International Journal of Learning, Teaching and Educational Research
Vol. 25, No. 5, pp. 756-778, May 2026
https://doi.org/10.26803/ijlter.25.5.33
Received Feb 15, 2026; Revised Apr 30, 2026; Accepted May 5, 2026

Mapping Research on English for Occupational Purposes in Higher Education: Trends and Challenges (2015–2024)

Luying Deng*, Helmi Norman and Khairul Azhar Jamaludin
Universiti Kebangsaan Malaysia,
Selangor, Malaysia

Abstract. While the growing demand for workplace English skills has underscored the need for effective teaching English for Occupational Purposes (EOP), current instruction often misaligns with industry requirements. Reviewing empirical studies can inform teaching practice and research, but existing reviews either narrow their scope to specific English skills or exclude authoritative databases. Therefore, this study presents a PRISMA-guided systematic review (2015–2024) of WoS and Scopus empirical studies on EOP in higher education. Following PRISMA guidelines, 36 studies were selected from 200 records. Trends, methodologies, topics, issues, and findings were synthesized. Findings reveal a continuous yet limited and fluctuating publication trend, primarily focused on service-oriented disciplines within public universities in non-English-speaking regions and countries. Methodologically, while mixed, quantitative and qualitative methods were almost evenly employed, cross-sectional designs prevailed. Six major topics are identified, including curriculum design, teaching objectives, teaching resources, teaching methods, assessment, and affecting factors. The most dominant issue is the misalignment between curriculum and industry needs. Technology empowerment, industry relevance, communicative skills, and stakeholder characteristics were effective responses. Collectively, EOP research remains underexplored and constrained by the lack of contextual, methodological and topic diversity, while also highlighting critical pedagogical challenges and potential solutions. These findings offer insights for industry–academia collaboration in policy, industry-aligned EOP curricula, and communication-focused EOP pedagogy. Future research is expected to broaden databases, contexts, and disciplines, employ longitudinal designs, and explore underdeveloped topics such as teaching resources and assessment.

Keywords: EOP; higher education; graduate employability; systematic literature review; curriculum alignment

Citation:
Deng, L., Norman, H., & Jamaludin, K. A. (2026). Mapping Research on English for Occupational Purposes in Higher Education: Trends and Challenges (2015–2024). *International Journal of Learning, Teaching and Educational Research*, *25*(5), 756–778. https://doi.org/10.26803/ijlter.25.5.33

*Corresponding author: Helmi Norman; *helmi.norman@ukm.edu.my*

1. Introduction

Globalization has accelerated the demand for English proficiency across various sectors, including technology, business, tourism, retailing (Nghia et al., 2023; Nieto Moreno de Diezmas & Alarcón Utrera, 2025). A 2026 survey of 1,325 HR decision-makers across 17 countries found that 92% viewed English skills as increasingly critical, and 86% reported competitive disadvantage when hiring those with limited English (Educational Testing Service, 2026). Limited English proficiency has become an obstacle impacting employability (Arias-Contreras & Moore, 2022; Yao & Babcock, 2020).

Nevertheless, studies show that a critical gap persists worldwide. An analysis of approximately 750,000 job applicants across over 100 countries in 2024 indicated that average English proficiency in Asia-Pacific region, South Asia, Central Asia, and South America, consistently falls below employers' expectations (Pearson, 2024). In another study, over half of professionals attributed this gap to a misalignment between university instruction and industry demands (Roshid & Kankaanranta, 2025).

English for Occupational Purposes (EOP) is expected to equip learners with context-specific language skills (Bui & Huong, 2023; Koester, 2021). Globally, its importance has long been highlighted by education policies, like the Bologna Process (European Commission, 2024) and the Malaysian Qualifications Framework (Kamil & Muhammad, 2021). Nonetheless, in actual implementation, this misalignment still exists, mainly owing to the disconnect with industry needs in the methods of teaching and assessment, inadequacy of interactivity and instructors' disciplinary expertise (Shak & Read, 2021; Shanavas et al., 2024; Shu, 2022; Sun, 2024).

A systematic literature review (SLR) is significant for synthesizing empirical experience to inform instructors (Bangdiwala, 2024). Nonetheless, existing SLRs of EOP teaching in higher education remain scarce (Warman et al., 2024). Moreover, they are either thematically narrowed to the components of professional communication proficiency, such as Kamil and Muhammad (2021) and Zeng and Della (2024), or methodologically limited by excluding Scopus and WoS, such as Warman et al. (2024). Therefore, this study employed an SLR following PRISMA guidelines (Page et al., 2021), and thematic analysis to synthesize trends, methodologies, topics, issues and findings in EOP research in higher education (2015–2024). Specifically, three research questions guide this review, addressing both the "how" and "what" of EOP instruction:

RQ1: What are the major trends of EOP teaching in higher education between 2015 and 2024?

RQ2: What are the major research methodologies of EOP teaching in higher education between 2015 and 2024?

RQ3: What are key topics, issues and findings reported in studies of EOP teaching in higher education between 2015 and 2024?

Adopting an interdisciplinary perspective, this study aimed at providing an evidence-based synthesis of EOP teaching and research to inform industry–based curriculum design, teaching pedagogy and educational policies for bridging the gap between education and market needs.

2. Methodology

2.1 Research Design

This study employed an SLR following the PRISMA 2020 guidelines (Page et al., 2021) and Borrego et al.'s (2014) mapping framework. The former, widely acknowledged to offer a transparent and duplicable process of data selection (Page et al., 2021), can make up for the limitation of databases in Warman et al.'s (2024) study. Borrego et al.'s (2014) framework covering "mapping," "critique within studies," and "critique across studies", offers a clear and comprehensive way for mapping and analyzing EOP research, compensating for the limitations narrow perspectives like Kamil and Muhammad (2021) and Zeng and Della (2024). Specifically, PRISMA ensures rigorous study selection to address research trends (RQ1) and methodologies (RQ2), while Borrego's framework facilitates the multi-dimensional thematic analysis required to identify complex pedagogical issues (RQ3).

The timeframe was selected for two reasons. For one thing, the year 2015 marked a shift in global higher education toward graduate employability, evidenced by the launch of the QS Graduate Employability Ranking (QS Quacquarelli Symonds, 2015), and a policy turning point as the OECD systematically highlighted the "skills mismatch" in higher education and emphasized communication skills as a key factor in narrowing the employment gap (OECD, 2015). For another, the year 2024 represents the end of the implementation phase of the Education Sustainable Development 2030 ten-year plan, which indicates that education should help update young people's skills to adapt to social changes (UNESCO, 2020). Accordingly, 2024 is also a key milestone for EOP, as it is a vital part of education aiming at improving graduates' workplace communicative competence.

2.2 Search Strategy

The search was conducted in 2025 using Scopus and WoS to ensure the quality and authority of the data, by focusing on empirical studies that have undergone rigorous peer review. Google Scholar and other sources were excluded to maximally avoid non-peer-reviewed noise. To maximize the initial retrieval of relevant studies, the OR operator was used to group synonymous terms, including "English for Occupational Purposes," "English for Vocational Purposes," "English for Professional Purposes," "workplace English," and "vocational English" (Jordan, 1997; Kaya, 2021; Musa et al., 2023). Notably, the higher education context was considered through a rigorous manual screening process.

The search string is as below: TITLE-ABS-KEY ("English for Occupational Purposes" OR "English for Vocational Purposes" OR "English for Professional Purposes" OR "workplace English" OR "vocational English"). This initial search was limited to full-text accessible journal articles published in English published

between 2015 and 2024. To ensure objectivity and reliability, the first researcher conducted the screening, independently verified by a second reviewer. Both reviewers independently assessed titles and full texts against the inclusion/exclusion criteria in Table 1. Studies were included if they met all seven criteria. Non-empirical studies, those outside the date range, not in English, not journal articles, or lacking full text were excluded. Discrepancies were resolved through consensus or consultation with a senior researcher, ensuring rigor and transparency.

Table 1: Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
1) Topic and Context	Studies explicitly focusing on EOP teaching in higher education contexts	Studies not explicitly focusing on EOP teaching in higher education contexts
2) Study Type	Peer-reviewed journals	Non-peer-reviewed or other source types
3) Document Type	Articles	Other document types (e.g., conference papers, book chapters)
4) Source Type	Journals	Source other than journals
5) Time Period	2015-2024	Outside the 2015–2024 time period
6) Language	English	Non-English
7) Accessibility	Full-text accessible	Full-text articles not accessible
8) Data Type	With empirical data	Without empirical data

2.3 Study Selection Process

As illustrated in Figure 1, 200 articles were initially identified through Scopus (n=136) and WoS (n=64). After removing duplicates (n=50), 150 articles were then screened. Then records marked retracted (n=2) and non-empirical (n=23) were excluded. After title/abstract review, 60 articles were removed for limited relevance to EOP, and another 29 for not focusing on higher education. This yielded 36 empirical articles on EOP in higher education. Table 2 details the selection stages, reasons, and corresponding criteria (Table 1).

