



Featured Article

A Quad-Helix Collaboration in Anticipating the Future-Oriented Skills for Business English Professionals

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ABSTRACT

This paper explores the role of quad-helix collaboration—comprising government, industry, academia, and media practitioners—in anticipating the future-oriented skills required for business English professionals. As the global business landscape continues to evolve, the demand for new skills in communication, digital literacy, cross-cultural competence, and data-driven decision-making is increasing. This paper examines how each sector within the quad-helix model contributes to identifying and fostering these skills. Government bodies provide policy frameworks and funding for skill development, while industries highlight the practical needs of the workforce. Academia is instrumental in research and curriculum design, and media practitioners reflect societal demands and trends that influence professional competencies. By synthesizing insights from these four sectors, the paper identifies emerging trends in Business English education and professional practice. The review emphasizes the need for a collaborative approach to skill development, proposing that a well-integrated quad-helix framework can effectively prepare business English professionals for future challenges. Additionally, it discusses the implications for curriculum design, professional development, and collaborative educational models, providing recommendations for stakeholders to bridge the gap between current training and future requirements. The paper concludes by suggesting future research directions to further explore the intersection of business English, skill development, and intersectoral collaboration.

Keywords: Quad-helix, future-oriented skills, business English, framework, and collaboration

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INTRODUCTION

In today's globalized economy, business English serves as a critical medium for communication, collaboration, and commerce across international markets, enabling professionals to address linguistic and cultural barriers effectively (Dzeytska & Romanenko, 2018). The demands on Business English professionals are evolving rapidly, necessitating not only linguistic expertise but also competencies in real-world business contexts (Lăzărescu, 2013). This dynamic landscape highlights the importance of proactive skill development to align with global trade and workforce needs.

This review explores the application of the Quad-Helix model—integrating government, industry, academia, and civil society—as a framework to anticipate and develop future-oriented skills for Business English professionals. This aligns with evidence suggesting that combining language instruction with practical skill-building fosters greater engagement and adaptability among learners (Kholis & Iryanti, 2021). Additionally, addressing the gaps between academic curricula and professional needs ensures alignment with global trends and workforce expectations (Zela, 2018).

A Quad-Helix collaboration is a holistic approach to understanding the future-oriented skills in the workplace and global business communication

The relevance of this topic lies in its capacity to equip professionals with skills that are both practical and forward-looking, enhancing their ability to thrive in dynamic business environments. By leveraging cross-sector collaboration, the quad-helix model offers a pathway for the sustained development of adaptive and innovative competencies. This article aims to explore how the quad-helix model, encompassing government, industry, academia, and media practitioners, can serve as a comprehensive framework for identifying and cultivating future-oriented skills for business English professionals. The focus is to address the evolving demands of global business environments by bridging gaps between academic instruction and professional needs. By examining innovative approaches, the article seeks to highlight strategies that enhance the practical application of business English skills and prepare professionals to adapt to dynamic market trends and technological advancements.

THE QUAD-HELIX MODEL OF COLLABORATION

Definition and Origins of the Quad-Helix Model

The Quad-Helix model is a collaborative framework that extends the traditional Triple Helix model (government, academia, and industry) (Cai & Etzkowitz, 2020; Leydesdorff, 2000; Leydesdorff & Etzkowitz, 1998) by incorporating media practitioners as the fourth component. This inclusion highlights the role of media in shaping public discourse, disseminating knowledge, and driving awareness about societal challenges and innovative solutions (Tozzi, 2021). Unlike the triple helix model, which focuses primarily on economic development through academia-industry-government synergy, the quad-helix model

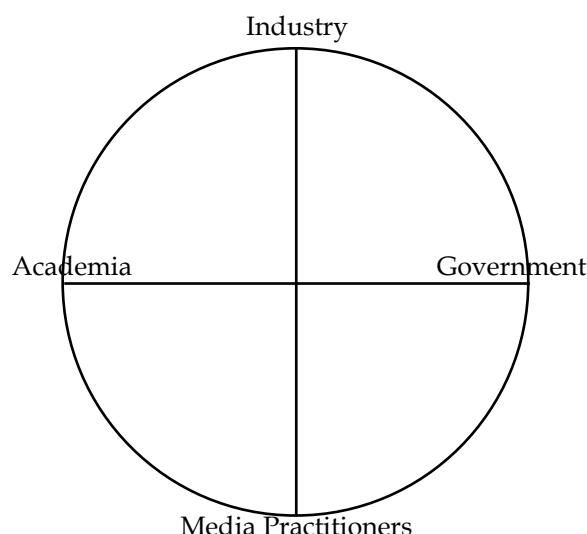


emphasizes the importance of communication and information dissemination in fostering innovation and societal engagement (Amni & Diyah, 2018). Additionally, media practitioners contribute by bridging the gap between technical knowledge and public understanding. Their involvement ensures that innovations are accessible and relevant to diverse audiences, supporting a balanced and informed approach to addressing complex issues like technological adaptation and skill development (Susyanti & Aminah, 2019).

