Enhancing Competencies through AI Technology and Translation Integration in the Bilingual Wall Newspaper Project

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ABSTRACT

The paper explores the integration of AI technology in a bilingual wall newspaper (BWN) project as a project-based learning (PBL) activity to enhance translation and translator competencies. The research employs a pragmatic, mixed-methods approach, analyzing quantitative and qualitative data from a questionnaire that surveyed 109 senior translation majors in an eight-week BWN project at an English faculty in Vietnam. The findings indicate that this project significantly improves their competencies, including their enhanced proficiency in document collection, translation quality, AI technology use, post-editing, and layout design, aligning with industry demands for technical proficiency, their simulation of workplace environment to develop critical skills such as communication, teamwork, and management. However, students faced challenges related to specialized terminology, tone consistency, and content organization, highlighting the need for targeted training. The study validates these outcomes through student responses on self-reported improvement, peer assessment, and alignment with professional translation standards. The study concludes the educational value of PBL via the BWN project in translation courses and suggests that incorporating AI-driven tools can prepare students for professional translation work with autonomy. The research then suggests some implications for enhancing translation education by equipping students with both technical and collaborative skills essential for modern translation practice.

Keywords: AI technology, translation education, project-based learning, bilingual wall newspaper, competence

Introduction

In translation education, traditional approaches depend much on direct instructions and repetitive exercises, failing to create favorable environments for students to interact with real-world experiences. With such heavy reliance on behaviorism, learning is seen as a response to external stimuli without student interaction or engagement with real-life translation tasks (Zhan

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& Dong, 2010). Though these approaches have certain advantages, there is a growing recognition of the need for interactive and autonomous elements, such as project-based learning, to enhance student engagement and improve their practical skills, critical thinking, and problem-solving abilities essential for translators (Anisimova & McNeilly, 2021).

Furthermore, AI or digital technology has revolutionized translation education by offering multimedia tools and online resources, providing access to a variety of texts and software, simulating real translation scenarios, enabling personalized feedback, and enhancing the learning experience (Li, 2023). Thus, there should be some adjustments for more innovative approaches that incorporate interactivity, collaboration, and AI technology to provide students with sufficient opportunities to develop both translation competence and translator competence. This competence acquisition is fundamental, addressing not only the multifaceted skill set required for translating texts but also the professional and interpersonal skills necessary for navigating the translation industry. A reflective, student-centered learning environment in PBL can prioritize the development of professional skills and competencies (Pym, 2003; Astuti et al., 2021). Thus, employing PBL to help students integrate AI technology and translation practice is expected to enhance their learning outcomes.

Several studies on PBL in translation courses have focused on simulating authentic translation tasks. However, there is little research on the Bilingual Wall Newspaper (BWN) project as a PBL activity. Thus, this paper seeks to enhance students' translation and translator competencies through the BWN project. Specifically, it investigates the efficacy of combining translation practices with technological advancements to enable students to work on a real-life translation project. The aim is to assess how students can improve their translation and translator competencies with the integration of AI technology and translation practice through the four stages of producing bilingual wall newspapers (*1. Document collection and article creation, 2. Translation process, 3. Bilingual wall newspaper creation, and 4. Production and assessment)*. This exploratory study investigates two research questions: (*1) How does students' integration of AI technology and translation practice in each stage of the bilingual wall newspaper project affect their translation and translator competencies?* and *(2) What are the challenges students experience from this integration?*

This research addresses the need for more hands-on, technology-driven projects within translation courses to better align with the industry's diverse nature. It highlights the integration of AI technology and translation practice so that students can gain a more comprehensive understanding of the interdisciplinary aspects of translation and develop competencies essential for their work.

Literature review

Translation competence and translator competence

Translation competence focuses on the ability to accurately and effectively convey meaning between languages involving linguistic, cultural, and technical knowledge (Pym, 2003). In the model proposed by the PACTE (Process of Acquisition of Translation Competence and Evaluation) (2011), there are six interrelated sub-competencies, namely bilingual, extra-

linguistic, knowledge about translation, instrumental, strategic, and psycho-physiological components. In addition, to be competent translators in the industry, they need "translator competence," which refers to the professional attributes and practices essential for success in the translation field, such as client communication, project management, and decision-making (Kelly, 2000; Way, 2008). In detail, several translation experts affirm that translators need more than their language and translation competence; they need analytical, research, technological, interpersonal, and time-management skills (Lafeber, 2012).

Translation students must develop a comprehensive set of translation and translator skills to meet the demands of the global translation market. Pym (2009) affirms that translator competence complements translation competence by preparing students for the realities of working as professional translators, emphasizing the importance of both sets of competencies in comprehensive translator training; the relationship between translation competence and translator competence is an integral part of modern translation education, specifically with technology integration. In Zou (2015), recent research highlights the significance of aligning technology-related competencies as a key factor in harmonizing other sub-competences within translation competence. This helps enhance translation quality and prepares competent translators.

Project-based learning in translation education

Since Kiraly's (2000) proposal of a social constructivist approach to translation education, many researchers have incorporated PBL into the context of translation teaching, trying to provide empirical evidence actually to evaluate its effectiveness. Similar to other fields, any PBL activity in a translation class is required to satisfy the seven fundamental aspects of PBL that Shpeizer (2019, p.1766) summarizes after his literature review of PBL in higher education, including:

(1) In-depth inquiry: PBL requires research, including formulating questions, sourcing, collecting, analyzing, synthesizing, and applying findings.

(2) Authenticity: Realistic elements connect projects to the real world, enhancing relevance and engagement.

(3) Active learning: Students are active participants in constructing and applying knowledge, which fosters creativity and deeper understanding.

(4) Freedom and autonomy: Students are autonomous in making decisions regarding the content, learning methods, and project implementation.

(5) Challenging questions/problems: Students often help formulate challenging questions or problems that are interesting and relevant to them, driving the learning process.

(6) Collaborative learning: Students typically engage in collaborative learning in small groups, emphasizing that learning is a social process enhancing their involvement, responsibility, and social skills.

(7) Product and product presentation: Every project is completed with a final product presented to an interested audience, emphasizing the practical aspect of learning through a tangible outcome.

Kiraly (2005) and Li et al. (2015) categorize projects as translation-oriented or research-oriented based on their aims, tasks, products, and learning outcomes. In the first type, students work in small groups to complete an authentic or simulated translation project. They can improve translation skills and become familiar with professional dynamics, and teachers' support is given when needed. In the second one, students work collaboratively to investigate translation issues of interest, developing communication, collaboration, thinking, and technological skills essential for modern-day professional translators. Despite not directly improving students' translation skills, it contributes to their growth as future translators by enabling them to acquire other non-translational skills.

