

INTEGRATING MAKER EDUCATION AND PROJECT-BASED LEARNING IN BUSINESS ENGLISH TEXTBOOK DEVELOPMENT: AN INNOVATIVE APPROACH FOR HIGHER EDUCATION

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Abstract

Maker education prioritizes experiential learning and utilization of tools and materials to foster creativity and socio-emotional development. This study investigates the integration of this pedagogical approach into business English education with a particular focus on the development of textbooks that facilitate real-world business projects. A differentiated framework for textbook development was proposed, encompassing the selection of authentic business projects, formation of both heterogeneous and homogeneous teams based on students' skills and needs, establishment of personalized learning objectives, and application of diverse learning methods and resources. This framework also underscores the importance of varied outcome presentations and formative assessments that offer dynamic feedback and support student growth. The incorporation of Social and Emotional Learning (SEL) into project-based learning processes is a crucial strategy for enhancing students' holistic development. This study reveals that a core problem chain, driven by business project-based learning activities, effectively integrates professional English with creative skills by focusing on knowledge chains. The adaptation of business English textbooks is associated with interdisciplinary core knowledge points, supported by maker instruction, a flexible credit system, and the effective assessment of both practical and classroom-based courses. This approach enhances the creative mechanism for textbook development and strengthens connections between families, schools, enterprises, and communities.

Keywords: *Maker education, business English textbook, Social and Emotional Learning (SEL), undergraduates, strategies.*

1. Introduction

Maker education serves as a mechanism to foster creativity (Conradty & Franz, 2018) and socioemotional skills (Li, 2025) among college students. It plays a pivotal role in the utilization of tools and materials (Juca-Aulestia et al., 2021) through a series of integrated workshops (Lee et al., 2021). These resources enable students to engage in diverse organizational and collaborative practices in technology design, self-directed exploration, and self-learning services (DeFeng, 2021). Concurrently, it empowers educators and learners to cultivate a cooperative learning culture that links schools with communities within an open educational environment. Consequently, in Maker education contexts, learners dynamically construct knowledge through social interaction. Specifically, social interaction within business English classrooms, grounded in authentic business projects, facilitates an organic integration of learning capacity with practical processes, thereby transforming traditional classrooms from a focus on business knowledge to competence-oriented learning via Makerspaces. Nonetheless, the potential for practical operations and production skills within humanities curricula remains insufficiently explored (Xiaomei & Qingmei, 2021). Therefore, this study aimed to integrate maker education and business project-based learning into textbook development. It examines the development framework of maker-style business elective courses and the pathways for teaching materials to achieve learning-by-doing and discovery learning in undergraduate business English.

2. Theoretical background

This study employs a sociocultural perspective to comprehend the sociocultural aspects of learning and the efficacy of designing real-world business projects that can be shared and refined. According to Dewey, Vygotsky, and the Reconceptualist Movement, which emphasizes cognitive psychology and

conceptual reconstruction, The design process serves as a learning mechanism where learners refine their understanding to determine why a design does not function as expected (Kafai, 2006). During maker design, various tools and materials become object-to-think-with, fostering connections between internal and external models for profound business learning. A key component of sociocultural learning environments is enabling learners to create artifacts meaningful to themselves and their communities (Resnick, 2002). This social perspective aligns with theories of socially constructed learning (Case 1996), emphasizing both individual artifact design and community influence. Therefore, it is essential to examine both learner design and community practices, including how they manifest through tools and activities in Business English textbooks.

3. Differentiated textbook developing framework

3.1. Developing framework

3.1.1. Differentiated project selection from real business world. Real-world business project-based learning (RWPBL) is student-centered and personalized through intense interdisciplinary knowledge, moving away from the uniform pace of traditional teaching during business planning. This gives educators more flexibility to adopt textbook content.

- Choice of goals in learning by doing.
- Differentiated Team Structure.
- Personalized assessment methods.

There are six aspects in which differentiated instruction can naturally be a part of the RWPBL:

3.1.2. Differentiated teams in RWPBL. Team formation is key to differentiation during the RWPBL. Specifically, heterogeneous grouping is required to encourage collaboration and cross-empowerment. At other times, homogeneous grouping based on factors such as members' social and emotional skills, knowledge levels, or project task style is better for targeted guidance. When forming groups, we consider:

- What aspects do you differentiate? (Cognitive level, communication style, social and emotional skills, curiosity, etc.) For example, a team may need creative thinking, data analysis skills, and strong communication abilities. Teams might be formed based on members' cognitive levels in different knowledge areas.
- How does this group support specific teaching or collaborative business goals?

