workplace communication materials and highlighted the importance of interpersonal meaning in professional communication. This suggests that ESP learning should include not only vocabulary and grammar, but also pragmatic awareness, relational language, politeness, persuasion, and audience-sensitive communication.

In the context of global business, English is often used as a business lingua franca among speakers from diverse linguistic and cultural backgrounds. Louhiala-Salminen et al. (2005) demonstrated the importance of English as a business lingua franca in international corporate contexts, while Rogerson-Revell (2007) showed how English functions in international business meetings. Evans (2010, 2013) further showed how English operates in professional workplaces and business presentations. Zhang (2017a, 2017b) showed that business professionals construct cultural identity and professional voice through persuasive writing and email communication. These findings imply that ESP for business professionals must support the development of professional identity, intercultural awareness, and strategic communication.

Competency-Based Business Communication Learning

Competency-based education emphasizes measurable learning outcomes and demonstrated performance. In business communication education, this means that learners should be able to perform authentic professional tasks, such as delivering presentations, writing business emails, conducting meetings, negotiating with clients, presenting proposals, preparing reports, and communicating across cultures.

Lucas and Rawlins (2015) introduced a competency-based approach to the business communication curriculum by emphasizing communication skills that can be strategically applied across professional situations. Their competency pivot is relevant to ESP because it moves curriculum design from content coverage toward professional performance. Similarly, Drury-Grogan and Russ (2013) showed that simulation can be integrated into business communication curricula to support experiential learning and professional readiness. Recent competency-based business education research also emphasizes the importance of aligning curriculum content with industry-prioritized competencies and professional performance expectations (Cardinali et al., 2025; Mahalingam & Webb, 2026).

Competency-based ESP for business professionals should therefore be built around real communicative tasks, performance indicators, and assessment rubrics. Instead of asking whether learners know English, the central question becomes whether learners can use English effectively to achieve professional purposes in specific workplace situations.

Global Workplace Communication Competence

Global workplace communication competence refers to the ability to communicate effectively, strategically, ethically, and interculturally in professional environments. It includes oral communication, written communication, digital communication, interpersonal communication, intercultural communication, and confidence in professional interaction.

Jiao et al. (2020) developed and validated an intercultural business communication competence scale, identifying important dimensions such as cognitive ability in intercultural business situations, business English linguistic proficiency, and intercultural business communication motivation. This supports the idea that ESP for business professionals must integrate linguistic competence with intercultural and motivational dimensions.

Digital communication is also increasingly important. Gimenez (2014) discussed multi-communication in the Business English classroom, showing that professionals often manage multiple

communication channels and interactions simultaneously. Joglekar et al. (2022) further highlighted the importance of developing digital communication competency in the business classroom, particularly because learners may perceive themselves as digitally competent while still showing gaps in actual professional online communication performance. In contemporary workplaces, professionals may need to communicate through email, messaging platforms, video conferences, shared documents, customer relationship systems, and social media. Therefore, future-oriented ESP must include digital workplace communication as a core competence.

Entropy-TOPSIS in Educational Decision-Making

Multi-criteria decision-making (MCDM) methods are useful for educational problems involving multiple criteria and alternative strategies. TOPSIS ranks alternatives based on their distance from a positive ideal solution and a negative ideal solution. The best alternative is the one that is closest to the ideal solution and farthest from the negative ideal solution. A state-of-the-art survey by Behzadian et al. (2012) shows that TOPSIS has been extensively applied across decision-making fields because of its logical structure, computational simplicity, and ability to compare multiple alternatives. Deng et al. (2000) also demonstrated the use of modified TOPSIS with objective weights, supporting the relevance of combining TOPSIS with objective weighting approaches.