Using PBL, i.e. "learning through the process of producing and completing a project" (Gras-Velázquez, 2019, p.1), teachers can help students enhance both sets of translation and translator competencies. PBL involves acquiring knowledge, applying and transferring knowledge to other contexts, and simultaneously developing competencies that students can use in their professional lives. Importantly, teachers should provide students with authentic translation projects, individually or in groups, to engage and apply their theoretical knowledge in real-world contexts (Li et al., 2015). The incorporation of real-world connections in a project brings authenticity to the learning context, providing students with a more immersive and engaging experience that enhances their competencies. As a result, they can acquire more meaningful and applicable knowledge to real-life situations, leading to deeper learning (Bell, 2010).

Technology integration in translation education

Technology is a must in PBL (Krauss & Boss, 2013). Familiarity with translation technologies is increasingly vital in the digital age, affecting both the translation process and the product; researchers collectively highlight the complex, interdisciplinary nature of translation and translator competencies, underscoring its critical role in preparing students for the challenges of global communication and the professional translation market (Doherty, 2016). Experienced teachers should leverage digital technologies to enhance knowledge acquisition, foster critical thinking, and promote collaboration among students (Ha, 2021). Looking at its seven fundamental aspects summarized by Shpeizer (2019) above, we can recognize that students fully utilize various technological tools, from their in-depth inquiry to their product presentation.

Gil and Pym (2006) state that educational institutions must keep up with technological advancements and integrate technology into translation education as part of language education. This significantly benefits students by equipping them with the necessary skills to excel in all aspects of a translator's work. Kučiš and Seljan (2014) affirm that digital tools are essential for translator training, improving resource access and training quality. Similarly, Mohammed (2022) highlights that in this digital age, translators are better prepared than ever to translate texts into a target language, thanks to technological advancements in translation and linguistics, and suggests higher education institutions' integration of these technologies into their syllabi to keep trainees updated. Thus, translation education is a multidisciplinary field that has evolved and benefited from technology integration.

Arani (2024) emphasizes that AI technologies enable tailored learning pathways that adapt to individual student needs, moving away from the traditional one-size-fits-all educational model.

It is proper for translation training where students need the integration of AI technology to transform how they learn and practice translation. AI-driven tools, such as machine translation (MT), neural networks, and AI-assisted translation software, particularly CAT tools, have significantly impacted the curriculum and teaching strategies in translation education. These tools offer real-time feedback, enhance language learning and close gaps between human translation skills and automation. AI-powered machine translation tools like Google Translate, DeepL, and Microsoft Translator are widely used in educational settings to help students understand how different languages interact. Although many researchers affirm that machine translation is not perfect, it serves as a useful tool for pre-translation, comparative analysis, and linguistic comprehension (Su & Liu, 2025). AI-assisted translation technologies, such as ChatGPT, are also being incorporated into translation training, providing interactive learning opportunities (Mukhibullaevich, 2025). In this AI contemporary landscape, teachers serving as language instructors should also assume the role of reliable guides for learners seeking to utilize ChatGPT effectively (Phuong, 2024). AI-driven translation feedback systems evaluate linguistic choices, consistency, and coherence in students' translations. These systems utilize automated scoring, corpus-based translation evaluation, and real-time error correction, making translation training more efficient (Sánchez-Torrón & Raído, 2025).

Bilingual wall newspaper project in education

There has been little literature on the use of BWNs in education, especially in translation education. However, this concept closely relates to its umbrella topic of newspapers as valuable tools in educational settings. They offer relevant and updated materials for students as a practical resource for learning subjects like science, languages, and social studies (Jarman & McClune, 2002); enhance students' understanding and vocabulary, help create a more engaging environment for learning, and instill a reading habit that keeps students informed (Vockell & Cusick, 1995).

A bilingual newspaper is a publication issued in two different languages, serving bilingual communities or educating readers in both languages. Valdez et al. (2016) analyze articles from Utah newspapers in America and discover an increasing focus on global human capital values over time, which indicates a growing recognition of the advantages of bilingual and dual language education programs. Their study highlights the role of bilingual newspapers in being educational tools and shaping public perceptions regarding bilingual education. Sebba (2020) clarifies that bilingual newspapers serve as platforms for multilingual practices among bilingual communities; two types of language alternation are identified: (i) in-line alternation, where words from two languages are integrated within a single text unit, and (ii) compositional alternation, which juxtaposes units in multiple languages within a visually distinct text like an advertisement.

In the Oxford English Dictionary (2024) (online), in 1935, the term "wall newspaper" was first used in the writing of Naomi Mitchison, a writer and social activist, to refer to "a newspaper produced by an educational institution or place of work, typed or hand-written, and displayed on the wall." As defined explicitly by Britannica (2015), a wall newspaper is designed to be displayed on walls or in prominent places in cities, towns, and villages, usually in developing countries. Wall newspapers are commonly used in Asia, Africa, and South and Central America

and are often printed in various regional or local dialects as needed. These newspapers usually contain many pictures, an attractive layout, and only a few - sometimes just one or two - articles or features.

BWNs in translation education are believed to share similar benefits to those of bilingual newspapers in educational contexts. They may be seen as an extension, providing a physical medium for display and discussion in educational settings, offering a potentially effective and engaging learning tool essential for translation practice. Huenergarde et al. (2023) highlight the importance of bilingual resources in improving language acquisition and educational engagement. Obviously, BWNs can promote language acquisition by providing accessible language content with visual and contextual clues. Thus, it is supposed to be effective when students conduct and design their BWNs as a product in their PBL process.

In fact, there are no definitive criteria for determining what constitutes an acceptable project in PBL. However, a well-designed project can help students learn academic content, develop new knowledge, and practice essential social skills such as collaboration, communication, and critical thinking (Li et al., 2015). In this research, students are required to collect articles available in various authentic newspapers, tailor and translate them into a target language, and then combine and design the tailored articles and their translations into a BWN. Thus, the format of a BWN can be considered a combination of such expected learning outcomes. Markula and Aksela (2022) stress the significance of PBL in creating dynamic and diverse educational settings.

This BWN project is supposed to be a creative activity that merges the principles of language diversity and PBL when students can use textual and visual elements to embed bilingual content within the translation practice, resulting in a helpful experience and enhancing their translation and translator competencies. This research is conducted with this assumption and the hope of establishing a solid foundation for a comprehensive bilingual learning environment for translation education.

Methods

Research design and sampling

The research adopts a pragmatic research paradigm, seeking real-world applications and practical outcomes with a mixed-methods approach. Specifically, the study follows an exploratory research design, utilizing a questionnaire with close and open-ended questions to gather both quantitative and qualitative data from 109 senior-year translation majors in late 2023 (the final semester in their study program). These students, from four different classes of the same cohorts, were enrolled in a three-month translation course entitled *Advanced Translation 2* (focusing on English-Vietnamese translation) at an English faculty in Vietnam. Each translation class met for 4 hours weekly, ensuring adequate instructional and practical engagement. Divided into groups of 8-10 members, they worked as translator teams for real projects within 8 weeks. Convenience sampling was used to select participants with a background and interest in implementing BWN projects as part of a course requirement. The researcher cum the teacher in these classes guided project implementation and assessment.