Roles of Each Sector in Anticipating Skills

Governments play a central role in establishing regulatory frameworks, funding initiatives, and crafting policies that promote skill development and cross-sector collaboration. For example, laws supporting creative economies foster innovation ecosystems where stakeholders can thrive (Pratama, 2018). Industry stakeholders provide insights into current and future workforce needs. Their collaboration in co-developing training programs and practical learning opportunities ensures that educational outputs align with market demands (Amni & Diyah, 2018). Besides that, universities and research institutions contribute by advancing knowledge, designing adaptive curricula, and fostering critical and innovative thinking. Moreover, partnerships with government and industry enhance the applicability of academic outputs in real-world professional contexts (Tozzi, 2021). Additionally, media practitioners amplify the impact of the Quad-Helix model by creating awareness about skill development initiatives and communicating their importance to the public. By reporting on workforce trends, technological advancements, and educational reforms, media practitioners play a key role in fostering an informed and engaged society (Susyanti & Aminah, 2019). With this in mind, the Quad-Helix model not only anticipates and addresses emerging skill demands but also enhances the societal understanding and uptake of innovations. This synergy equips society to navigate the challenges of an evolving global economy effectively.

Figure 1.
The Quad-Helix collaboration framework



The diagram visually represents the Quad-Helix collaboration framework, with four key sectors arranged in a circular layout: government, industry, academia, and media practitioners. Each sector is positioned at equal intervals around the circle, symbolizing their interconnected and equally important roles in shaping the future skills of business English professionals. Lines extend from the center to each sector, illustrating their dynamic interactions and collaboration. The circle itself emphasizes the holistic and integrated nature of this collaboration, where each sector contributes its unique expertise and perspectives. Government offers policy frameworks and funding, Industry provides insights into workforce needs, Academia drives research and curriculum development, and media practitioners reflect societal trends and public discourse. The structure of the diagram highlights the necessity of these four sectors working together to anticipate and nurture the skills that will be required in the evolving global business environment.

Current Skills for Business English Professionals

Business English professionals have traditionally been expected to master core skills such as effective communication, professional writing, presentation, and negotiation (Bakos, 2007; Bhatia & Bremner, 2012). These foundational abilities are essential for business correspondence, report writing, and maintaining professional relationships in international markets (Dzevytska & Romanenko, 2018). Writing skills, in particular, remain a fundamental requirement, aiding in clear and effective business communication (Zhang, 2018). Moreover, in today's interconnected world, emerging skills such as digital literacy, cross-cultural communication, and data-driven decision-making are becoming increasingly vital. Digital tools like the ELSA app, which enhances English communication through AI, exemplify the integration of technology in skill-building (Dhivya et al., 2023). Moreover, cross-cultural communication has gained prominence, requiring professionals to navigate and understand diverse cultural contexts effectively (Hongyu, 2023). Critical thinking and problem-solving skills are also emphasized, particularly for integrating language training with business-specific knowledge (Hongyu, 2023).

Nowadays, the rapid advancement of technology and globalization are reshaping the skill demands for Business English professionals. Automation, remote work, and global collaboration necessitate competencies like adaptability and advanced technological proficiency. A task-based approach, which includes simulation tasks and business case studies, is identified as an effective method to align educational training with these dynamic professional requirements (Hongyu, 2023). Furthermore, studies on employability frameworks highlight the need for a balanced combination of language skills, foreign trade competencies, and career management to meet recruitment expectations (Tong & Gao, 2022). In other words, educational and professional training programs can ensure that Business English professionals are equipped to meet the demands of the modern business environment.

The skill set required for Business English professionals is evolving to meet the demands of a globalized and technologically advanced business environment. While traditional skills such as communication, writing, and negotiation remain essential, emerging competencies like digital literacy, cross-cultural communication, and data-driven decision-making are increasingly critical. The integration of technology, such as AI-powered tools, exemplifies the shift towards modern, adaptive skill-building methods (Omer, 2024). Furthermore, globalization and technological advancement have heightened the need for adaptability, advanced technological proficiency, and critical thinking. Educational and professional training programs must adopt innovative approaches, such as task-based learning and employability frameworks, to equip professionals with a balanced combination of language skills, professional knowledge, and career management capabilities (Lee & Nie, 2024). These evolving strategies ensure that Business English professionals can navigate the complexities of the contemporary business landscape effectively.