Entropy weighting is useful because it provides objective criterion weights based on the degree of variation in the data. Criteria with greater variation contain more information and receive higher weights. Ding and Wang (2019) showed the value of combining TOPSIS with entropy weighting in multi-attribute decision-making when criterion weights are not predetermined. Wang et al. (2022) applied the Entropy-TOPSIS method in higher education performance evaluation, demonstrating its relevance for education-related decision-making. Therefore, Entropy-TOPSIS is suitable for this study because ESP curriculum design involves multiple criteria, alternative learning strategies, and expert-based evaluation.

In the context of ESP curriculum design, Entropy-TOPSIS can help prioritize learning strategies by considering multiple communication competencies simultaneously. This is important because ESP curriculum decisions are not based on a single factor, but on the interaction of learner needs, workplace demands, professional competencies, and pedagogical feasibility.

CONCEPTUAL FRAMEWORK

This study proposes that future-oriented ESP for business professionals should be designed through the integration of three dimensions: workplace communication needs, competency-based English learning, and decision-making-based curriculum prioritization.

The framework begins with the identification of ESP competency criteria relevant to global workplace communication. These criteria are then weighted using the Entropy method. After that, alternative ESP learning strategies are evaluated and ranked using TOPSIS. The final output is a prioritized set of ESP learning strategies that can guide curriculum design, instructional planning, and assessment development.

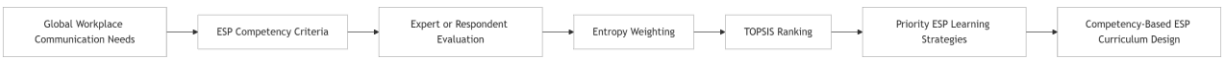

Figure 1. Conceptual Flow of the Entropy-TOPSIS-Based ESP Curriculum Design

RESEARCH METHOD

Research Design

This study adopts a conceptual and methodological research design. Rather than reporting a completed empirical survey, the study develops an Entropy-TOPSIS-based framework that can be used by ESP researchers, curriculum designers, and professional training providers to prioritize ESP competencies and learning strategies. The proposed model is demonstrated through an illustrative

application using example values. These values are not intended to represent final empirical findings but are used to show the operational steps of the model.

The proposed framework consists of four stages. First, relevant ESP competency criteria are identified from the literature on ESP, Business English, workplace communication, intercultural communication, digital communication, and competency-based education. Second, alternative learning strategies are selected based on their relevance to professional English learning. Third, the Entropy method is used to determine the relative weight of each competency criterion. Fourth, TOPSIS is used to rank alternative ESP learning strategies based on their relative closeness to the ideal solution.

Entropy-TOPSIS is selected because it combines objective weighting and alternative ranking in a transparent decision-making process. Compared with AHP or Delphi, which depend strongly on subjective expert comparisons or repeated consensus rounds, the Entropy method derives criterion weights from the variation contained in the decision matrix. TOPSIS is then used to rank alternatives by measuring their distance from the positive and negative ideal solutions. This combination is suitable for ESP curriculum design because curriculum planners often need to compare several learning strategies across multiple competency criteria. The method does not replace pedagogical judgment, but it provides a systematic tool to support curriculum prioritization.

Criteria

The criteria represent competency areas required by business professionals in global workplace communication.

Table 1. ESP Competency Criteria for Business Professionals

Code	Criterion	Description
C1	Business presentation competence	Ability to present ideas, proposals, reports, and business information clearly and persuasively
C2	Professional email and business writing competence	Ability to write emails, memos, proposals, and professional documents accurately and appropriately
C3	Meeting and discussion participation competence	Ability to contribute actively in meetings, discussions, briefings, and professional conversations
C4	Negotiation and persuasion competence	Ability to use English strategically in negotiation, persuasion, and agreement-building
C5	Intercultural business communication competence	Ability to communicate across cultural and linguistic differences in global business contexts
C6	Digital workplace communication competence	Ability to communicate through online platforms, video meetings, collaborative tools, and digital channels
C7	Networking and relationship-building competence	Ability to build professional relationships, introduce oneself, and maintain business networks
C8	Report writing and documentation competence	Ability to prepare reports, minutes, summaries, and business documentation
C9	Customer/client communication competence	Ability to interact professionally with customers, clients, partners, and external stakeholders
C10	Professional confidence and communication strategy	Ability to communicate with confidence, clarity, strategic awareness, and professional identity

Alternatives

The alternatives represent learning strategies that can be used to design competency-based ESP programs for business professionals.