Before participating in the study, the students had completed prerequisite translation courses, one of them being the *Using Technology in Translation* course in the previous semester, and engaged in PBL activities, ensuring their responses were based on practical perceptions and authentic experiences. As aforementioned in the Introduction, this is an exploratory study to explore the use of the BWN project to gain insights into this PBL activity for translation training. Thus, there is no manipulation of variables or experimental control, and the study does not explicitly consider the potential influence of other courses and projects on the overall development of students' competencies in this *Advanced Translation 2* course. Criticizing the data's validity based solely on the research design is unwarranted, as the study aims to capture students' practical experiences rather than establish strict causal relationships.

Project procedure

Some digital samples of BWN products were first introduced, and detailed guidance for BWN projects was given to the students. The data collection and rubrics requirements were also clarified for peer and teacher assessments concerning the BWNs' content, creativity, design quality, and translation accuracy. The students were provided a link for accessing the rubrics designed by the educational institution, i.e., the English faculty being the research site. (*https://drive.google.com/drive/folders/1_kLIlKOiJX4gsnPedj1Ttg9Ev58VpqRd?usp=sharing*). Specifically, a BWN project should have three or four source-text articles focusing on a theme and their total length of 800 words, i.e. each article should be 200-300 words. In reality, typical newspaper articles range from 300 to 1,000 words (Prados-Bo & Casino, 2022). Articles with word counts between 100 and 180 can effectively engage readers, especially for brief news items (Goetz et al., 1994). Thus, the 800-word limit allows for thorough classroom assessment and sufficient time for peer and teacher evaluations of three groups' BWN products in a 3.5-hour class meeting. The translation quality rubric was adapted from the American Translation Association Framework for Standardized Error Marking version 2017 (ATA's rubric, in short), which thoroughly breaks down error categories for quick translation quality assessment. The eight-week implementation of the BWN project is guided in the Table 1.

In each stage, students are encouraged to employ AI-driven tools that they have learned in the prerequisite course, *Using Technology in Translation*. For example, in Stage 1, students may use tools like Google Scholar and citation management software to gather authentic articles and organize text. In Stage 2, they can employ CAT tools such as SDL Trados and MemoQ to streamline work using translation memories; online dictionaries and machine translation like ChatGPT or Google Translate to check the accuracy; and Google Docs to enable collaboration in translation, editing, and assessment. In Stage 3, students can utilize graphic design software such as Canva and Adobe InDesign to develop an appealing layout, enhanced by typography tools and image editing software (e.g., Photoshop), as well as spell and grammar checkers (e.g., Grammarly), to refine their content. In Stage 4, students can use digital publishing tools like PDF converter to prepare the newspaper for online display, and online survey tools (e.g., Google Forms) to collect peer reviews and evaluation sheets.

Table 1.

Guidance on the BWN project implementation

Weeks	Stages
1-2	**Document collection and article creation** · Discuss and choose the BNW themes and the target audiences; · Collect relevant and authentic articles/texts from online newspaper sources/websites and ask for the teacher's recommendations; · Revise the articles/texts to meet the newspaper style and word limit as required.
3-4	**Translation process** · Discuss group work distribution (translators, editors, assessors). · Translate the source articles using translation competencies and CAT tools if essential.
5-6	**Bilingual wall newspaper creation** · Choose a layout, typography, color scheme, and graphics and use relevant technological and graphic design tools; · Do revisions, check all the content and design of BWN drafts, and proofread and self-evaluate both the design and the content, standing on the target audience's position.
7-8	**Production and assessment** · Produce the digital BWNs with appropriate resolutions for digital display, share the digital products in the class Zalo, and have the BWNs printed; · Display the printed ones on the classroom walls and the digital ones on the screen for peer assessment. · Present a short description of each group's BWN product and the rationale for the source article selection, translation, design, and so on. · Conduct peer assessments within 45 minutes based on the ATA's rubric and peer assessment guidelines. · Receive peer and teacher feedback on the BWN products and have some defense, if any.

The first three stages are all connected to the six PBL aspects, namely *in-depth inquiry, active learning, freedom and autonomy, authenticity, challenging questions/problems,* and *collaborative learning,* as described by Shpeizer (2019). The final stage involves one additional aspect - *product and product presentation*. Interestingly, the four-stage procedure of the BWN exhibits a good combination of features from both translation-oriented and research-oriented projects, as categorized by Kiraly (2005) and Li et al. (2015).

During the project implementation, the teacher served as an advisor and assessor for groups in need. Especially in the first two weeks, the students closely discussed the chosen source texts with the teacher. Their chosen themes were diverse, for example, *World Health Mental Day, Festivals: When Laughters Turn into Disasters, Scariest Places on Earth, Traditional Costumes in Asia, Feminism in Music, etc.* Below are two BWN products to showcase as artifacts for the presentation and peer assessment.

Research instrument

The research employed a student questionnaire with four sections that respond to the four stages in the treatment procedure above, including 14 Likert-scale items and 12 open-ended questions, to collect detailed data and provide a more comprehensive understanding of student experiences and perceptions, especially those focusing on the effectiveness of the BWN project on their translation and translator competencies. The four sections explore how students integrate technology and translation practice in the four stages of the BWN project and the challenges they experience. In this questionnaire, a 5-point Likert scale *(Strongly Disagree to Strongly Agree)* was employed. It is commonly applied in educational research (Boone & Boone, 2012). This scale was chosen as it provides a balance between reliability and ease of response interpretation (DeVellis, 2012).

To ensure relevance, clarity, and reliability in assessing students' experiences from the BWN project, the items from the four sections were developed based on Shpeizer's (2019) seven fundamental PBL aspects, course learning outcomes, and expert consultations for content validity. A pilot study with 10 students also helped assess the clarity and comprehensibility, resulting in some refinements for improved readability. To validate the questionnaire, both content and face validity were established through expert reviews and student feedback. Additionally, triangulation with various data sources, including student performance, peer assessments, and teacher feedback, contributed to confirming the consistency of the findings.

Data collection and data analysis procedures

At the beginning of the course, the students were informed about their involvement in the BWN project as part of the *Advanced Translation 2* course. After completing the project, they would

voluntarily take an online survey to provide feedback on their experience. At the end of the course, a Google Form questionnaire was distributed to all the student participants, and a two-week timeframe was given for them to fully reflect on their experiences and provide thoughtful responses to the open-ended questions. Subsequently, the quantitative data was gathered and analyzed with the mean scores ranging from 0 to 5.0. The numbers of students who share similar ideas are in brackets for qualitative findings based on thematic analysis, e.g., "*reputable and established sources (36)"* means that 36 students believed that good source documents could be collected from reputable and established sources.