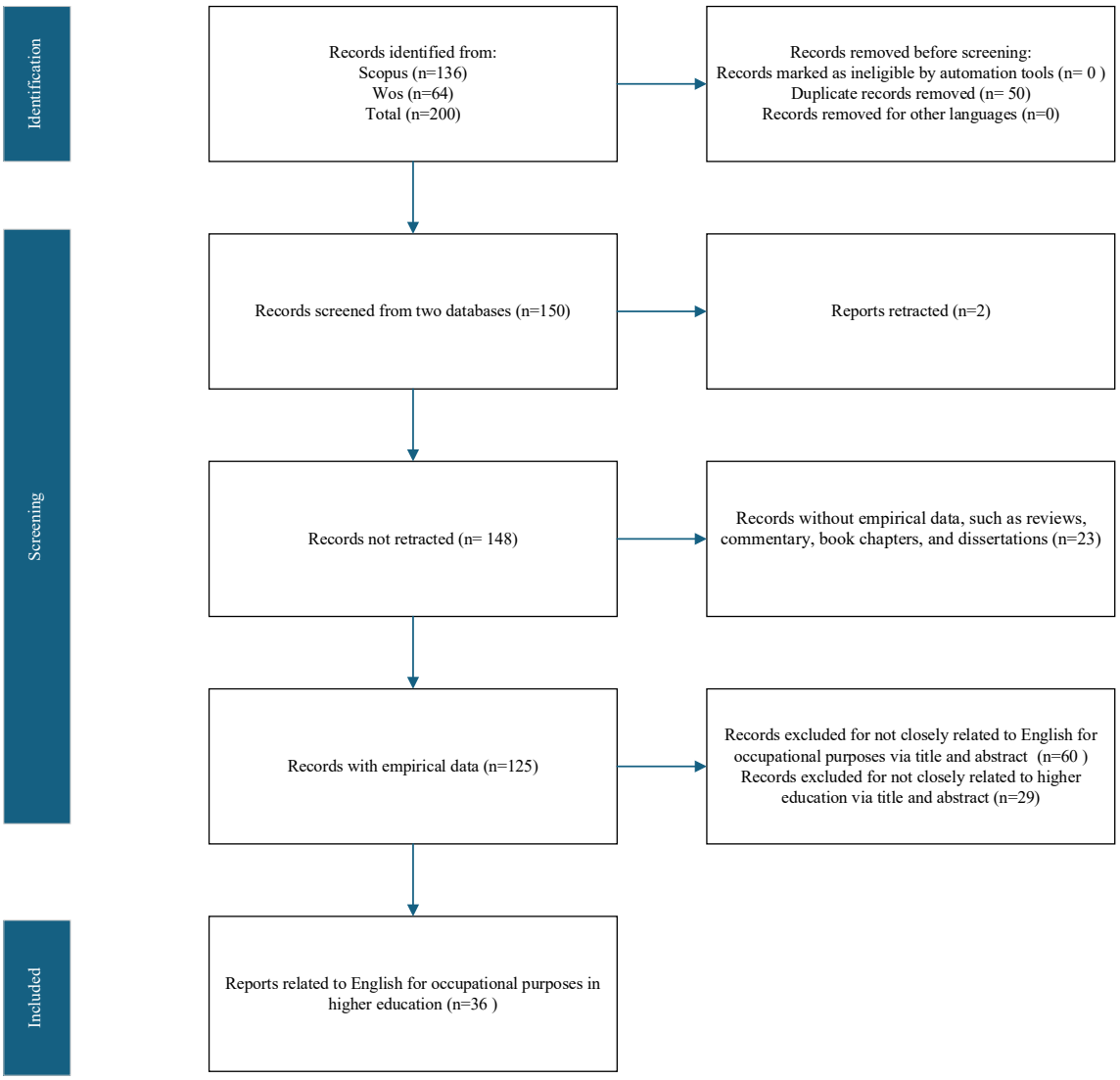

Figure 1: A PRISMA 2020 Flow Diagram Presenting the Selection Process of Studies Adapted from Page et al. (2021)

Table 2: Summary of Study Selection and Reasons for Exclusion

Phase	Reason for Exclusion	n	Linked Criterion
Identification	Initial records identified from Scopus (n=136) and WoS (n=64)	Total: 200	Criteria (1–6)
	Duplicates: Redundant entries identified across the two databases	Excluded: 50	--
Screening	**Retractions:** Articles officially retracted from journals, excluded to maintain data credibility	Excluded: 2	Criterion (7)
	Contextual Irrelevance: 1. Focused on General English or EAP, not EOP (n=60). 2. Focused on K-12 or secondary vocational education rather than higher education (n=29)	Excluded: 89	Criterion (1)
	Non-Empirical Data: Records lacking primary empirical data, such as literature reviews, book chapters, or editorials.	Excluded: 23	Criterion (8)
Included	Final empirical articles selected for synthesis	Result: 36	--

2.4 Quality Appraisal

To ensure methodological rigor, a quality appraisal was conducted, adapted from the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018), a tool designed for reviews including qualitative, quantitative and mixed-methods studies. To ensure the consistent evaluation of the selected studies with all three methods, three dimensions with equal weight were considered: (1) research design appropriateness: the clarity of research questions and whether the chosen methodology can answer them; (2) data rigor (suitability of sampling strategies and data collection methods); and (3) trustworthiness of findings (whether findings were adequately derived from and supported by the data, ensuring validity and coherence). The final results showed that no study was excluded due to quality concerns, not because the criteria were lenient, but because the initial screening (e.g., restricting inclusion to peer-reviewed journal articles) had already ensured a high academic standard.

2.5 Data Extraction and Analysis

Borrego et al.'s (2014) framework covers "mapping," "critique within studies," and "critique across studies". Notably, "critique within studies", indicating that assessing the quality of individual studies has been addressed in the quality appraisal. Accordingly, data extraction and analysis were then organized into descriptive mapping and thematic synthesis (critique across studies).

2.5.1 Descriptive Mapping

"Mapping" involves describing the general characteristics of the field (Borrego et al., 2014). So, the descriptive mapping involves the major trends and research

methodologies of the selected studies. Therefore, to address RQ1 (major trends), this study extracted publication year, study location, educational contexts, and subject areas. To address RQ2 (research methodologies), this study extracted research approaches (i.e., qualitative, quantitative and mixed methods) and time dimensions (i.e., cross-sectional and longitudinal dimensions).

2.5.2 Thematic Synthesis

To address RQ3 (key topics, issues and findings), thematic synthesis was employed based on Borrego et al.'s (2014) "critique across studies", indicating comparing existing studies. Accordingly, a qualitative content analysis was employed as follows:

a) A Priori Coding (Deductive Phase): Drawing on Anthony's (2018) ESP model, research topics were categorized into objectives, teaching resources, methods, and assessment. For example, findings concerning "test" were deductively coded under the "Assessment" category. Eventually, key issues and findings within these topics were identified.
b) Open Coding (Inductive Phase): To avoid limiting the findings to predefined categories, inductive analysis was also employed, revealing additional topics, curriculum design and influencing factors. For instance, studies concerning "developing a curriculum/project" were inductively coded and synthesized as "curriculum design."
c) Synthesis and Refinement: A coding–re-coding procedure was used to ensure clarity and consistency. The research team resolved thematic disagreements through discussions until consensus was reached.

3. Results and Findings

3.1 Major Trends

To answer RQ1, major trends were analyzed from the following four aspects:

The past decade witnessed a persistent, yet limited and fluctuating research concentration on EOP studies in higher education from 2015 to 2024 (Figure 2). 36 studies in total were conducted in 14 countries. The amount of publication peaked in 2019 (n=6) and 2022 (n=7), covering Asia, Europe and Africa, but dropped sharply to a negligible amount in 2016 and 2020 (n=1 each).