Table 2. Alternative ESP Learning Strategies

Code	Alternative	Description
A1	Task-based ESP learning	Learning through structured business communication tasks
A2	Simulation-based business communication training	Learning through role plays, business simulations, meetings, negotiations, and workplace scenarios
A3	Case-based ESP learning	Learning through business cases, problem-solving activities, and professional decision-making discussions
A4	Technology-enhanced ESP learning	Learning through digital platforms, AI-assisted feedback, online presentations, virtual meetings, and learning analytics
A5	Project-based professional communication learning	Learning through professional projects, reports, presentations, and collaborative outputs
A6	Workplace-integrated ESP learning	Learning connected directly to workplace tasks, internships, professional practice, or industry-based communication needs

Data Collection

This study adopts an expert-based data collection design. Data are collected from a purposively selected panel of experts consisting of ESP lecturers, Business English instructors, HR or training managers, business professionals, entrepreneurs, curriculum designers, and international business practitioners. The expert-based design is appropriate because the study aims to prioritize ESP competencies and learning strategies based on informed professional judgment rather than general learner perception.

The recommended expert panel consists of 10 to 20 experts. Each expert should meet at least two of the following criteria: having experience in ESP or Business English teaching, involvement in curriculum development, experience in professional or corporate training, practical experience in international business communication, HR or workforce development experience, or academic publication/research experience in language education, business communication, or professional education.

Experts evaluate the relevance and suitability of each ESP learning strategy against each competency criterion using a five-point expert judgment scale: 1 = very low relevance, 2 = low relevance, 3 = moderate relevance, 4 = high relevance, and 5 = very high relevance. The individual expert scores are then aggregated into a group decision matrix using the arithmetic mean. This aggregated matrix becomes the input for the Entropy weighting and TOPSIS ranking procedures.

Mathematical Formulation of the Expert-Based Entropy-TOPSIS Method

This study applies an expert-based Entropy-TOPSIS method to prioritize competency-based ESP learning strategies. The mathematical procedure consists of four main stages: constructing the expert judgment matrix, aggregating expert scores, calculating objective criterion weights using the Entropy method, and ranking ESP learning strategies using TOPSIS.

Let:

- $A = \{A1, A2, ..., Am\}$ denote the set of ESP learning strategy alternatives.

- C = {C1, C2, ..., Cn} denote the set of ESP competency criteria.
- E = {E1, E2, ..., Eq} denote the set of experts.
- xij(k) denote the score assigned by expert k to alternative i under criterion j.
- xij denote the aggregated score of alternative i under criterion j.
- wj denote the objective weight of criterion j.
- CCi denote the TOPSIS closeness coefficient of alternative i.

In this study, m = 6 alternatives and n = 10 criteria. The number of experts, q, may range from 10 to 20 depending on expert availability and eligibility.

Construction of the Expert Judgment Matrix

Each expert evaluates the relevance of each ESP learning strategy alternative under each competency criterion using a five-point scale:

1 = very low relevance, 2 = low relevance, 3 = moderate relevance, 4 = high relevance, and 5 = very high relevance.

For each expert k, the individual decision matrix is expressed as:

X(k) = [xij(k)]m x n

where xij(k) represents the evaluation score given by expert k for alternative Ai under criterion Cj.

Aggregation of Expert Judgments

Because the study uses multiple experts, individual expert matrices are aggregated into a collective decision matrix. The arithmetic mean is used to represent the group judgment:

xij = (1/q) sum from k = 1 to q of xij(k)

The aggregated decision matrix is therefore expressed as:

X = [xij]m x n

This matrix represents the collective expert evaluation of all ESP learning strategy alternatives across all competency criteria.