Results

Stage 1 - Document collection and article creation

Table 2.

Document collection and article creation

1	We could identify and collect reliable documents and sources.	109	4.30	0.60
2	We could effectively summarize and adjust the collected documents into smaller articles.	109	3.95	0.68
3	We could arrange smaller articles into themes relevant to our BWN's central message.	109	3.90	0.72

Thanks to AI-driven technological tools, as mentioned in section 3.2, *Project procedure*, the students were able to identify and gather reliable documents and sources (M=4.30, SD=0.60), indicating a high level of agreement and confidence. Subsequently, they managed to condense the collected materials into shorter articles (M=3.95, SD=0.68; M=3.90, SD=0.72). The relatively consistent standard deviations indicate similar opinions shared by the respondents.

For item 4, *"How did you determine the reliability of the sources you used?"* the students clarified that they determined the documents' reliability based on four major aspects: *reputable and established source (36), domains and source type (18), cross-referencing and verification (21),* and *author credentials and expertise (14).* In fact, the students relied on well-known and established sources and considered the domains of the websites, such as *.gov, .edu,* and *.org,* as reliability indicators. They focused on cross-referencing information with multiple sources to ensure accuracy and verify the information's reliability and the credentials and expertise of authors, especially those who are experts in their chosen themes or have relevant qualifications.

For item 5, *"What specific criteria did your group follow when selecting documents for the project?"* the students employed specific criteria for their document collection, including *relevance to the BWN topic (70), content quality and accuracy (60), up-to-date information (30),* and *audience accessibility (29).* Most students emphasized the importance of selecting project-relevant documents, showing their focus on project goals. Many students prioritized well-written, accurate, and comprehensible documents that provide precise and reliable information. Some preferred current documents, reflecting the need for timely and relevant information in their projects. They also valued documents accessible and suitable for the intended audience, showing their consideration of the needs and preferences of their audience.

For item 6, *"What steps did your group use to create smaller articles from the collected documents?"* The students employed the following steps to create articles with a word limit as required (the researcher then rearranged them in a more logical order): *reading and selecting key information (76), summarization and condensation (51), dividing content by themes or subtopics (46), organizing and structuring (52), group finalization (26), and editing and proofreading (47).* The students prioritized understanding the materials before breaking them down and emphasized that summarization was a crucial step in managing large amounts of information and making it more digestible. Many students broke down the content of articles into manageable parts to create focused and relevant articles by themes or subtopics. They also organized their articles in a clear, logical, and coherent structure. Many especially valued teamwork and collective input in finalizing smaller articles with in-depth discussion and high consensus. Finally, they reviewed and edited articles for clarity, coherence, and accuracy, aiming to produce polished and well-crafted articles.

For item 7, *"What challenges did you encounter in this document collection and article creation?"*, they faced some, such as *ensuring the reliability of document sources (23)* and *dealing with information overload (34)*. Many struggled with verifying the accuracy and trustworthiness of document content from online sources. Others found it difficult to manage the vast amount of information available online to find documents that matched their project themes.

Stage 2 - Translation process

Table 3.

Translation process

8	We understood the translation process for converting articles into the target language.	109	4.25	0.63
9	We applied the translation methods and strategies learned in the translation courses to the article translation.	109	4.24	0.77
10	We applied some translation tools to the articles.	109	4.10	0.76

The students took turns to be translators and assessors for each other's work. The highest mean score is attributed to understanding the translation process (M=4.25, SD=0.63), indicating a solid consensus among the respondents. They also demonstrated proficiency in translation competencies, including translation methods, strategies, and tools, with relatively high mean scores (M=4.24, SD=0.77; M=4.10, SD=0.76), reflecting overall positive feedback and overall consistency with moderate standard deviations.

For item 11, *"What translation tools did you apply for the article translation?"* the students listed some CAT tools, including *Google Translate (37)*, *online dictionaries (25), Trados (20), and emerging tools (27).* They preferred easily accessible and user-friendly translation tools like Google Translate. Online dictionaries and Trados are also popular choices as traditional or professional translation tools, likely due to their reliability and comprehensive features. Many students adopted ChatGPT and other AI tools like OmegaT and Quillbot, reflecting a growing interest in AI-driven solutions for translation. The findings show that the students are experimenting with multiple resources to find translation solutions.

For item 12, *"What did you learn from this translation process?"* the students emphasized that they could learn *language skills (34), translation techniques and methods (28), teamwork and collaboration (17), and research skills (15).* Many students improved their language skills, learned new words and phrases, and enhanced their writing styles using CAT tools. They focused on specific translation techniques, accuracy, natural flow in translations, context understanding, and creative translation. Some found group discussions and shared responsibilities helpful, while others improved their research skills by exploring unfamiliar topics and terminologies from various websites.

For item 13, *"What challenges did you encounter in this translation process?",* students' challenges came from the high authenticity of selected materials, including *terminology and vocabulary (21), cultural and contextual differences (20), tone and style maintenance (16), and understanding of source materials (17).* Many struggled with understanding specialized terms/technical jargon and finding equivalent words in the target language. Others encountered difficulties with cultural references, idiomatic expressions, and context-specific meanings. Some also shared difficulty in maintaining the original tone, style, and intended emotions in translated texts. Understanding the source texts due to complexity or ambiguity was also problematic.

Stage 3 - Bilingual wall newspaper creation

Table 4.

Bilingual wall newspaper creation

14	We used some software or design tools to create the BWN.	109	4.25	0.73
15	We could combine the original texts and their translations into the BWN with essential post-translation tasks.	109	4.37	0.63
16	We applied some concrete steps to create the BWN.	109	3.97	0.81

The high mean scores (M=4.25, SD=0.73; M=4.37, SD=0.63) demonstrate that the students adeptly utilized technological tools in their BWN design and integrated original texts and translations into their work with essential post-translation tasks. This underscores their confidence in creating BWN, a crucial skill for translators in the digital age. However, the lowest mean score with a high standard derivation (M=3.97, SD=0.81) is for applying concrete steps to create the bilingual wallpaper, revealing students' less confidence in this area.

For item 17, *"What software or design tools did your group use for creating the BWN?"* the students favored the two design tools, *Canva (96)* and *Adobe Photoshop* (13). The first is an overwhelmingly popular tool for its user-friendly interface, accessibility, and variety of templates that facilitate easy design work. The second is less used because it likely requires more advanced design skills or sophisticated editing capabilities that Canva might not offer.