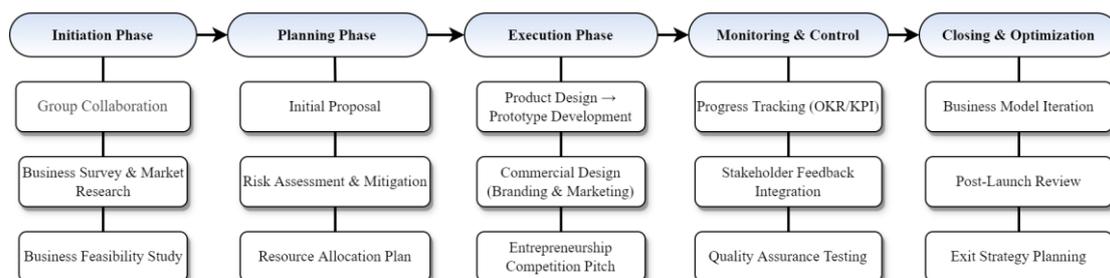
Differentiation is not just about mixing high and low performers; it is also about designing teams based on learning styles and support needs in the same project.

3.1.3. Differentiated goal setting in RWPBL. Encourage students to set personal learning goals through reflection. At key project milestones, ask the students:

- What have I learned thus far in terms of knowledge and skills?
- What do I want to master?
- What is my next goal?

In addition to the above questions, the project-generated reflection journal (PGRJ) was designed for self-assessment and changes in students' attitudes during the study. The instrument was designed to guide students to reflect on their weaknesses while also identifying their strengths, personality, aptitudes, learning outcomes, competencies, attitudes, and traits through positive and negative statements, or both (Li, 2025). In addition, SES assessment scales, such as Mosaic (ACT, 2021), are utilized for assessment. Educators can then provide tiered support based on these goals. Differentiated goal-setting combines personalized growth paths with educator support strategies under basic procedures (see Figure 1).

Figure 1. Business English textbook development via RWPBL (simple).



3.2. Differentiated learning methods in RWPBL

Provide varied learning methods and resources. Offer micro-lessons in this study for students with knowledge gaps; create learning stations with online videos, books, and interactive tasks with real-world businesses and communities; and let students choose tasks or resources to enhance autonomy. For instance, an educator offered five ways to review “business model iterations”: analyzing competitor products, studying by micro-lessons, case materials, review model process, conduct a project post-mortem to identify key learning, sprint retrospectively helps teams improve workflows, or explaining to a peer. Differentiated learning means more choices and better resource matching, and not just more lectures.

3.3. Differentiated outcome presentation in RWPBL

Respect diverse expression styles. The outcomes can be successful commercial campaigns and business profits, product iteration design, tools and materials exploration, individual business reports, LOGO, PPTs, papers, art, animations, and interviews. In the RWPBL, different presentation forms are allowed.

- Writing for logical and rigorous expressers.
- Images/posters for visual learners.
- Theater/performance of outgoing and context-sensitive students.
- Videos/Vlogs/podcasts for commercial digital media.

If business plan writing is a standard requirement, it is included as part of the presentation and is not the only outcome. A differentiated outcome design means clear standards and diverse expressions.

3.4. Differentiated formative assessment in RWPBL

This assessment did not require paper-based tests. Designing varied formative assessments, such as group interviews, individual talks, graphic organizers, quick Q&A, pairing exercises, self-reflection journals, or reflection cards. The key is to adjust teaching support based on assessment results, not just to assign grades. Differentiated formative assessments involve dynamic feedback and timely adjustments to teaching.

For new educators struggling to balance knowledge teaching with social and emotional skills development, the RWPBL offers a natural social context. This article provides easy strategies to integrate communication, listening, cooperation, leadership, and empathy goals into RWPBL, helping students develop soft skills through real collaboration and learn to coexist, create, and win-win together.

4. Textbook development objectives and practical example

4.1. “Real-world business project-based social and emotional skills” for educators

Educators are often overwhelmed by knowledge delivery, classroom management and student relationships. In addition to teaching content, they are expected to help students become cooperative and good listeners with emotional control. However, this was not an additional task. The RWPBL is a natural platform for social-emotional learning (SEL) under the OECD framework (2023). Behaviors in the RWPBL, such as collaboration, listening, negotiating, leadership, self-regulation, and reflecting, are key SEL skills (Li 2025). Educators can begin by helping students learn to work together better in their current projects.