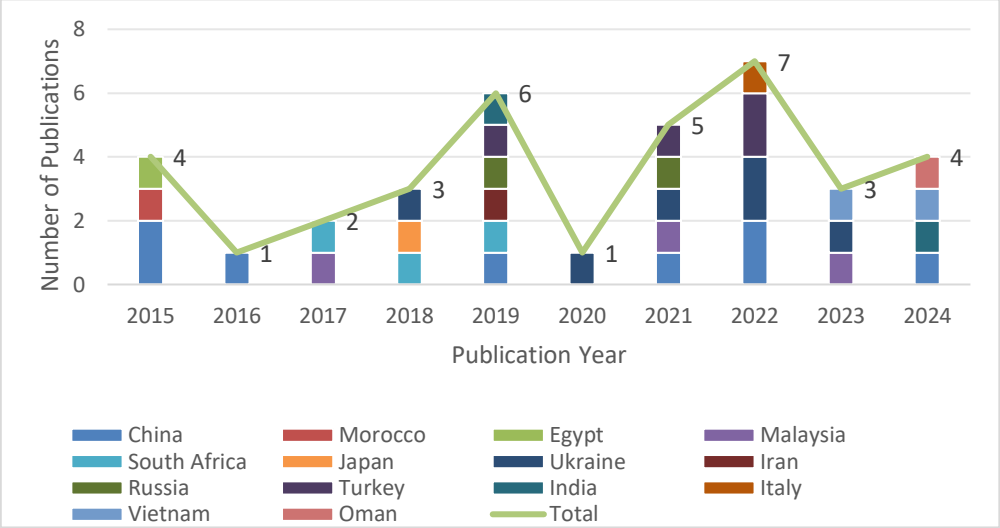

Figure 2: Publication Frequency of Studies on EOP in Higher Education (2015–2024)

Figure 3 presents the global distribution of the selected studies across 14 countries. China played a leading role (n=8, 2 studies from Hong Kong), followed by Ukraine (n=6) and Turkey (n=4). Malaysia and South Africa each produced three studies, while Russia, India, and Vietnam each had two. Moreover, Egypt, Morocco, Japan, Iran, Italy, and Oman each contributed one. In general, Asian and European studies dominated, while Africa was limited and Americas and Oceania had none.

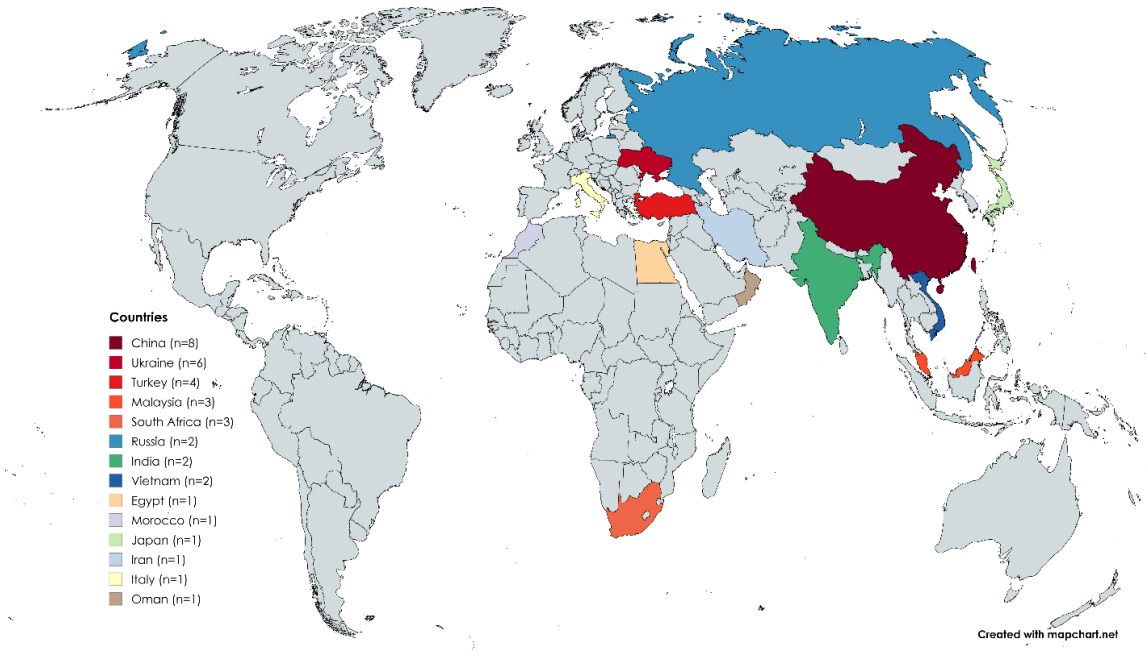

Figure 3: Geographical Distribution of Studies on EOP in Higher Education (2015–2024)

Figure 4 depicts the educational context of the selected studies. Most studies were conducted in public institutions (n=32), including general higher education (n=28) and vocational higher education (n=4), with only a few in private institutions (n=3), and one unspecified.

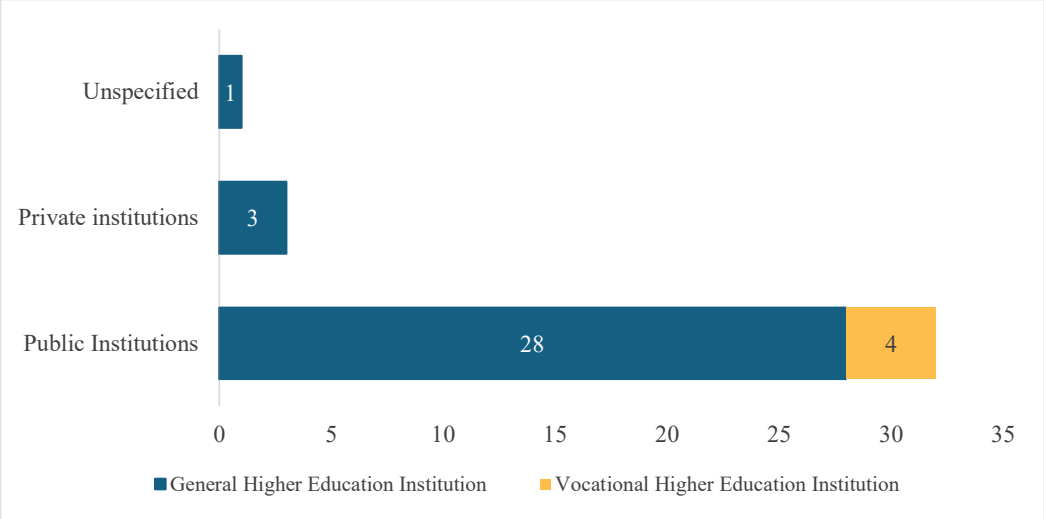

Figure 4: Distribution of Research Contexts of the Selected Studies (2015–2024)

Figure 5 presents the subject areas of the selected studies from 2015 to 2024. Among 12 specific areas plus one general category, the most studied was English for unspecified work fields (n=9), followed by healthcare (n=8), tourism (n=4), business (n=4), science (n=2), and engineering (n=2). Other areas (accountancy, aviation, computer science, economics, IT, music, social sciences, mass communication) each contributed one study. Overall, EOP research concentrates on service-oriented fields requiring international communication (e.g., healthcare, tourism, business), while technical or specialized fields remain underrepresented.

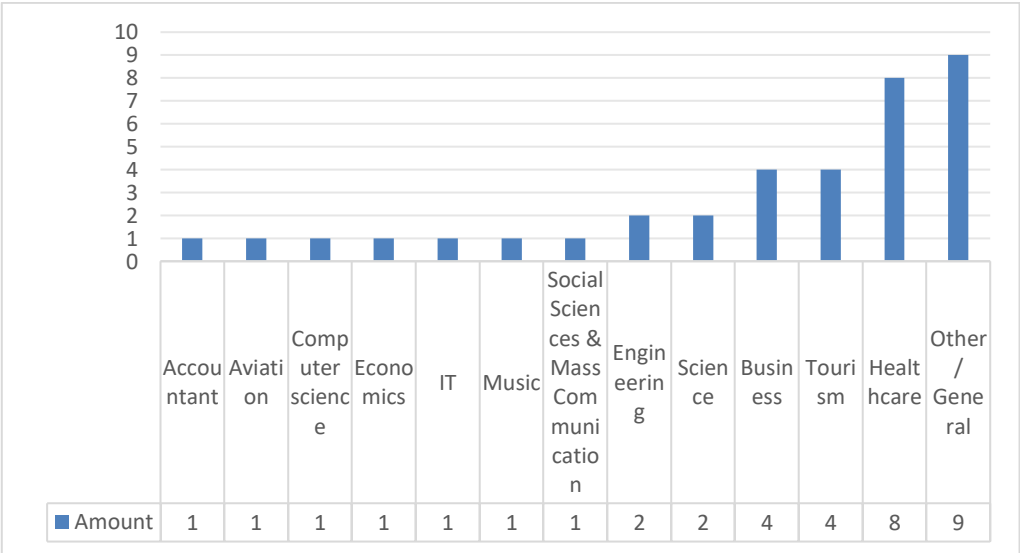

Figure 5: Distribution of Subject Areas of the Selected Studies (2015–2024)

3.2 Research Methodologies

To answer RQ2, research strategies were first analyzed (Figure 6). The three approaches were almost evenly distributed: mixed methods were most common (n=16, 43%), followed by quantitative (n=11, 30%) and qualitative (n=10, 27%).