FUTURE-ORIENTED SKILLS FOR BUSINESS ENGLISH PROFESSIONALS

In a rapidly changing global economy, equipping Business English professionals with relevant and future-oriented skills is critical. This section explores the contributions of various stakeholders in identifying and fostering these skills. Academia emphasizes innovative and adaptable learning strategies to meet future career demands, while industry leaders highlight the practical and technological competencies required in professional settings. Government initiatives align with workforce needs through policies promoting employability and lifelong learning. Additionally, civil society advocates for integrating cultural and ethical dimensions into skill development to address broader societal challenges. Together, these perspectives offer a comprehensive approach to preparing business English professionals for the complexities of the modern business landscape.

Academic literature highlights the need for adaptable and future-ready skills in Business English education, with emphasis on critical thinking, problem-solving, and the integration of language learning with professional applications (Timalsina, 2021). The incorporation of learner-centered and context-specific methodologies, such as Content and Language Integrated Learning (CLIL), ensures relevance to future careers while fostering collaboration, creativity, and effective communication (Chyzykova, 2021). These academic strategies are designed to address the evolving demands of globalized professional environments.

Insights from industries emphasize the growing importance of transferable skills like adaptability, flexibility, oral communication, and teamwork, particularly in sectors experiencing economic and digital transformation (Heckadon & Tuzlukova, 2020). Employers increasingly seek Business English professionals capable of strategic thinking and leveraging technological tools to address real-world challenges (Zhang, 2022). Furthermore, government initiatives often align with industry and academic goals to promote skill development through policies that enhance employability. For instance, programs under Oman's Vision 2040 focus on integrating English for Specific Purposes



(ESP) in tertiary education to meet the needs of a diversified economy (Heckadon & Tuzlukova, 2020). Policymakers also emphasize lifelong learning and the role of language education in workforce readiness.

Civil society perspectives underscore the societal need for Business English professionals who are equipped to address ethical, cultural, and social challenges in global business. By advocating for skills such as empathy, cultural sensitivity, and effective communication, civil society contributes to shaping curricula that balance professional expertise with societal values (Shepel, 2020). In other words, a collaborative approach involving academia, industry, government, and civil society is vital for equipping Business English professionals with the skills required to navigate a rapidly evolving global landscape.

INTEGRATING THE QUAD-HELIX MODEL FOR FUTURE SKILL DEVELOPMENT

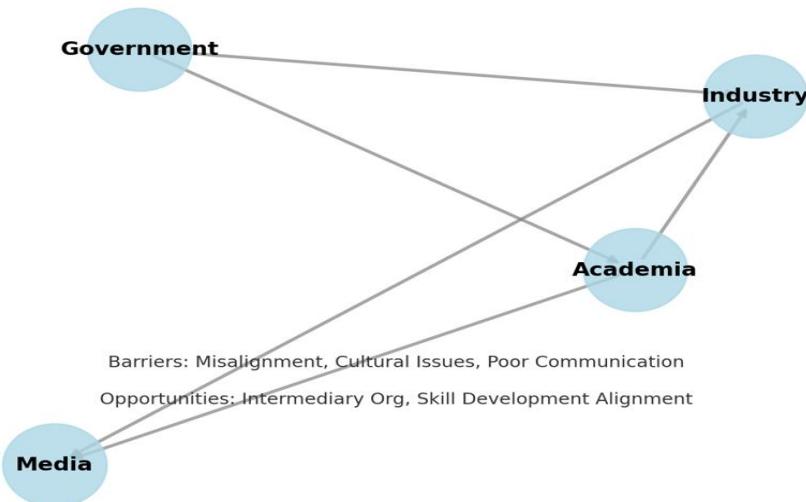
Successful Quad-Helix collaborations highlight the synergy between government, industry, academia, and media practitioners. For example, the implementation of integrative economic models to support creative industries demonstrates how collaboration can align with broader societal and economic goals (Susyanti & Aminah, 2019). Similarly, initiatives linking universities and industries to facilitate technology transfer in Ethiopia underscore the potential of academic and corporate partnerships for innovation (Hailu, 2024). However, barriers to effective Quad-Helix collaboration often arise from misaligned objectives, cultural differences, and poor inter-organizational communication. For instance, a study on Azerbaijan revealed that historical and systemic cultural barriers hinder effective university-industry-government interactions, requiring improved coordination and policies (Landoni & Muradzada, 2024). However, opportunities for overcoming these challenges include establishing intermediary organizations such as research centers and technology incubators to facilitate smoother collaborations (Hailu, 2024).