Normalization for Entropy Weighting

To calculate objective criterion weights, the aggregated decision matrix is normalized using proportional normalization:

pij = xij / sum from i = 1 to m of xij

where pij is the normalized value of alternative i under criterion j. This normalization ensures that the values under each criterion are comparable and suitable for entropy calculation.

Entropy Value Calculation

The entropy value of each criterion is calculated as:

ej = -k sum from i = 1 to m of pij ln(pij)

where:

k = 1 / ln(m)

The constant k ensures that the entropy value lies between 0 and 1. If pij = 0, the term pij ln(pij) is treated as 0.

Degree of Diversification

The degree of diversification for each criterion is calculated as:

dj = 1 - ej

A higher dj value indicates greater variation among alternatives under criterion j. This means that the criterion has stronger discriminatory power in distinguishing among ESP learning strategies.

Entropy-Based Criterion Weight

The objective weight of each criterion is calculated as:

wj = dj / sum from j = 1 to n of dj

where wj is the entropy-based weight of criterion j. The weights satisfy the following condition:

sum from j = 1 to n of wj = 1

A criterion with a higher entropy weight contributes more strongly to the ranking process because it contains more useful information for differentiating the alternatives.

TOPSIS Ranking Procedure

After obtaining the entropy-based criterion weights, TOPSIS is applied to determine the priority ranking of ESP learning strategy alternatives. TOPSIS is based on the principle that the best alternative should have the shortest distance from the positive ideal solution and the longest distance from the negative ideal solution.

Vector Normalization of the Decision Matrix

The aggregated decision matrix is normalized using vector normalization:

rij = xij / sqrt(sum from i = 1 to m of xij^2)

where rij is the normalized performance value of alternative i under criterion j.

Weighted Normalized Decision Matrix

The weighted normalized value is calculated by multiplying the normalized value by the entropy-based criterion weight:

vij = wj x rij

The weighted normalized decision matrix is expressed as:

V = [vij]m x n

Positive Ideal Solution and Negative Ideal Solution

Because all criteria in this study are benefit criteria, the positive ideal solution and negative ideal solution are determined as follows:

vj+ = max(vij) for i = 1, 2, ..., m

vj- = min(vij) for i = 1, 2, ..., m

Thus, the positive ideal solution is:

A+ = {v1+, v2+, ..., vn+}

and the negative ideal solution is:

A- = {v1-, v2-, ..., vn-}

Separation Measures

The distance of each alternative from the positive ideal solution is calculated as:

Si+ = sqrt(sum from j = 1 to n of (vij - vj+)^2)

The distance of each alternative from the negative ideal solution is calculated as:

Si- = sqrt(sum from j = 1 to n of (vij - vj-)^2)

Closeness Coefficient

The relative closeness coefficient of each alternative to the ideal solution is calculated as:

CCi = Si- / (Si+ + Si-)

The value of CCi ranges between 0 and 1. A higher CCi value indicates that the alternative is closer to the positive ideal solution and farther from the negative ideal solution.

Ranking Rule

The final ranking is determined by ordering the alternatives in descending order of CCi:

Higher CCi = higher priority ESP learning strategy

The alternative with the highest CCi is considered the most suitable strategy for designing future-oriented competency-based ESP learning for business professionals.

Expert Panel and Data Aggregation

The expert panel should be selected using purposive sampling. The selection process should ensure that the panel represents both academic and professional perspectives. For example, the panel may include ESP lecturers, Business English lecturers, corporate trainers, HR managers, business owners, international business professionals, and curriculum developers.

The expert profile may be reported using the following categories: area of expertise, years of experience, institutional background, professional role, and relevance to ESP or business communication. To improve credibility, the study may include a minimum experience requirement, such as three to five years of relevant professional or academic experience.

After the experts complete the evaluation form, their scores are aggregated into a single decision matrix using the arithmetic mean:

xij = average score of all experts for alternative i under criterion j

This aggregated decision matrix is then used for Entropy weighting and TOPSIS ranking. The use of aggregated expert judgment helps reduce individual bias and reflects collective professional evaluation.