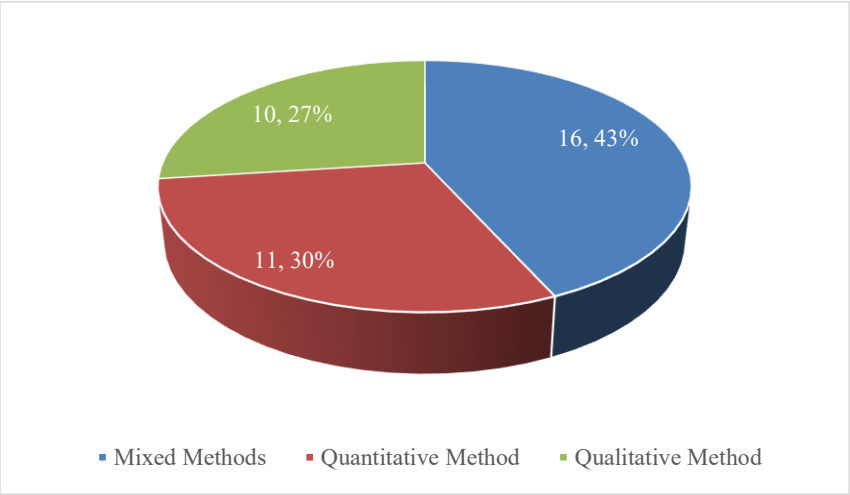

Figure 6: Distribution of the Selected Studies by Research Strategies (2015–2024)

Time dimensions of selected studies were then analyzed (Figure 7). Findings indicated the major role of cross-sectional studies, accounting for 62% (n=23), while longitudinal studies made up 38% (n=14).

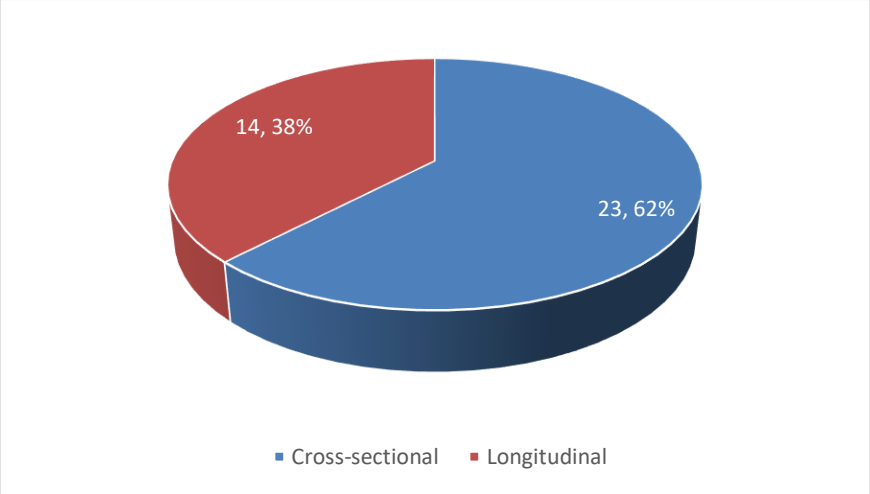

Figure 7: Distribution of Selected Studies by Time Dimensions (2015–2024)

3.3 Key Topics, Issues and Findings

From 2015 to 2024, six key research topics were identified (Figure 8). Teaching methods (n=14) remained consistently prominent, except in 2016 and 2023. Teaching objectives (n=11) also played a significant role, appearing in six of the ten years. Teaching resources received the least attention (n=1). Additionally, curriculum design (n=2), teaching resources (n=1), teaching methods (n=14), and assessment (n=3) have gained attention over the past four years.

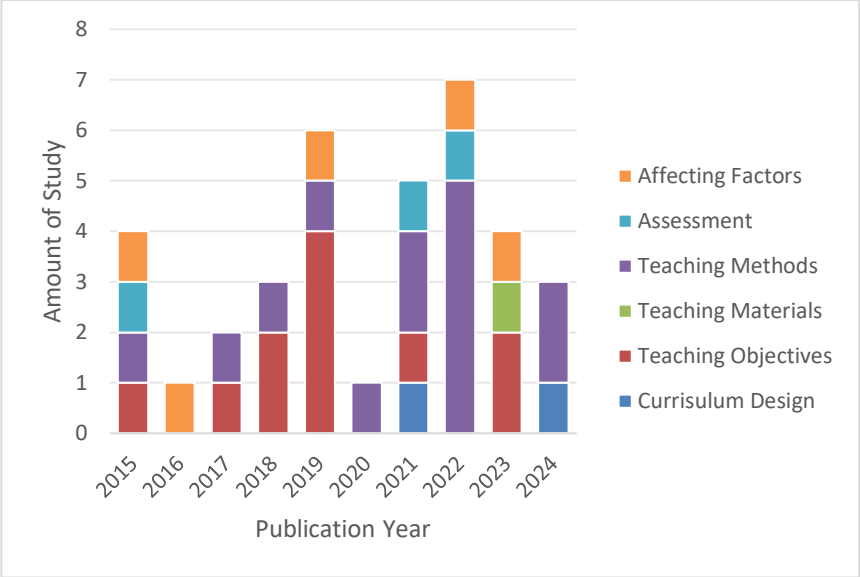

Figure 8: Distribution of Key Research Topics Addressed in the Selected Studies (2015-2024)

Twelve key issues across six topics were identified, as presented in Table 2. The misalignment between instruction and workplace needs was the greatest concern (n=14), across teaching objective (n=11), teaching methods (n=2) and assessment (n=1). Teaching methods are criticized for insufficient interactivity and limited motivation (Agaltsova & Ilyuschenko, 2021; Demydovych & Holik, 2020; Khalifa et al., 2015; Othman et al., 2017; Shu, 2022), disconnect from professional requirements (Borisova & Letkina, 2019; Hartle et al., 2022; Karaçay et al., 2022; Koknova et al., 2022; Sun, 2024), lack of methodological effectiveness verification of 4.0 technology (Sridhivya et al., 2024), and low teaching efficiency (Kyrpychenko et al., 2021; Mercanoglu & Yuksel, 2022; Shalatska, 2018).

Teaching objectives were criticized for the misalignment between teaching practices, student abilities, and workplace requirements (e.g., Chan, 2019; Dahbi, 2015; Li & Heron, 2021; Musa et al., 2023; Rautenbach & Mann, 2019; Romaniuk et al., 2023). Affecting factors involved psychological and physical merits and defects (e.g., Bui & Huong, 2023; Mykytenko et al., 2022; Özer, 2019; Tang et al., 2015; Xie, 2016). Issues regarding assessment included insufficient advanced testing for corporate recruitment (Jin & Hamp-Lyons, 2015), misaligned rating criteria and lack of interactive assessment dimensions (Shak & Read, 2021), and negative impact of excessive summative assessments (Zhu, 2022). Curriculum design was hampered by a lack of targeted, data-driven guidelines (Kaya, 2021) and limited high-quality training programs (Huynh et al., 2024). Teaching resources involve gender stereotypes in nursing English materials (Bataineh et al., 2024).