Adopting best practices from existing Quad-Helix models involves leveraging structured collaborations to address skill gaps. The labor training initiatives in Jakarta, which combined contributions from all four sectors, showcase how the Quad-Helix approach can align skill development programs with real-world workforce demands (Trilestari et al., 2021). Additionally, mixed-method research in creative SMEs in Jambi City demonstrates how such collaborations can be tailored to support specific regional and industry needs (Dahmiri et al., 2023). These examples illustrate that while challenges exist, effective Quad-Helix collaborations hold immense potential for fostering innovation and preparing professionals for the future.

Figure 2 illustrates a framework representing the integration of the quad-helix model for future skill development. The diagram highlights the key sectors involved: government, industry, academia, and media, with connections indicating collaborative relationships between them. The framework addresses both the challenges, such as misaligned objectives, cultural differences, and poor communication, and opportunities like intermediary organizations and aligning skill development with workforce needs.



Figure 2.
Integrating the quad-helix model for future skill development



METHODS FOR EXPLORING THE QUAD-HELIX PARTIES

Focus Group Discussion (FGD)

A Focus Group Discussion is a qualitative research method where a small group of participants is guided through a structured conversation on a specific topic (Hennink, 2014; Stewart & Shamdasani, 2015). In the context of the Quad-Helix, an FGD could involve representatives from the four sectors: academia, industry, government, and media practitioners. FGDs are useful for gathering diverse perspectives, identifying challenges, opportunities, and shared goals. The diverse participants can engage in dialogue and collectively problem-solve, facilitating cross-sectoral understanding and collaboration.

Table 1.
FGD and its role in exploring the quad-helix

Stages of FGD	Description
Participant Selection	Carefully select a group of individuals representing the four Quad-Helix sectors. For instance, academics, industry experts, government officials, and media practitioners.
Facilitator Role	A skilled facilitator moderates the discussion, ensuring that all voices are heard and guiding the conversation around key themes related to innovation, policy development, or a specific issue of interest.
Data Collection	The facilitator encourages participants to share their views, concerns, and suggestions on the topic. Discussions are often recorded (with consent), transcribed, and analyzed to identify themes and patterns.
Outcome	The goal is to understand the perspectives of each sector and how they interact, uncovering areas of potential collaboration or conflict.

The benefits of using these methods include promoting diverse perspectives on an issue, encouraging direct interaction between different sectors, generating rich and in-depth data, and building mutual understanding and trust. By engaging participants from various sectors, these methods help to create a collaborative environment where different viewpoints are shared, fostering deeper insights and stronger relationships. This collaborative approach not only enhances the quality of data collected but also strengthens the trust and understanding between stakeholders, facilitating more effective cooperation and problem-solving.

Delphi Interview

The Delphi Interview (DI) involves structured rounds of questionnaires or interviews with experts (Brown, 2018). Participants, usually experts in their fields, respond to surveys or engage in interviews, providing their insights, and then receive feedback on the collective responses. This process continues in rounds, allowing for a refined and deeper understanding of the issue at hand (Naisola-ruiter, 2022). It is especially valuable when you need to gather expert opinions from various sectors in the Quad-Helix model. It's useful for building consensus on complex issues or exploring innovative solutions to challenges that require the input of all sectors.

Table 2.
Delphi interview method and its role in exploring the quad-helix

Rounds of Delphi Interview	Description
Round 1 (Initial Survey/Interview)	A panel of experts (representatives from academia, industry, government, and media practitioners) is asked to provide their opinions or predictions on a specific topic related to the Quad-Helix. This might include views on innovation, policy needs, or potential areas of collaboration.
Round 2 (Feedback)	The responses are analyzed, and a summary of the group's opinions is shared with the participants. They are then asked to reconsider their positions in light of the group's collective responses, which may encourage refinement of their views.
Round 3 (Final Consensus)	The process may be repeated for several rounds until consensus is reached or a refined understanding emerges

The Delphi method allows for gathering in-depth expert opinions, refining those opinions, and building a consensus on the best course of action or understanding of an issue. In the context of Quad-Helix, it helps uncover areas of agreement and disagreement between sectors, informing decision-making or policy development. This method builds consensus among experts from diverse sectors, reduces the influence of dominant voices by allowing for independent opinions, and is particularly effective for addressing complex issues with multiple stakeholders. Additionally, it can be conducted remotely, making it flexible for

participants from different sectors, further enhancing its applicability and reach. Both FGD and the DI method are powerful tools for exploring the Quad-Helix model. They allow for inclusive, participatory research where all four sectors – academia, industry, government, and media practitioners – can contribute their perspectives. FGDs foster real-time, dynamic dialogue, while Delphi interviews provide a structured, iterative approach to refining expert opinions. Together, these methods help create a comprehensive, collaborative understanding of key issues and promote effective problem-solving across the sectors.