Validity and Reliability of Expert Judgment

To strengthen methodological rigor, the study may apply expert validation before the final scoring stage. First, the criteria and alternatives are reviewed by two or three senior experts to ensure content validity. Second, the final expert panel evaluates the alternatives using a standardized assessment form.

Third, consistency can be checked by reviewing score variation across experts. If major score inconsistencies appear, a follow-up clarification or Delphi-style second round may be conducted.

Although Entropy-TOPSIS does not require conventional survey reliability testing such as Cronbach's alpha, the credibility of expert judgment can be improved through clear expert selection criteria, transparent scoring procedures, aggregation of multiple expert opinions, and documentation of expert backgrounds.

ILLUSTRATIVE APPLICATION OF THE ENTROPY-TOPSIS MODEL

This section presents an illustrative application of the proposed Entropy-TOPSIS model. The purpose of this section is not to report final empirical findings, but to demonstrate how the model can be used to prioritize ESP competencies and rank learning strategies. Therefore, the values shown in the tables should be interpreted as example outputs of the proposed framework. Future empirical studies should apply this model using data collected from qualified ESP experts, business professionals, employers, and curriculum designers.

Entropy Weight Results

Table 3. Example of Entropy-Based Criterion Weights

Code	Criterion	Entropy Weight	Priority
C6	Digital workplace communication competence	0.128	1
C5	Intercultural business communication competence	0.119	2
C2	Professional email and business writing competence	0.112	3
C1	Business presentation competence	0.106	4
C4	Negotiation and persuasion competence	0.101	5
C10	Professional confidence and communication strategy	0.097	6
C3	Meeting and discussion participation competence	0.094	7
C9	Customer/client communication competence	0.088	8
C8	Report writing and documentation competence	0.080	9
C7	Networking and relationship-building competence	0.075	10

The illustrative results indicate that digital workplace communication competence receives the highest weight. This reflects the growing importance of online meetings, digital collaboration platforms, professional messaging, and technology-mediated business interaction. Intercultural business communication is also highly prioritized, suggesting that global workplace communication requires not only English proficiency but also cultural awareness and strategic interaction.

TOPSIS Ranking Results

Table 4. Example of TOPSIS Ranking of ESP Learning Strategies

Code	Alternative	S+	S-	Closeness Coefficient	Rank
A2	Simulation-based business communication training	0.021	0.084	0.800	1
A6	Workplace-integrated ESP learning	0.028	0.076	0.731	2
A4	Technology-enhanced ESP learning	0.034	0.071	0.676	3
A1	Task-based ESP learning	0.042	0.062	0.596	4
A3	Case-based ESP learning	0.049	0.055	0.529	5
A5	Project-based professional communication learning	0.056	0.048	0.462	6

The illustrative TOPSIS ranking suggests that simulation-based business communication training may be the most suitable strategy for future-oriented ESP programs for business professionals. This is because simulation allows learners to practice authentic workplace situations, including presentations, meetings, negotiation, client interaction, and crisis communication. Workplace-integrated ESP learning ranks second, showing the importance of connecting English learning directly to real professional tasks. Technology-enhanced ESP learning ranks third, reflecting the importance of digital tools, online communication, and AI-supported feedback in modern business communication learning.

DISCUSSION

The proposed Entropy-TOPSIS model provides a structured way to design ESP learning for business professionals. The findings, although illustrative at this stage, demonstrate how curriculum priorities can be determined using a decision-making approach. This is important because ESP programs often face the challenge of covering many skills within limited instructional time. Without prioritization, programs may become too broad, fragmented, or disconnected from actual workplace needs.