Table 2: Key Issues of the Selected Studies of EOP in Higher Education (2015-2024)

Topics	Issues
Curriculum design	a) Lack of specificity and guidance (n=1) b) Lack of quality programs (n=1)
Teaching Objectives	a) Disconnect between teaching and workplace requirements (n=11)
Teaching Resources	a) Stereotype in EOP textbook (n=1)
Teaching Methods	a) Lack of teaching interactivity and motivation (n=5) b) Disconnected from professional needs (n=2) c) Lack of teaching efficiency and methodological effectiveness verification (n=6)
Assessment	a) Weak alignment with industry needs (n=1) b) Lack of interactivity (n=1) c) Over-reliance on summative assessment (n=1)
Affecting Factors	a) EOP teaching and learning are constrained by a number of factors (n=4)

Corresponding solutions were also identified as follows:

a. Curriculum Design

To address the lack of specificity, guidance and quality, existing research has adopted needs analysis and program evaluation. For instance, Kaya's (2021) mixed-methods needs analysis among 352 students (α = .91) and 14 teachers and 4 in-service flight attendants (intercoder reliability = 84%), revealing that speaking and listening were the most important but least developed skills, with speaking also being the most difficult. Based on these findings, Kaya (2021) proposed a curriculum guideline, though its effectiveness remains untested. Huynh et al. (2024) evaluated a six-month U.S. Department of State-funded program in Vietnam to enhance underemployed youth's vocational English and employability skills, reported gains in oral expression, listening, vocabulary, presentation, and critical thinking, but also identified barriers including teaching duration, differentiated instruction, inadequate facilities, and curricular coordination issues.

b. Objectives

The misalignment between teaching objectives and workplace requirements is attributed to exam-oriented goals and was analyzed from the perspective of stakeholders' needs. Li and Heron (2021) unfolded that medical students perceived low value in CET-focused English courses despite strong demand for medical English. Dahbi (2015) reported that 49.9% of computer science students considered English courses useless, but highly needed listening and speaking skills (Dahbi, 2015; Li & Heron, 2021; Thamizhiniyan, 2019). Rautenbach et al. (2017, 2018) identified job application, conflict resolution, and oral presentation as key desired skills.

Musa et al. (2023) highlighted challenges in terminology, business writing, accent, and oral communication. Industry professionals view listening and speaking as particularly important among the four skills (Amerian & Marefat, 2019; Musa et

al., 2023; Nixon, 2018). For instance, Amerian and Marefat (2019) revealed at least 80% of managers rated all four skills as important, whereas 63.3% considered employees' listening and speaking "weak." Additionally, interpersonal skills are increasingly crucial with job promotion (Chan, 2019). Teachers and administrators recommended that EOP courses must address the conflict between general English exams and professional English learning, and universities should offer foundation preparatory courses, extend English instruction to three years, equate English credits with major courses, and foster cross-department collaboration to develop authentic EOP materials (Li & Heron, 2021; Rautenbach et al., 2017, 2018; Rautenbach & Mann, 2019).

c. Teaching Resources

Existing research merely focused on sociological attributes of textbooks. Bataineh et al. (2024) found that a nursing English textbook disproportionately depicted women (55.9%) over men (44.1%), reflecting a female-nurse stereotype, though some anti-stereotypical portrayals (e.g., women as doctors) existed. However, this analysis was limited to one textbook without examining pedagogical impact. Further research on EOP resource development and effectiveness is needed.

d. Methods of Teaching

Four teaching approaches were highlighted across 14 studies: technology-enhanced language teaching, content and language integrated learning, communicative language teaching, and situated learning. To improve interactivity, communicative language teaching and technology-enhanced instruction were recommended (n=4). The Speaking Club, a monthly extracurricular activity featuring medical-themed discussions, competitive tasks, and quizzes, proved significant to facilitate social interaction and speaking proficiency, with B2+/C1 students increasing from 33.3% to 81.2% in the test (N = 140) (Demydovych & Holik, 2020).

However, the effectiveness of this approach may be limited by teacher-student knowledge gaps in medical content. Additionally, technology-enhanced approaches integrate online and offline tasks (e.g., blended learning, WebQuest, POA + SPOC) (Agaltsova & Ilyuschenko, 2021; Khalifa et al., 2015; Shu, 2022). Notably, Agaltsova and Ilyuschenko (2021) found that WebQuest-based instruction led to significantly higher post-test scores ($p < .001$; $n = 44$). However, this approach can also be constrained by web design costs, teachers' technological competence, and network limitations (Agaltsova & Ilyuschenko, 2021; Khalifa et al., 2015; Shu, 2022).

To bridge the gap between EOP instruction and workplace requirements, content and language integrated learning and technology-enhanced language teaching were recommended. Content and language integrated learning can be achieved through collaborative teaching, project-based learning, simulation-based learning, and the multimodal four-stage model (Borisova & Letkina, 2019; Hartle et al., 2022; Karaçay et al., 2022; Othman et al., 2017). For instance, Karaçay et al. (2022) employed simulation-based training with 28 third-year nursing students and found improved English self-efficacy in patient rapport and standard tasks. However, the effectiveness content and language integrated learning may be

constrained by varying disciplinary content and student proficiency levels. Technology-enhanced approaches include Interdisciplinary Language Portfolio Technology (Koknova et al., 2022), and Big Data-enhanced learning (Sun, 2024), with the latter increasing lexical richness (type-symbol ratio) to 66.9%. Nonetheless, these approaches depend heavily on teacher implementation, technological competence, and infrastructure. To address the limited empirical validation of AI applications, technology-enhanced teaching wash shown to be significant in improving professional English communication in a pre–post intervention study (n=100, $p < .001$) (Sridhivya et al., 2024).

To optimize low teaching efficiency, communicative language teaching and technology-enhanced learning were recommended. The Interactive Text Method improved communication skills among economics students, with the proportion of intermediate or higher level students (majoring in accounting) increasing from 52% to 88% (Kyrpychenko et al., 2021). However, this study lacked a control group and faced barriers including uneven proficiency, low non-major enthusiasm, and mixed-ability grouping. Game-based learning could also boost student interest and practical knowledge, leading to improved test scores (Mercanoglu & Yuksel, 2022). Mercanoglu and Yuksel (2022) found that pharmacy students using digital games achieved significantly higher vocabulary scores ($p < .001$, $d = 1.28$). MOOC integration could also enhance English proficiency, critical thinking, and vocational skills through self-directed learning with instructor support (Shalatska, 2018).

e. Evaluation

A shift from linguistic-oriented to communication oriented in authentic contexts was encouraged but required further exploration. Jin and Hamp-Lyons (2015) proposed a diagnostic tool based on needs analysis but lacked empirical validation. Shak and Read (2021), finding that grammar-focused scoring overlooked interactive skills, aligned oral assessment with CEFR, but its scalability was not examined. Zhu (2022) developed AI-based evaluation system, analyzing and providing feedback for teachers during the teaching process. This system significantly improved students' language skills in ten weeks (particularly listening scores increased by 50% in China's College English Test-based questions) (Zhu, 2022). However, developing and applying such as system demands a high level of AI literacy from teachers.

f. Factor Analysis

Table 4 summarizes factors of EOP teaching covering curriculum design, stakeholder characteristics (teachers and learners), and technological empowerment. Facilitating factors include curriculum design (interactive, flexible, work-related materials) (Bui & Huong, 2023; Tang et al., 2015; Xie, 2016), teacher characteristics (professional background, experience, feedback) (Bui & Huong, 2023; Xie, 2016), and learner characteristics (motivation, positive attitude, extra study time, exploratory personality) (Mykytenko et al., 2022; Özer, 2019). Technology also plays a key role (Bui & Huong, 2023). Conversely, barriers stem from infrastructural constraints (inconvenient access, insufficient tech support, limited time, poor environments) (Tang et al., 2015), curriculum constraints

(limited time/duration, poor environments, insufficient extracurricular activities) (Xie, 2016), and learner constraints (limited occupational/practical experience, anxiety, low motivation, poor self-awareness) (Mykytenko et al., 2022; Özer, 2019; Xie, 2016).

Table 3: Factors Affecting Effective EOP Teaching

Author (Years)	Facilitators	Barriers
Tang et al. (2015)	Interactive design, flexible schedules, work/study-relevant content	Inconvenient access, insufficient tech/learning support, lack of peer support
Xie (2016)	Effective training methods, individualized materials, teacher background/experience, strong motivation, clear objectives	Limited course duration, poor environment, insufficient extracurricular English, lack of practical experience
Özer (2019)	Positive attitudes, motivation, high achievement, extra study time	Anxiety, lack of tourism experience
Mykytenko et al. (2022)	Realistic/exploratory traits, divergent thinking, self-determined motivation	Low motivation, poor self-awareness
Bui & Huong (2023)	Communicative language teaching, language use, corrective feedback and assessment, content and language integrated learning, grammar teaching, culture, technology, and occupation-related skills	(None reported)

4. Discussion

This study revealed three major imbalances in the distributions of research contexts, methods, and topics and underlined vital issues and potential solutions, which offer insights into EOP teaching, research and policy formulation.

4.1 Disproportional Distribution of Contexts

The persistent, yet limited and fluctuating research concentration aligns with Kamil and Muhammad's (2021) findings of researchers' constant interest in English for industry needs. The limited research does not imply unimportance, but rather EOP's status as a minor ESP branch (Koester, 2021). However, despite the growing workplace demand for English (Bui & Huong, 2023; Ho, 2020), research remains insufficient. As EOP teaching should be needs-driven (Dudley-Evans & John, 1998), fluctuations likely stem from economic, epidemic, and policy factors.