Alternative methods

The following table presents various methods that can be effectively used to explore and apply the Quad-Helix model, which involves collaboration between academia, industry, government, and media practitioners. These methods offer diverse approaches to gathering insights, fostering innovation, and facilitating cross-sector collaboration. Each method is designed to engage stakeholders from multiple sectors, promoting a deeper understanding of complex issues and supporting informed decision-making and policy development.

Table 3.

Alternative methods for exploring quad-helix

Methods	Description
Workshops and Collaborative Design Sessions (Gattringer & Wiener, 2020)	Workshops and collaborative design sessions are structured events where stakeholders from the four Quad-Helix sectors come together to brainstorm, co-create, and solve specific challenges. These sessions often use design thinking principles to focus on innovation and problem-solving.
Case Study (Hancock & Algozzine, 2006; Yin, 2018)	A case study method involves in-depth exploration of a particular instance where the Quad-Helix model has been applied (or could be applied). This could be a project, policy, or innovation initiative that involved academia, industry, government, and media practitioners.
Participatory Action Research (PAR) (Chevalier & Buckles, 2013; Crane, 2011; McIntyre, 2008)	Participatory Action Research is a method where researchers work alongside stakeholders to identify issues, develop solutions, and take action. It emphasizes collaboration, reflection, and empowerment of participants.
Surveys and Quantitative Data Collection (Fanning, 2005; Kent, 2021)	Surveys and quantitative data collection methods involve gathering numerical data from stakeholders about specific issues or topics related to the Quad-Helix model. This could include structured questionnaires, Likert-scale surveys, or other statistical tools.
Ethnographic Studies (Brewer, 2000; Hammersley, 2018; Parker Webster & Marques da Silva, 2013)	Ethnographic studies involve the researcher immersing themselves in the environment of the participants (academia, industry, government, or media) to understand their culture, practices, and interactions in a natural setting.

IMPLICATIONS FOR BUSINESS ENGLISH EDUCATION

1. *Curriculum Design:* Incorporating future-oriented skills into business English curricula requires a shift towards action-oriented and modular course structures. Courses should integrate theoretical knowledge with practical applications, such as digital tools, to prepare students for evolving professional environments (Ding & Chen, 2023). Advanced curricula can include market-driven adaptations that align with industry demands, ensuring students gain practical experience in communication, negotiation, and technological applications (Pei, 2021).
2. *Professional Development:* Continuous professional development for Business English practitioners can involve specialized training in emerging technologies, intercultural communication, and industry-specific competencies. Programs that emphasize experiential learning and align with global trends can enhance educators' teaching strategies and relevance (Chen & Tang, 2024). For example, leveraging virtual teaching and research centers fosters ongoing skill enhancement while addressing practical challenges in business contexts.
3. *Collaborative Models for Education:* The Quad-Helix model can be integrated into Business English programs by fostering collaborations between government, industry, academia, and media practitioners. Initiatives such as co-developing digital teaching modules and embedding industry input into curricula exemplify this approach (Kholis & Iryanti, 2021). Additionally, establishing virtual hubs for teaching and research creates platforms for interaction among stakeholders, ensuring curricula remain relevant and forward-looking (Chen & Tang, 2024).

CONCLUSION

Quad-Helix collaboration—encompassing government, industry, academia, and media practitioners—plays a pivotal role in anticipating and fostering the future skills required for business English professionals. This integrated approach addresses traditional and emerging competencies by aligning academic curricula, industry needs, governmental policies, and societal insights. The model supports innovation in skill development, ensuring adaptability to evolving global business contexts. Therefore, stakeholders should focus on government bodies supporting policies for collaborative education and cross-sector partnerships; industry leaders co-designing business English programs and offering internships; academia prioritizing experiential learning and research partnerships; and media practitioners raising awareness about skill demands and promoting Quad-Helix collaboration. Finally, further research should explore the long-term impact of Quad-Helix models on workforce readiness, the role of AI and digital tools in Business English instruction, and the adaptability of Quad-Helix frameworks across different cultural and economic contexts. By addressing these areas, stakeholders can ensure that Business English professionals are equipped with the skills to excel in a rapidly evolving global economy.

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CONFLICT OF INTEREST

No conflict of interest reported by authors

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