For item 18, *"What steps did you take to place the original texts and their translations into your BWN?"* the students followed different procedures to merge the original texts and their translations into their groups' BWN products. Generally, the procedures included *layout and design (79), visual improvements (25), and proofreading and reviewing (20).* In detail, many students focused on choosing layouts, templates, font styles, colors, and arranging texts in columns, which indicates that their primary concern was visual organization and content

presentation. Some believed that adding graphics and decorative elements can enhance their products' visual appeal like professional designers do. Others emphasized proofreading and reviewing as crucial in the project design process.

To respond to item 19, *"What challenges did your group encounter in your BWN creation?"* the students listed some challenges, including *content fitting and alignment (42), design and aesthetic choices (25),* and *group coordination and agreement (14).* Many students struggled to fit all the articles and illustrative images into the available space while maintaining a clear and visually appealing layout and ensuring alignment and consistency across the design elements; they had to learn how to handle differences in text length between the original and translated versions to maintain layout balance. Many others found it difficult to choose suitable colors, fonts, and themes that were visually appealing, ensured readability, and balanced aesthetics with article presentation. Reaching a consensus on design choices within the group was also a notable challenge.

Stage 4 - Production and assessment

Table 5.

Quality assessment of the bilingual wall newspaper products

20	We applied the rubric guidelines to assess the other group's BWN product.	109	4.30	0.69
21	We analyzed and discussed carefully for our assessment.	109	4.36	0.65
22	We felt confident in assessing the other group's BWN product.	109	3.95	0.76
23	We felt satisfied with the other group's assessment of our own BWN product.	109	3.85	0.95
24	We found the other group's assessment helpful in improving our BWN product.	109	4.14	0.79

The students analyzed, discussed carefully, and applied evaluation criteria to assess the other group's BWN products as required, with high means scores (M=4.36, SD=0.65; M=4.30, SD=0.69), revealing their strong commitment and confidence in assessment. They also learned a lot from the other group's assessment of their products (M=4.14, SD=0.79). The lowest mean score and the highest variability (M=3.85, SD=0.95) were observed in satisfaction with the other group's assessment, which is a normal psycho-physiological component in their learning and a valuable experience for their future career.

Specifically, for item 25, *"What did you learn from the BWN assessment?"* the students got several lessons from assessing the other groups' BWN products: *translation quality and techniques (40), design and layout (29), and content and cultural insights (15).* Many students could give detailed comments on the translation quality by identifying common mistakes, understanding translation knowledge, analyzing different styles and word choices, and using specific evaluation criteria, which reveals their competencies of improving translation skills and recognizing areas for improvement. They also highlighted learning about design activities, effective layouts, and the visual appeal of the BWNs, which shows a practical design lesson they got from their appreciation for visual presentation in making the content engaging and accessible. Some students benefited from the diverse range of subjects and cultural perspectives presented by their peers. Interestingly, the students highlighted *translation quality and*

techniques (40) and constructive feedback (18) from their peer assessment. They could enhance their translation accuracy, make sentences more natural, and improve word choices from the other group's suggestions, which improves their competence in refining translation skills and learning from their translation errors. They appreciated receiving constructive feedback or criticism for their translation skill development, which shows the value of external perspectives and the awareness of objective evaluation skills.

In item 26, *"What are the challenges you encountered in the BWN assessment?"* the students admitted that the BWN quality assessment gave them several challenges in *understanding the source texts and translations* (23)*, identifying and categorizing errors* (25), and *providing objective and constructive feedback* (32). Some students lacked background knowledge or understanding of the topics given in the other group's BWN project, as well as cultural references and nuances in the translation. Though they were given the guidelines and the adapted ATA's rubric, many were under high pressure to identify and categorize errors in the limited assessment time. Indeed, evaluating translations in languages requires the assessor's language proficiency, so it was not easy for the students to balance personal opinions with objective assessment criteria and then provide useful and respectful feedback.

Discussion

In the first stage, *Document collection and article creation*, both the quantitative and qualitative results are interwoven. It is evident that by integrating AI-driven technological tools, the students could identify reliable sources based on their reputability and establishment, domains and source type, cross-referencing and verification, and author credentials and expertise. To gather relevant information for the BWN projects, the students employed concrete selection criteria, including relevance to the BWN topic, content quality and accuracy, up-to-date information, and audience accessibility. Also, they could condense materials into shorter articles and create well-structured content with creative steps, including reading and selecting key information, summarization and condensation, dividing content by themes or subtopics, organizing and structuring, group finalization, and editing and proofreading. Additionally, they could gain knowledge, cultural insights, and diverse perspectives, emphasizing the educational value of this phase in the BNW project. These findings are quite in line with the PBL's contribution to students' growth through the acquisition of non-translational skills (Kiraly, 2000; Li, 2013) and also the concrete realization of the four parts, namely *problem identification*, *solution proposal*, *action taking*, and *decision making* in the strategic competence, an important component of translation competence, found in Xiao and Zeng (2023).

Their challenges came from ensuring the reliability of document sources and dealing with information overload, which are similar to those in reading online sources (Prado-Olmos et al., 1993; Notari & Camassola, 2017), where students must verify content accuracy and handle cross-linguistic demands. Both scenarios underscore the importance of developing critical evaluation and information literacy skills to navigate the complexities of working with multimedia sources. As part of translation competence, document search is essential for future

translators. Therefore, it is important to provide better training for evaluating online content and developing efficient technological strategies for filtering and prioritizing relevant content. Siregar et al. (2022) suggested that workshops on research strategies and information management can equip translation students with skills to handle large amounts of data. Training should focus on practical skills such as advanced search techniques, digital content evaluation, and information organization using digital tools. These skills further highlight the importance of technological integration in translation training.

In the second stage, *Translation process*, the findings show students' confidence in their translation skills and use of CAT tools, demonstrating a growing interest in advanced translation solutions. In detail, they employed Google Translate, online dictionaries, Trados, and emerging tools(e.g., ChatGPT, OmegaT and Quillbot); they could improve their language abilities, translation techniques, teamwork, and research skills. These findings highlight the BWN's educational benefits in enhancing translation and translator competencies. Several studies provide similar results: The integration of computer-assisted methods in translation practice and its importance improve both students' technological competence and awareness of the current translation market trends in Oțăt (2016); teamwork and collaborative learning techniques significantly enhance students' translation works in Gustini and Baihaqi (2021); students report learning new translation techniques and methods in Xiao & Zeng (2023).