For instance, the 2016 trough coincided with economic downturns which reduced trade demand, with global trade growth slowed to approximately 1.5% in 2015 and 2016, much lower than 7% before the crisis (UNCTAD, 2016). The sharp decline in 2020 possibly due to the COVID-19 pandemic, which stalled a number of scientific research activities. The peaks in 2019 and 2022 may result from policies, such as the OECD Skills Strategy 2019 (OECD, 2019), the African Decade for Technical, Professional, Entrepreneurial Training and Youth Employment

(2019-2028) (African Union, 2019), and UNESCO Strategy 2022-2029 (UNESCO, 2022). This trend reflects the sensitivity of EOP research to economic, social, and environmental factors indicating the needs for analyzing EOP within different backgrounds.

The findings that most studies focus on Asia and Europe, with limited presence in Africa and none from the Americas or Oceania echo Kamil and Muhammad's (2021) finding of distinct regional research in non-English-speaking countries or regions. This is because EOP targets non-native English speakers (Hutchinson & Waters, 1987). The focus on Asian and European contexts may be associated with employees' insufficient workplace English abilities, despite the top two export demands globally (Pearson, 2024; WTO, 2024). South American employees are also insufficient in workplace English proficiency, but much lower demand for trade (Pearson, 2024; WTO, 2024). African populations demonstrate relatively higher English proficiency, but embrace limited needs for international trade (Pearson, 2024; WTO, 2024).

Interestingly, little attention was paid to private and vocational higher education contexts. This pattern may stem from institutional characteristics, as private institutions follow market-oriented logic, prioritizing short-term responsiveness, while public institutions follow research-oriented logic, enabling greater engagement in EOP research (Kim et al., 2024). As a result, public institutions tend to be more actively engaged in EOP research. Moreover, EOP requires close alignment with workplace needs. However, vocational institutions often have weaker industry links, fewer resources, and limited expertise (Ricaurte et al., 2025), which constrain EOP teaching and research capacity.

Moreover, EOP research is concentrated in service-oriented fields (e.g., healthcare, tourism, business), while technical fields like accountancy, IT, aviation, and economics remain underrepresented. This may be due to the technical terminology in technology-related fields, which demands higher teacher competence (Musa et al., 2023), limiting research. Given the growing global demand for English proficiency across industries (Nghia et al., 2023), more subject areas are needed.

4.2 Imbalanced Distribution of Research Methodologies

The relatively balanced use of qualitative, quantitative, and mixed methods suggests that researchers value diverse approaches in EOP research. Qualitative methods (e.g., case studies, interviews) provide rich contextual insights for curriculum design. For instance, Chan (2019) conducted narrative interviews with business professionals regarding their career experiences. However, this approach is limited by small sample sizes and low generalizability. Quantitative methods (e.g., surveys and quasi-experiments) can identify demand trends and course satisfaction, as exemplified by Dahbi (2015) and Nixon (2018) but reduce complex realities to numerical summaries. Mixed methods enhance robustness through triangulation, capturing both what and why, yet require greater expertise and resources, such as Amerian & Marefat (2019).

Cross-sectional studies are preferred owing to its short data collection cycles, low cost, and ease of implementation, such as Amerian & Marefat (2019) and Musa et al.'s (2023), but they cannot track changes over time. For example, Musa et al. (2023) identified accounting interns' early-career communication difficulties but could not determine the improvement after EOP training. In contrast, longitudinal research can track the developmental changes in EOP abilities over time, such as Demydovych and Holik (2020), but requires durations and is prone to participant attrition, as in Tang et al. (2015) where only 20% of 100 nursing students completed all online courses.

4.3 Implication from topics, issues and solutions

The neglect of teaching resources and assessment compared to teaching objectives and methods aligns with previous studies, which reported the lack of authentic materials, limited assessment research, and teachers' domain-specific knowledge gaps (Basturkmen, 2021; Bui & Huong, 2023; Shanavas et al., 2024). Moreover, according to constructivist theory, learning is an active process of meaning construction, where social interaction plays a crucial role (Piaget & Duckworth, 1970). As EOP attempts to facilitate learners' transition from classroom learners to professional practitioners, the whole teaching process is particularly vital.

However, teachers can more easily study objectives and methods via classroom observation, whereas developing resources requires industry knowledge (longer cycles), and assessment design involves validity verification (e.g., Zhu, 2022) and alignment with industry needs (e.g., Jin & Hamp-Lyons, 2015), both demanding high costs and expertise, thus attracting fewer studies. In this case, incentive mechanisms for encouraging teachers to develop authentic industry teaching materials is needed. The dominant issue, misalignment of supply and demand, is triggered by multiple reasons. According to Tyler (1949), the learning objectives are achieved through selecting and organizing learning experiences and evaluation.

However, in EOP, limited teacher expertise, low interactivity, and disconnect from professional needs hinder authentic learning experiences (Agaltsova & Ilyuschenko, 2021; Hartle et al., 2022; Shanavas et al., 2024; Valle & Basturkmen, 2019). Additionally, inadequate evaluation, characterized by industry disconnect and over-reliance on summative methods, fails to capture learners' actual workplace communicative competence (Jin & Hamp-Lyons, 2015; Shak & Read, 2021; Zhu, 2022). Consequently, graduates lack essential workplace skills. Therefore, an institutionalized collaboration between academic departments and industry partners is needed.

Technology application, industry relevance, communicative skills, and stakeholder characteristics are essential elements for teaching and policies, based on Community of Practice theory and the essence of EOP. Industry relevance and communicative skills align with EOP's core aim of workplace communicative competence (Bui & Huong, 2023; Chauvin et al., 2020). Moreover, according to the Community of Practice theory, EOP is a process of transitioning learners from the classroom community to the workplace community (Wenger, 1998). Therefore, the needs of stakeholders such as employers, instructors and learners must be

considered (Dudley-Evans & John, 1998). Finally, according to the TPACK framework, technology also plays a crucial compensatory role (Mishra & Koehler, 2006). Accordingly, technology empowerment (such as AI chatbots, online teaching platforms) makes up for the limited domain-specific content knowledge of EOP instructors**.** However, the practical integration of these elements may also be constrained by technological proficiency and domain-specific knowledge of instructors, industry–academia cooperation of institutions, and the balance among divergent stakeholders' needs. Overall, this study identifies three major imbalances and defines four key elements for EOP teaching. However, due to these imbalances, the global applicability of the findings may be limited. Therefore, future research is encouraged to explore diverse contexts, methods, and topics to analyze the integration of technology, industry relevance, communicative skills, and stakeholder characteristics.

5. Conclusion

This SLR analyzes 36 empirical studies on EOP in higher education published between 2015 and 2024, identifying three major research imbalances (context, methodology, topics) and four key directions for improving EOP teaching (technology, industry relevance, communication, stakeholders). It not only systematically maps the overall landscape of EOP research in terms of context, methodology, and topics, but also identifies four actionable pathways for teaching practice, offering a reference for future pedagogical and research.

Theoretically, this study extends the depth and scope of existing SLRs. Unlike previous SLRs, such as Warman et al. (2024), Kamil and Muhammad (2021) and Zeng and Della (2024), this study identifies an over-reliance in EOP research on context, methods, and topics and comprehensively integrates institutional and theoretical perspectives to explain the causes of this bias. Practically, the findings synthesize key problems and solutions for EOP teaching. Additionally, the study reveals underrepresentation of private and vocational colleges, as well as constraints on technology-enhanced teaching due to infrastructure and teacher capacity gaps, offering insights for policies in university–industry collaboration, technology investment, and industry-oriented teacher training.

This study is limited by the relatively small sample size, as it focused on high-quality peer-reviewed empirical articles strictly sticking to the topic of EOP in higher education from authoritative databases (Scopus and WoS) to ensure methodological rigor. Nonetheless, excluding non-peer-reviewed "gray literature" may result in publication bias, as indexed journals may prioritize studies with significant positive results or successful pedagogical interventions. Consequently, the findings might over-represent success stories and under-represent practical challenges or failures, limiting generalizability. Additionally, this SLR was confined to research published between 2015 and 2024, excluding earlier studies.

Future research is expected in several directions. First, future research is encouraged to expand the range of databases and time periods to obtain a more comprehensive perspective. Moreover, more exploration on diverse geographical

locations, educational contexts, and subject areas should be conducted in future research. Besides, longitudinal studies should be strengthened to capture competence development and inform curriculum and policy. Finally, more attention should also be paid to teaching resources and the EOP assessment.

Conflict of Interest
Authors state no conflict of interest.