The high priority of digital workplace communication competence reflects the transformation of professional communication. Business professionals increasingly communicate through video conferencing, online collaboration platforms, emails, instant messaging, virtual presentations, digital reports, and AI-assisted tools. This supports Gimenez's (2014) argument that Business English pedagogy should respond to multi-communication practices. ESP programs should therefore include digital genres such as online meeting participation, concise chat-based updates, professional email tone, virtual presentation etiquette, collaborative document writing, and cross-platform communication management.

The importance of intercultural business communication competence is also consistent with prior research. Jiao et al. (2020) emphasized that intercultural business communication competence includes business English proficiency, cognitive understanding of intercultural situations, and motivation to communicate across cultures. In global workplace contexts, professionals need to manage differences in communication style, hierarchy, politeness, decision-making norms, and expectations of clarity. ESP learning should therefore include intercultural scenarios, cross-cultural email analysis, international meeting simulations, and reflective activities on communication norms.

The ranking of simulation-based business communication training as the highest-priority alternative is theoretically and practically meaningful. Simulation enables learners to practice authentic business situations in a controlled environment. This aligns with Drury-Grogan and Russ (2013), who showed the relevance of simulation in business communication curriculum. For ESP learners, simulation can bridge the gap between classroom learning and professional performance by allowing repeated practice, feedback, reflection, and improvement.

Workplace-integrated ESP learning is also highly relevant because it connects English learning directly to professional tasks. This approach supports the principle that ESP should be based on target situation needs. For business professionals, this may include preparing actual presentations, writing real business emails, practicing client communication, producing reports, or preparing for international meetings.

Technology-enhanced ESP learning is another important strategy. Digital tools can support pronunciation practice, AI-assisted writing feedback, online role play, learning analytics, video-based reflection, and virtual collaboration. However, technology should not be used only as a delivery tool. It should be integrated into authentic communication tasks that reflect how professionals actually use English in digital workplace environments.

Overall, the Entropy-TOPSIS model strengthens ESP curriculum design by making prioritization explicit and evidence-based. It allows educators and training providers to identify which competencies matter most, which learning strategies are most suitable, and how curriculum design can be aligned with global workplace communication demands.

THEORETICAL AND PRACTICAL IMPLICATIONS

Theoretical Implications

This study contributes to ESP literature by integrating competency-based education and MCDM methodology into Business English curriculum design. Previous studies have emphasized needs analysis, workplace discourse, and research-informed curriculum development (Chan, 2009, 2018; Cheng et al., 2019). This article extends that discussion by proposing a mathematical prioritization model for ESP competencies and learning strategies.

The study also contributes to business communication education by connecting competency-based communication learning with ESP pedagogy. Lucas and Rawlins (2015) argued for a competency-oriented business communication curriculum. This study applies a similar logic to ESP for business professionals and provides a decision-making mechanism to support curriculum prioritization.

Practical Implications

For higher education institutions, the proposed model can support curriculum redesign in Business English, English for Professional Purposes, English for International Business, and ESP courses. For vocational education institutions, the model can help align English learning with employability, workplace readiness, and industry expectations. For corporate training centers, the model can be used to identify which communication competencies should be prioritized in professional development programs.

The proposed framework also supports performance-based assessment. Instead of relying only on written tests, ESP programs should assess learners through presentations, email portfolios, meeting simulations, negotiation tasks, report writing, client communication scenarios, and digital communication projects.

Policy Implications

At the policy level, this study supports the integration of ESP into workforce development, lifelong learning, and professional education. English education should not be limited to general proficiency, but should be connected to economic participation, global collaboration, professional mobility, and digital transformation.