4.2. RWPBL naturally fits SEL

RWPBL is not just about grouping students to search for information and create PPTs. It is a complete process, from questioning and task collaboration to presentation and expression. This process includes four key social and emotional learning skills: self-regulation, team collaboration, social interaction, and open innovation (Li 2025). Although business plans are routinely developed with several business intelligences (Lopez-Robles et al., 2019), STEAM projects mainly focus on creativity (Herro et al., 2017). However, corresponding to the five skills in the OECD framework (Steponavicius et al., 2023; OECD, 2021), exploring authentic business scenarios to assess multiple skills, a good learning atmosphere, and a reasonable curriculum have a significant impact on students’ learning input, which is attested to by the literature (Wu et al., 2022) that demonstrated the code descriptors. The business plan students made regarding their actions, the plan with whom they interacted, their dialogue options, or the time they decided to spend in certain tasks were the core elements for the assessment of each SES.

- Cooperation: Students need to discuss task divisions and options to avoid disputes and reach a consensus.
- Active Listening: Students should listen carefully to their peers’ viewpoints, respect their differences, and respond appropriately.

- **Compromise:** Conflicts are inevitable, and it's essential to learn strategies like "I take a step back, and you move forward a bit."
- **Self-regulation:** Students must recognize their roles, emotions, and habits within the whole business projects to adjust themselves.

These skills do not require additional class time. Educators can help students internalize them by pointing out, encouraging, and giving feedback during projects.

4.3. Teaching strategies for RWPBL × SEL

4.3.1. Design "social observation points" in projects. When designing tasks, a social and emotional goal is set along with business project knowledge. For example, set the cooperation observation point as "pay attention to whether you can listen to others in this group work."

- Before the project, provide a collaboration observation point, such as taking turns speaking or information search, not interrupting others, and using "I suggest..., I try to... statements."
- During the project, a self-assessment and peer assessment of social and emotional skills were conducted.

4.3.2. Provide "real-time social and emotional feedback" during projects. When students are discussing, educators can approach and say, "You waited for him to finish before adding your thoughts—that was great listening." These comments offer positive social feedback, which is more effective than after-class lectures.

- Be specific in your language: "Instead of interrupting, you used eye contact to encourage him to continue."
- Consider keeping a "student social behavior observation notebook" as a record of growth.

4.3.3. Design "reflection cards/journals" after projects. After each group project, a social reflection task was included alongside reports or presentations.

- "What I'm most satisfied with in this cooperation..."
- "What new communication method I've learned?"
- "What I want to improve for next time?"

This can be enhanced through personal reflections and peer evaluations (each person writes a card for other members).

4.4. Case discussion: "Global marketing initiative for Uyghur traditional products"

- **Subject goals:** Learn about cross-cultural literacy, commercial design, business surveys and searches, special learning material selection, and project retrospective.
- **Social and emotional goals:** Creativity (Big C), such as creative and critical thinking, role assignment, cooperation, active listening, compromise, self-regulation, and consensus building.

Conclusion: One project can achieve a win-win situation for subject knowledge and social and emotional skills.

4.5. Social and emotional skills can be "assessed"

We cannot grade personalities in exams, but we can include social and emotional skills in business project evaluations with low weight and growth focus.

Example assessment criteria (cooperation dimension)

- They actively participate in team discussions.
- Respects different opinions.
- Mediating group conflicts.
- Completes assigned tasks.

Suggested weight: 5%-25% of the total score, combined with self-assessment and reflection journals to prevent students from feeling labeled.

4.6. Teaching the ability to coexist through RWPBL

Social and emotional skills are not just about language educators' "emotional attitudes and values" or moral education classes' "life principles." In every project, every cooperation, and every moment of "I'll listen to you first," we help students grow into expressive, tolerant, and empathetic learners and life participants. For new educators, as you familiarize themselves with courses and manage classrooms, starting with a small social observation point, simple feedback, or a reflection card, you have already planted a seed of social and emotional skills.

5. Summary

A good RWPBL is not about having only one path to developing a business English textbook. Instead, it focuses on the collaborative design of various learning methods that communicate with families, schools, communities, and businesses. Team grouping might be “purposeful, not random.” Task content might be “basic and clear, with layered challenges.” Final-product presentation must be “creativity-based and expressed diversely.” Process feedback ought to be “timely, adjustable, and individual-centered.”

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