6. Acknowledgments

The authors wish to acknowledge the use of Gemini in the writing of this paper. This tool was used to help improve the language and grammar in the paper. The paper remains an accurate representation of the authors' work and intellectual contributions.

7. References

African Union. (2019). *African decade for technical, professional, entrepreneurial training and youth employment (2019-2028)*. Retrieved May 8, 2026 from https://acqf.africa/resources/policy-guidelines/african-union-policy-documents/plan-of-action-for-the-african-decade-for-technical-professional-entrepreneurial-training-and-youth-employment-2019-2018

Agaltsova, D. V., & Ilyuschenko, N. S. (2021). Applying marketing mix model WebQuest in professional English teaching. *Perspectives of Science and Education*, *49*(1), 440–449. https://doi.org/10.32744/pse.2021.1.30

Amerian, M., & Marefat, F. (2019). A triangulated study of professional English needs of university graduates in business and economics in today's Iranian business sectors. *Applied Research on English Language*, *8*(2), 227–260. https://doi.org/10.22108/are.2019.114847.1401

Anthony, L. (2018). *Introducing English for specific purposes*. Routledge.

Arias-Contreras, C., & Moore, P. J. (2022). The role of English language in the field of agriculture: A needs analysis. *English for Specific Purposes*, *65*, 95–106. https://doi.org/10.1016/j.esp.2021.09.002

Bangdiwala, S. I. (2024). The importance of systematic reviews. *International Journal of Injury Control and Safety Promotion*, *31*(3), 347–349. https://doi.org/10.1080/17457300.2024.2388484

Basturkmen, H. (2021). ESP research directions: Enduring and emerging lines of inquiry. *Language Teaching Research Quarterly*, *23*, 5–11. https://doi.org/10.32038/ltrq.2021.23.02

Bataineh, A. M., Douzandeh, E., & Sabiri, K. A. (2024). Gender portrayal in a nursing textbook in Oman: Striving for equality. *Journal of International Women's Studies*, *26*(5), 1–19.

Borisova, E. N., & Letkina, N. V. (2019). English for professional communication: A project-based approach to teaching university students (a case study of music students). *Integration of Education*, *23*(4), 607–627. https://doi.org/10.15507/1991-9468.097.023.201904.607-627

Borrego, M., Foster, M. J., & Froyd, J. E. (2014). Systematic literature reviews in engineering education and other developing interdisciplinary fields. *Journal of Engineering Education*, *103*(1), 45–76. https://doi.org/10.1002/jee.20038

Bui, H. P., & Huong, L. P. H. (2023). Students' and teachers' beliefs about effective teaching of English for occupational purposes. *Sage Open*, *13*(1), 1–12. https://doi.org/10.1177/21582440231153076

Chan, C. S. C. (2019). Long-term workplace communication needs of business professionals: Stories from Hong Kong senior executives and their implications

for ESP and higher education. *English for Specific Purposes*, *56*, 68–83. https://doi.org/10.1016/j.esp.2019.07.003

Chauvin, R., Fenouillet, F., & Scott Brewer, S. (2020). An investigation of the structure and role of English as a foreign language self-efficacy belief in the workplace. *System*, *91*, 102251. https://doi.org/10.1016/j.system.2020.102251

Dahbi, M. (2015). Reassessing the English course offered to computer engineering students at the National School of Applied Sciences of Al-Hoceima in Morocco: An action research project. *Africa Education Review*, *12*(3), 508–524. https://doi.org/10.1080/18146627.2015.1110915

Demydovych, O., & Holik, O. (2020). Speaking club as an interactive extracurricular activity in learning English for professional purposes at medical universities. *Advanced Education*, *7*(14), 4–10. https://doi.org/10.20535/2410-8286.178238

Dudley-Evans, T., & John, M. J. S. (1998). *Developments in English for specific purposes: A multi-disciplinary approach*, Vol. 1–1). Cambridge University Press.

Educational Testing Service. (2026). *TOEIC® Global English skills report: The strategic role of English proficiency assessments in the evolving workplace*. Retrieved May 12, 2026, from https://www.ets.org/toeic/resources/global-english-skills.html

Hartle, S., Facchinetti, R., & Franceschi, V. (2022). Teaching communication strategies for the workplace: A multimodal framework. *Multimodal Communication*, *11*(1), 5–15. https://doi.org/10.1515/mc-2021-0005

Ho, Y.-Y. C. (2020). Communicative language teaching and English as a foreign language undergraduates' communicative competence in Tourism English. *Journal of Hospitality, Leisure, Sport & Tourism Education*, *27*, 100271. https://doi.org/10.1016/j.jhlste.2020.100271

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M.-C., Vedel, I., & Pluye, P. (2018). The mixed methods appraisal tool (MMAT) version 2018 for information professionals and researchers. *Education for Information*, *34*(4), 285–291. https://doi.org/10.3233/EFI-180221

Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes A Learning-Centered Approach*. Cambridge University Press.

Huynh, N.-T., Nguyen, P.-N. T., Nguyen, T.-N. T., Do, C.-T., Nguyen, H.-T., & Huynh, T.-V. M. (2024). Cultivating job-seeking skills in youth: Exploring Vietnamese EFL learners' experiences with the English for employability skills program. *Journal of Language Teaching and Research*, *15*(6), 2020–2033. https://doi.org/10.17507/jltr.1506.27

Jin, Y., & Hamp-Lyons, L. (2015). A new test for China? Stages in the development of an assessment for professional purposes. *Assessment in Education: Principles, Policy & Practice*, *22*(4), 397–426. https://doi.org/10.1080/0969594X.2014.1003794

Jordan, R. R. (1997). *English for Academic Purposes: A Guide and Resource Book for Teachers*. Cambridge University Press.

Kamil, M. A., & Muhammad, A. M. (2021). Professional communication competence in English for occupational purposes (EOP) courses: A systematic literature review and proposal of a framework. *Journal of Teaching and Learning for Graduate Employability*, *12*(2), 260–278. https://doi.org/10.21153/jtlge2021vol12no2art1075

Karaçay, P., Zeybekoğlu, Z., Chizzo, J., & Middlebrooks, A. K. (2022). A qualitative exploratory study of the effects of simulation on nursing students' self-efficacy beliefs for using English for professional purposes. *Simulation and Gaming*, *53*(1), 6–21. https://doi.org/10.1177/10468781211068881

Kaya, S. (2021). From needs analysis to development of a vocational English language curriculum: A practical guide for practitioners. *Journal of Pedagogical Research*, *5*(1), 154–171. https://doi.org/10.33902/JPR.2021167471

Khalifa, H., Khabbazbashi, N., Abdelsalam, S., & Said, M. (2015). International assessment and local contexts: A case study of an English language initiative in higher education institutes in Egypt. *Papers in Language Testing and Assessment*, *4*(1), 1–30.

Kim, C., Kim, Y., Rhee, M., & Kim, B. K. (2024). Pathways to exploration in higher education: Status and institutional logic in public and private higher education institutions. *Higher Education*, *88*(2), 627–643. https://doi.org/10.1007/s10734-023-01135-4

Koester, A. (2021). English for Occupational Purposes. In *The Encyclopedia of Applied Linguistics* (pp. 1–6). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781405198431.wbeal0381.pub2

Koknova, T. A., Shekhavtsova, O., Milova, O. Y., Volodavchyk, V. S., Iaburova, O. V., & Li, L. (2022). Language portfolio for professional purposes: Interdisciplinary effect on professional competence for prospective specialist in Ukrainian and Chinese universities. *Journal of Interdisciplinary Research*, (2), 63–68.