The students faced challenges in terminology and vocabulary, cultural and contextual differences, tone and style maintenance, and understanding of source materials. Such challenges indicate the importance of linguistic and cultural competencies, the need for strategies to handle relevant translation problems effectively, and strategies to comprehend and interpret source materials accurately. Some researchers identified similar challenges and then provided some solutions. Baklazhenko (2022) suggested using lexical-semantic transformations and descriptive translations to handle complex terminologies effectively. Imami et al. (2021) emphasized the cultural issues in translation and the importance for students to explore cultural contexts and use appropriate translation methods. Similarly, Hanrahan et al. (2015) recommended that students focus on detailed context and cultural comprehension and use equivalent translation strategies to effectively deal with the complexities of source texts and maintain tone and style for effective translation. Khatim (2022) found that appropriate instruction on using CAT tools could help students handle lexical, syntactic, and cultural challenges.

In the third stage, *Bilingual wall newspaper creation,* the students could employ technological tools and complete post-translation tasks. That means they learned to use Canva and Adobe Photoshop and follow the steps of layout and design, visual improvements, and proofreading and reviewing. These findings entirely support those in prior studies, which all emphasized the role of technical proficiency, post-translation editing skills, and visual organization as part of modern translation and translator competencies. Rodríguez-Castro (2018) affirmed that translation professionals must cultivate advanced technical skills to meet industry requirements. Nitzke et al. (2019) highlighted the significance of digital competencies, such as design and layout skills, for modern translators to address the evolving market demands. Yang (2022) underscored the significance of developing post-editing skills as a complement to CAT-related

translation, which is essential for improving translation quality and meeting industry standards. In the current research, the students could learn more by adjusting the source articles' length and translations to fit the BWN layout. This shows that incorporating technological tools and post-translation tasks in developing a BWN product effectively encourages students to embrace modern translation practices.

The students encountered some degree of challenge in content fitting and alignment, design and aesthetic choices, and group coordination and agreement. Some previous studies share similar challenges faced by our students in BWM design and provide useful solutions. Oard et al. (2004) suggested implementing design systems to manage content variations and maintain alignment, while Jay et al. (2020) recommended systematic exploration and training in design to enhance the resilience and effectiveness of research software, which can be adapted for translation projects. Similarly, Nitzke et al. (2019) agreed about enhancing design and aesthetic choices via developing digital competencies, including design skills, in translator training programs. Recognizing the challenges in collaboration and group decision-making, Rodríguez-Castro (2018) stressed effective communication strategies to improve teamwork and project outcomes. Thus, addressing such challenges can significantly enhance students' project quality, design, and communication competencies.

In the final stage, *Production and assessment,* the BWN project results show that the students could effectively implement production and assessment tasks. They especially drew out useful things from the other groups' translation quality and techniques, design and layout, and content and cultural insights. The findings align with those in several studies. In Wang & Han (2013), students highly valued peer feedback, as it helps improve their translation accuracy, naturalness of sentences, and word choices. Beiranvand and Golandouz (2017) found that students appreciated peer feedback for providing alternative perspectives and constructive criticism, thereby enhancing their translation skills. Similarly, Li et al. (2023) observed positive learning outcomes in enhancing students' self-perceived translation skills and motivation. Therefore, peer assessment in translation projects, such as the BWN, plays a pivotal role in enhancing competencies by providing critical feedback, presenting different perspectives, and actively engaging students' assessment.

The students experienced challenges in understanding the source texts and translations (23), identifying and categorizing errors, and providing objective and constructive feedback. Several previous studies have highlighted similar issues. In Liang et al. (2022), students had difficulties understanding diverse and complex texts during peer assessments. Beiranvand and Golandouz (2017) and Li et al. (2023) indicated that students found it challenging to stay objective and provide helpful criticism in peer assessments. Additionally, Li (2013) observed that high-pressure and incomplete evaluations came from students' lack of familiarity with time-limited assessments. Several researchers have recommended solutions like improved training and structured mediation to address these challenges and enhance the effectiveness of peer assessments. For example, Heine (2019) provided thorough training and clear guidelines to help students better understand assessment criteria and error identification skills, effectively improving students' performance and confidence in peer assessments; Liang et al. (2022)

implemented structured peer mediation, where students received specific prompts and support and could enhance their ability to provide constructive feedback and stay objective.

Conclusion

Summary of the major findings

The study shows that the BWN project can be an effective pedagogical approach to enhance students' translation and translator competencies through PBL. It reveals the students' combination of digital tools with translation practice and details their experiences with benefits and challenges at each project stage, which are summarized as follows.

Document collection and article creation: Students employed technology to gather reliable sources and construct articles, showcasing strong abilities in source evaluation, information summarization, and cultural comprehension. They encountered challenges in verifying source reliability and managing information overload, highlighting the necessity for improved strategies to handle extensive data.

Translation process: The students felt confident in their translation methods and the use of CAT tools, thereby enhancing their language skills, translation techniques, and teamwork. However, they experienced some difficulties with specialized terminology, cultural references, tone and style maintenance, and understanding complex source materials, indicating a requirement for more domain-specific training and resources.

BWN creation: The project fostered the development of technical proficiency, post-translation editing skills, and visual design, aligning with industry requirements for modern translators. Students faced challenges with content fitting, design aesthetics, and group coordination, suggesting a need for more practice in layout design and consensus-building within teams.

Production and assessment: Peer assessment significantly improved students' competencies by providing critical feedback, different perspectives, and active engagement in the assessment process. Some challenges included understanding source texts, identifying errors, and providing objective feedback, pointing to the necessity of enhancing students' familiarity with assessment criteria and rubrics.

Pedagogical implications

AI-driven technology can revolutionize language education by making it inclusive and personalized; however, successful integration requires teacher training, institutional policies, and ethical considerations to benefit all learners and avoid deepening educational inequalities (Tafazoli et al., 2025). This is quite true for translation training, which is part of language education. Based on the comparison to the findings from previous studies on PBL in translation and language education and the identification of potential solutions for students' challenges in the BWN project, some pedagogical implications can be suggested as follows.

Enhancing the use of technology in translation education: To prepare students for real-world applications, translation curricula should include a variety of digital tools and resources for

students to be familiar with using CAT tools and online research tools in various forms of translation practice before they enter the workplace environment.

Focusing on comprehensive skill development: To ensure students develop a broad range of skills, covering both sets of translation and translator competencies, translation projects should be designed with the entire process from document collection to final product presentation.

Emphasizing collaborative learning: To help students gain different perspectives and improve their ability to critique and refine their work from collaborative strengths, group projects, and peer assessments should be provided to foster teamwork, critical thinking, and constructive feedback.

Providing domain-specific training: To support students in handling specialized content and cultural nuances, translation curricula or workshops should include modules on domain-specific vocabulary and contextual translation challenges.

This research emphasizes the value of the BWN project, justifying the time and effort invested by both translation teachers and students. Our research findings and pedagogical implications can be a reliable reference for those in similar contexts, improving translation education.