PROPOSED CURRICULUM DESIGN MODEL

Based on the proposed framework, a future-oriented ESP curriculum for business professionals may be designed using the following structure:

Table 5. Proposed Competency-Based ESP Curriculum Structure

Module	Focus	Main Learning Output	Assessment
Module 1	Professional self-introduction and networking	Learners can introduce themselves and build professional relationships	Networking role play
Module 2	Business email and professional writing	Learners can write clear, polite, and persuasive business emails	Email portfolio
Module 3	Business presentation	Learners can present ideas and proposals professionally	Individual or group presentation
Module 4	Meetings and discussions	Learners can participate in meetings and express opinions effectively	Meeting simulation
Module 5	Negotiation and persuasion	Learners can negotiate and persuade using appropriate language	Negotiation role play
Module 6	Intercultural business communication	Learners can manage communication across cultural contexts	Intercultural case analysis
Module 7	Digital workplace communication	Learners can communicate through digital platforms professionally	Virtual meeting task
Module 8	Report writing and documentation	Learners can prepare reports, summaries, and meeting minutes	Written report
Module 9	Client and customer communication	Learners can handle client interaction professionally	Customer communication scenario
Module 10	Integrated professional communication project	Learners can integrate multiple communication competencies	Final workplace communication project

CONCLUSION

This article proposes an Entropy-TOPSIS model for designing future-oriented ESP learning for business professionals. The study argues that ESP should be positioned not merely as language instruction, but as a competency-based professional learning model for global workplace communication. By integrating ESP theory, business communication competence, and multi-criteria decision-making, the proposed model provides a systematic method for prioritizing communication competencies and learning strategies.

The illustrative results suggest that digital workplace communication, intercultural business communication, professional writing, presentation competence, and negotiation competence are central to future-oriented ESP curriculum design. Among the proposed strategies, simulation-based business communication training, workplace-integrated ESP learning, and technology-enhanced ESP learning

appear to be highly relevant for preparing business professionals to communicate effectively in global workplace environments.

The study offers theoretical, practical, and policy contributions. Theoretically, it extends ESP curriculum design by introducing an MCDM-based prioritization model. Practically, it helps educators, curriculum designers, and training providers make evidence-based decisions about ESP learning strategies. From a policy perspective, it supports the alignment of English education with workforce readiness, professional development, and lifelong learning.

Ethical approval was not required for this conceptual and methodological study because no human participant data were collected. The expert-based procedure described in the article is proposed for future empirical application. Future studies applying this model with expert respondents should obtain informed consent, explain the purpose of data collection, protect participant confidentiality, and follow the ethical requirements of the relevant institution.

This study has several limitations. First, the article presents a conceptual and methodological framework rather than a completed empirical validation. The numerical results are illustrative and should not be interpreted as definitive evidence of ESP competency priorities. Second, the proposed criteria and alternatives are based on selected literature and may need adjustment for different industries, countries, learner groups, or institutional contexts. Third, the Entropy-TOPSIS model depends on the quality of the decision matrix; therefore, future studies should collect data from qualified experts and report the full calculation process, including expert profiles, aggregated scores, entropy values, and TOPSIS coefficients. Fourth, the framework focuses on business professionals, so its direct application to other ESP fields such as medical English, engineering English, or tourism English requires further adaptation.

Future research may apply the proposed model using empirical data from business professionals, ESP lecturers, employers, and students in higher education or vocational education contexts. Comparative studies may also examine whether ESP competency priorities differ across industries, countries, education levels, or professional groups.

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AUTHOR CONTRIBUTIONS

Conceptualization, Titik Wijayati and Yulita Dwi Safitri; Methodology, Titik Wijayati and Yulita Dwi Safitri; Validation, Titik Wijayati and Yulita Dwi Safitri; Formal Analysis, Yulita Dwi Safitri; Investigation, Titik Wijayati; Resources, Titik Wijayati; Data Curation, Yulita Dwi Safitri; Writing – Original Draft Preparation, Titik Wijayati and Yulita Dwi Safitri; Writing – Review & Editing, Titik Wijayati and Yulita Dwi Safitri; Visualization, Yulita Dwi Safitri; Supervision, Titik Wijayati; Project Administration, Titik Wijayati. All authors have read and agreed to the final version of the manuscript.

CONFLICTS OF INTEREST

The authors declare no conflict of interest. The authors confirm that there are no personal, financial, institutional, or professional relationships that could be perceived as influencing the design, analysis, interpretation, or reporting of this study.

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