Kyrpychenko, O., Pushchyna, I., Kichuk, Y., Shevchenko, N., Luchaninova, O., & Koval, V. (2021). Communicative competence development in teaching professional discourse in educational establishments. *International Journal of Modern Education and Computer Science*, *13*(4), 16–27. https://doi.org/10.5815/ijmecs.2021.04.02

Li, Y., & Heron, M. (2021). English for general academic purposes or English for specific purposes? Language learning needs of medical students at a Chinese university. *Theory and Practice in Language Studies*, *11*(6), 621–631. https://doi.org/10.17507/tpls.1106.05

Mercanoglu, G., & Yuksel, G. (2022). Digital gaming in class: English medical terminology for pharmacy students. *Pharmacy Education*, *22*(1), 376–382. https://doi.org/10.46542/pe.2022.221.376382

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Musa, F., Othman, Z., Md Yunus, M., & Rashid, T. (2023). Challenges and strategies in workplace English communication: Undergraduate accountant internship. *Arab World English Journal*, *14*(4), 283–299. https://doi.org/10.24093/awej/vol14no4.17

Mykytenko, N., Borakovskyy, L., Kopchak, M., Mykytenko, O., & Popovych, K. (2022). The role of personality type and self-determination of students majoring in non-philological specialities while building English for professional purposes competence. *WISDOM*, *3*(2), 193–205. https://doi.org/10.24234/wisdom.v3i2.630

Nghia, T. L. H., Anh, N. P., & Kien, L. T. (2023). English language skills and employability: A theoretical framework. In T. L. H. Nghia, L. T. Tran, & M. T. Ngo (Eds.), *English Language education for graduate employability in Vietnam* (pp. 71–93). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-4338-8_4

Nieto Moreno de Diezmas, E., & Alarcón Utrera, A. B. (2025). English proficiency as capital in family language policies: Beliefs, strategies and investments. *Elia*, (25), 13–42. https://doi.org/10.12795/elia.2025.i25.1

Nixon, R. M. (2018). English usage in Japanese workplace settings. *Asian EFL Journal*, *20*(1), 4–18.

OECD (Ed.). (2015). *OECD skills outlook 2015: Youth, skills and employability*. OECD Publishing. https://doi.org/10.1787/9789264234178-en

OECD. (2019). *OECD skills strategy 2019: Skills to shape a better future*. OECD Publishing. https://doi.org/10.1787/9789264313835-en

Othman, Z., Wahi, W., Ya'acob, A., & Kofli, N. T. (2017). A collaborative ESP: 'engineering specific purpose' of workplace English. *Journal of Institutional Research in Southeast Asia*, *15*(2), 18–30.

Özer, S. (2019). An investigation of attitude, motivation and anxiety levels of students studying at a faculty of tourism towards vocational English course. *Dil ve Dilbilimi Çalışmaları Dergisi*, *15*(2), 560–577. https://doi.org/10.17263/jlls.586246

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, n71. https://doi.org/10.1136/bmj.n71

Pearson. (2024). *Global English proficiency report 2024: Insights and trends for business leaders*. https://www.pearson.com/languages/proficiency-report-2024.html

Piaget, J., & Duckworth, E. (1970). *Genetic epistemology* (Vol. 13). Columbia University Press.

QS Quacquarelli Symonds. (2015, November 26). *QS world university rankings 2015: Top global universities*. QS. Retrieved May 8, 2026, from https://www.topuniversities.com/university-rankings/world-university-rankings/2014

Rautenbach, D. E., Mann, P. C. C., & Ryneveld, P. L. V. (2017). Curriculum development methodologies for English for occupational purposes in tourism management: A case study from a South African university of technology. *African Journal of Hospitality, Tourism and Leisure*, *6*(2).

Rautenbach, E., & Mann, C. C. (2019). Enhancing tourism graduate employability with English for Occupational Purposes: South African academic and industry perspectives. *African Journal of Hospitality, Tourism and Leisure*, *8*(4).

Rautenbach, E., Mann, C. C., & Van Ryneveld, L. (2018). Developing curricula for English for occupational purposes: A case study at a South African university of technology. *South African Journal of Higher Education*, *32*(2). https://doi.org/10.20853/32-2-1861

Ricaurte, K., Venegas Muggli, J., Galán-Muros, V., & Matus Navarro, C. (2025). *Strengthening higher technical and vocational education and training systems* (ED/HE/IESALC/IP/2025/82). UNESCO. Retrieved May 8, 2026, from https://unesdoc.unesco.org/ark:/48223/pf0000393711_eng

Romaniuk, D., Karpenko, Y., & Kichuk, A. (2023). The formation of medical students' research skills in teaching professional English. *Ezikov Svyat (Orbis Linguarum)*, (ezs.swu. v21i2), 96–101. https://doi.org/10.37708/ezs.swu.bg.v21i2.12

Roshid, M. M., & Kankaanranta, A. (2025). English communication skills in international business: Industry expectations versus university preparation. *Business and Professional Communication Quarterly*, *88*(1), 100–125. https://doi.org/10.1177/23294906231184814

Shak, P., & Read, J. (2021). Aligning the language criteria of a group oral test to the CEFR: The case of a formal meeting assessment in an English for occupational purposes classroom. *Pertanika Journal of Social Sciences and Humanities*, *29*(S3), 133–156. https://doi.org/10.47836/pjssh.29.s3.08

Shalatska, H. M. (2018). The efficiency of MOOCs implementation in teaching English for professional purposes. *Information Technologies and Learning Tools*, *66*(4), 186. https://doi.org/10.33407/itlt.v66i4.2106

Shanavas, S. P., Singh, S., & Vargheese, K. J. (2024). Teaching English for specific purposes in tertiary contexts: Navigating education and assessment challenges. *Changing English*, 1–12. https://doi.org/10.1080/1358684X.2024.2309992

Shu, J. (2022). A POA theory-based network teaching mode for English course in higher vocational college. *International Journal of Emerging Technologies in Learning*, *17*(1), 224–238. https://doi.org/10.3991/ijet.v17i01.28459

Sridhivya, D., Gurusamy, K., & Balamurali, E. (2024). Utilizing ELSA Speak and Busuu apps to enhance English for professional purposes among Indian students: An Education 4.0 approach. *Australian Journal of Applied Linguistics*, *7*(3), 1717. https://doi.org/10.29140/ajal.v7n3.1717

Sun, L. (2024). The impact of college English teaching on improving students' writing effectiveness in the context of big data. *Applied Mathematics and Nonlinear Sciences*, *9*(1), 20230356. https://doi.org/10.2478/amns.2023.1.00356

Tang, A., Wong, N., & Wong, T. (2015). Learning experience of Chinese nursing students in an online clinical English course: Qualitative study. *Nurse Education Today*, *35*(2), E61–E66. https://doi.org/10.1016/j.nedt.2014.11.017

Thamizhiniyan, K. (2019). Vocational education students' experiences towards the need for English communication skills in training places: A focus group interview. *International Journal of Recent Technology and Engineering (IJRTE)*, *8*, 1169–1172.

Tyler, R. W. (1949). *Basic principles of curriculum and instruction*. University of Chicago Press.

UNCTAD. (2016). *Trade and development report 2016*. United Nations Conference on Trade and Development. Retrieved May 8, 2026, from https://unctad.org/system/files/official-document/tdr2016_en.pdf

UNESCO. (2020). *Education for sustainable development: A roadmap*. United Nations Educational, Scientific and Cultural Organization. Retrieved May 8, 2026, from https://unesdoc.unesco.org/ark:/48223/pf0000374802.locale=en

UNESCO. (2022). *Transforming technical and vocational education and training for successful and just transitions: UNESCO strategy 2022-2029*. UNESCO. https://doi.org/10.54675/EUDU5854

Valle, A. B., & Basturkmen, H. (2019). Investigating the teacher education needs of experienced ESP teachers in Spanish universities. *Ibérica*, *38*, 127–150. Retrieved May 8, 2026, from https://www.semanticscholar.org/paper/Investigating-the-teacher-education-needs-of-ESP-in-Valle-Basturkmen/c3fcd8b620a866acd05022887aa5eb05e6f43d91

Warman, L. A. D., Hadriana, & Sumarno. (2024). Enhancing employability: A systematic literature review on the significance of English for occupational purposes in higher education. *AL-ISHLAH: Jurnal Pendidikan*, *16*(3), 2892–2907. https://doi.org/10.35445/alishlah.v16i3.4748

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity* (pp. xv, 318). Cambridge University Press. https://doi.org/10.1017/CBO9780511803932

WTO. (2024). *WTO global trade data portal*. World Trade Organization Data Lab. Retrieved May 8, 2026, from https://globaltradedata.wto.org/official-data

Xie, Q. (2016). Developing communicative competence for the globalized workplace in English for occupational purposes course in China. *Journal of Language Teaching and Research*, *7*(6), 1142. https://doi.org/10.17507/jltr.0706.12

Yao, Y., & Babcock, B. D. (2020). English as a lingua franca in China-based workplace communication: A mixed approach to a comparison of perceived communicative needs. *Ibérica*, (39), 345–370. https://doi.org/10.17398/2340-2784.39.345

Zeng, S., & Della, C. (2024). A systematic review of professional communication skills in English for specific purposes in vocational education within the new media era. *Eurasian Journal of Educational Research*, (114), 226–249. https://doi.org/10.14689/ejer.2024.114.013

Zhu, M. (2022). Factors influencing analysis for level of engineering English education based on artificial intelligence technology. *Mathematical Problems in Engineering*, *2022*, 1–11. https://doi.org/10.1155/2022/4447209