References

Anisimova A.G., McNeilly E. (2021). Ways to develop employability skills in teaching translation to final-year students. *Professional Discourse & Communication*. *3*(1), 75-84. https://doi.org/10.24833/2687-0126-2021-3-1-75-84

Arani, S. M. N. (2024). Navigating the Future of Language Learning: A Conceptual Review of AI's Role in Personalized Learning. *Computer Assisted Language Learning Electronic Journal (CALL-EJ), 25*(3), 1-22.

Astuti, D., Syukri, S., Nurfaidah, S., & Atikah, D. (2021). EFL students' perceptions of the benefits of Project-based learning in translation class. *International Journal of Transdisciplinary Knowledge*, *2*(1), 12-26. DOI: 10.31332/ijtk.v2i1.3

Baklazhenko, Y. (2022). Legal terminology: Challenges of English-Ukrainian translation. *Access to Justice in Eastern Europe*, *6*(1), 1-11 https://doi.org/10.33327/ajee-18-6.1-n000111

Beiranvand, M., & Golandouz, G. (2017). The comparative effects of self-assessment and peer feedback on improving translation quality. *Journal of Language and Translation*, *7*(4), 65-78. https://journals.iau.ir/article_538316.html

Bell, S. (2010). Project-based learning for the 21st century: Skills for the future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas, 83*(2), 39-43. https://doi.org/10.1080/00098650903505415

Boone Jr, H. N., & Boone, D. A. (2012). Analyzing Likert Data. *The Journal of Extension*, *50*(2), 48-52.

Britannica, T. Editors of Encyclopedia (2015, February 13). Wall newspaper. *Encyclopedia Britannica*. https://www.britannica.com/topic/wall-newspaper.

DeVellis, R. F. (2012). *Scale Development: Theory and Applications* (3rd ed.). SAGE Publications.

Doherty, S. (2016). The impact of translation technologies on the process and product of translation. *International Journal of Communication*, *10(*23), 947-969. DOI: 1932-8036/20160005

Gil, J. R. B., & Pym, A. (2006). Technology and translation (a pedagogical overview). In Pym, A. Alexander P. & Bram S. (Eds.), *Translation Technology and its Teaching* (pp. 5-19). Intercultural Studies Group, Universitat Rovira i Virgili, Tarragona.

Goetz, E., Sadoski, M., Fatemi, Z., & Bush, R. (1994). That's news to me: Readers' responses to brief newspaper articles. *Journal of Literacy Research*, *26*(2), 125-138. https://doi.org/10.1080/10862969409547842

Gras-Velázquez, A. (Ed.) (2019). *Project-Based Learning in Second Language Acquisition: Building Communities of Practice in Higher Education*. Nueva York, NY: Routledge.

Gustini, A., & Baihaqi, A. (2021). Enhancing students' translation works: A case for translation teaching. *Cakrawala Pedagogik*, *5*(1), 53-62. https://doi.org/10.51499/cp.v5i1.217

Ha, T. T. N. (2021). Implementing digital techniques to stimulate EFL students' engagement: A case study in Vietnam. *International Journal of TESOL & Education, 1*(3), 105-129. http://eoi.citefactor.org/10.11250/ijte.01.03.007

Hanrahan, D., Sexton, P., Hui, K., Teitcher, J., Sugarman, J., London, A., Barnes, M., Purpura, J., & Klitzman, R. (2015). Linguistic and cultural challenges in communication and translation in US-sponsored HIV prevention research in emerging economies. *PLoS ONE*, *10*(7): e0133394. https://doi.org/10.1371/journal.pone.0133394

Heine, C. (2019). Student peer feedback in a translation task: Experiences with questionnaires and focus group interviews. In Huertas-Barros, E., Vandepitte, S., & Iglesias-Fernández, E. (Eds.), *Quality Assurance and Assessment Practices in Translation and Interpreting* (pp. 337-357). IGI Global. https://doi.org/10.4018/978-1-5225-5225-3.ch015

Huenergarde, M.C., Floyd, R., & Harris, B. (2023). Current nationwide practices in U.S. Test accommodations for active bilingual learners/users of English (ABLE) students. *Bilingual Research Journal, 45*(3-4), 380-400. https://doi.org/10.1080/15235882.2022.2155885

Imami, T., Mu'in, F., & Nasrullah (2021). Linguistic and Cultural Problems in Translation. In *Proceedings of the 2nd International Conference on Education, Language, Literature, and Arts (ICELLA 2021),* 178-186. Atlantis Press. https://doi.org/10.2991/assehr.k.211021.024

Jarman, R., & McClune, B. (2002). A survey of the use of newspapers in science instruction by secondary teachers in Northern Ireland. *International Journal of Science Education*, *24*(10), 997-1020. https://doi.org/10.1080/09500690210095311

Jay, C., Haines, R., Katz, D., Carver, J., Gesing, S., Brandt, S., Howison, J., Dubey, A., Phillips, J., Wan, H., & Turk, M. (2020). The challenges of theory-software translation. *F1000Research*, 9:e1192. https://doi.org/10.12688/f1000research.25561.1

Kelly, D. (2000). Text selection for developing translator competence: why texts from the tourist sector constitute suitable material. In Schäffner, Ch. & Adab, B. (Eds.), *Developing Translation Competence* (pp. 157-167). Amsterdam/Philadelphia: Benjamins.

Khatim, A., & Sir, M. (2022). Exploring undergraduate students' perspectives toward computer-aided translation tools and machine translation: A case study of students of the English department. *Arab World English Journal*, *13*(3), 512-520. https://dx.doi.org/10.24093/awej/vol13no3.33

Kiraly, D. (2000). *A Social Constructivist Approach to Translator Education. Empowerment From Theory to Practice*. Manchester: St. Jerome.

Kiraly, D. (2005). Project-based learning: A case for situated translation. *Meta*, *50*(4), 1098-1111. http://id.erudit.org/iderudit/012063ar

Krauss, J., & Boss. S. (2013). *Thinking through Projects: Guiding Deeper Inquiry through Project-Based Learning*. Thousand Oaks, CA: Corwin Press.

Kučiš, V., & Seljan, S. (2014). The role of online translation tools in language education. *Babel*, *60*(3), 303-324. https://doi.org/10.1075/babel.60.3.03kuc

Lafeber, A. (2012). Translation skills and knowledge - Preliminary findings of a survey of translators and revisers working at inter-governmental organizations. *Meta*, *57*(1), 108-131. https://doi.org/10.7202/1012744ar

Li, D. (2013). Teaching business translation: A task-based method. *The Interpreter and Translator Trainer*, *7*(1), 1-26. doi:10.1080/13556509.2013.10798841

Li, D. (2023). Research on innovation of translation teaching and translation strategies for college students in multimedia background. *Applied Mathematics and Nonlinear Sciences*. *9*(1), 1-15. https://doi.org/10.2478/amns.2023.1.00087

Li, D., Zhang, C., & He, Y. (2015). Project-based learning in teaching translation: Students' perceptions. *The Interpreter and Translator Trainer*, *9*(1), 1-19. https://doi.org/10.1080/1750399X.2015.1010357

Li, M., Yu, S., Mak, P., & Liu, C. (2023). Exploring the efficacy of peer assessment in university translation classrooms. *The Interpreter and Translator Trainer*, *17*(4), 585-609. https://doi.org/10.1080/1750399X.2023.2236920

Liang, Y., Li, Y., & Sang, Z. (2022). A study on peer mediation in dynamic assessment of translation revision competence. *Language Assessment Quarterly, 20*(1), 108-126. https://doi.org/10.1080/15434303.2022.2153050.

Markula, A., & Aksela, M. K. (2022). The key characteristics of project-based learning: How teachers implement projects in K-12 science education. *Disciplinary and Interdisciplinary Science Education Research, 4*(2). https://doi.org/10.1186/s43031-021-00042-x

Mohammed T. A. S. (2022). The use of corpora in translation into the second language: A project-based approach. *Frontiers in Education, 7*, e849056. https://doi.org/10.3389/feduc.2022.849056

Mukhibullaevich, L. P. (2025). Translation Systems for Training Interpreters in English-Speaking and Asian Countries. *Current Research Journal of Pedagogics*, *6*(02), 15-19. https://doi.org/10.37547/pedagogics-crjp-06-02-04

Nitzke, J., Tardel, A., & Hansen-Schirra, S. (2019). Training the modern translator - the acquisition of digital competencies through blended learning. *The Interpreter and Translator Trainer*, *13*(3), 292-306. https://doi.org/10.1080/1750399X.2019.1656410

Notari, D., & Camassola, M. (2017). Online newspapers as an effective tool to generate interest in reading for students of Youth and Adult Education. *Scientia cum Industria*, *5*(2), 51-55. https://doi.org/10.18226/23185279.V5ISS2P51

Oard, D., Gonzalo, J., Sanderson, M., López-Ostenero, F., & Wang, J. (2004). Interactive cross-language document selection. *Information Retrieval*, *7*, 205-228. https://doi.org/10.1023/B:INRT.0000009446.22036.e3

Oțăt, D. (2016). Developing students' multi-layered translation competences: An applied computer-assisted method. *British and American Studies*, *22*, 243-251. https://www.proquest.com/docview/1802495682?sourcetype=Scholarly%20Journals

Oxford English Dictionary (2024, March). s.v. "wall newspaper (n.)." https://doi.org/10.1093/OED/8850345821.

PACTE. (2011). Results of the validation of the PACTE translation competence model: Translation problems and translation competence. In Alvstad C., Hild A., & Tiselius E. (Eds.) *Methods and Strategies of Process Research: Integrative Approaches in Translation Studies* (pp 317-343). Amsterdam: John Benjamins.

Phuong P. X. H. (2024). Using ChatGPT in English language learning: A study on I.T. students' attitudes, habits, and perceptions. *International Journal of TESOL & Education, 4*(1), 55-68. https://doi.org/10.54855/ijte.24414

Prado-Olmos, P., Szymanski, M., & Smith M. E. F. (1993). Students "DO" process: Bilingual students' interactions in a small cooperative learning reading group. *Bilingual Research Journal*, *17*(3), 41-70. https://ncela.ed.gov/sites/default/files/legacy/files/rcd/BE021071/Students_Do_Process.pdf

Prados-Bo, A., & Casino, G. (2022). How have quality newspapers covered the microbiome? A content analysis of The New York Times, The Times, and El País. *Journalism*, *24*, 1752-1771. https://doi.org/10.1177/14648849211067858

Pym, A. (2003). Redefining translation competence in an electronic age. In defence of a minimalist approach. *Meta: Translators' Journal*. *48*(4), 481-497. https://doi.org/10.7202/008533ar

Pym, A. (2009). Training translators. In K. Malmkjaer & K. Windle (Eds.) *The Oxford Handbook of Translation Studies* (pp. 475-489). Oxford University Press.

Rodríguez-Castro, M. (2018). An integrated curricular design for computer-assisted translation tools: developing technical expertise. *The Interpreter and Translator Trainer*, *12*(4), 355-374. https://doi.org/10.1080/1750399X.2018.1502007

Tafazoli, D., McCallum, L., Madiseh, F. R., Kusuma, I. P. I., Nami, F., Roe, J., Assassi, T., & Waters, K. (2025). A Conceptual Model for Inclusive Computer-Assisted Language Learning: A Collaborative Ethnography. *Computer Assisted Language Learning Electronic Journal (CALL-EJ), 26*(2), 1-28.

Sánchez-Torrón, M., Ipek, E. & Raído, V.E. Creating Terminological Correspondence Recognition Tests with GPT-4: A Case Study in English-to-Turkish Translations in the Engineering Domain. *International Journal of Artificial Intelligent Education* (2025). https://doi.org/10.1007/s40593-025-00465-x

Sebba, M. (2020). Bilingual newspapers as sites of multilingual practice. *Written Language & Literacy*, *23*(2), 272-288. https://doi.org/10.1075/wll.00044.seb

Shpeizer, R. (2019). Towards a successful integration of project-based learning in higher education: Challenges, technologies and methods of implementation. *Universal Journal of Educational Research*, *7*(8), 1765-1771. DOI: 10.13189/ujer.2019.070815

Siregar, R., Risnawaty, R., Sembiring, M., & Safriandi, F. (2022). Students' readiness on language distance learning: Case of translation teaching. *International Journal of Evaluation and Research in Education (IJERE)*, *11*(2), 986-994. https://doi.org/10.11591/ijere.v11i2.22037

Su, Y., & Liu, K. (2025). Investigating student engagement with AI-driven feedback in translation revision: A mixed-methods study. *Education and Information Technologies, https://doi.org/10.1007/s10639-025-13457-0*

Valdez, V. E., Delavan, G., & Freire, J. A. (2016). The marketing of dual language education policy in Utah print media. *Educational Policy*, *30*(6), 849-883. DOI: 10.1177/0895904814556750

Vockell, E. L., & Cusick, K. (1995). Teachers' attitudes toward using newspapers in the classroom. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *68*(6), 359-362. https://doi.org/10.1080/00098655.1995.9957271

Wang, K., & Han, C. (2013). Accomplishment in the multitude of counsellors: Peer feedback in translation training. *Translation & Interpreting: The International Journal of Translation and Interpreting Research*, *5*(2), 62-75. DOI: ti.105202.2013.a05

Way, Ch. (2008). Systematic assessment of translator competence: In search of Achilles' heel. In Kearns, J. (Ed.), *Translator and Interpreter Training: Issues, Methods and Debates* (pp. 88-103). London: Continuum.

Xiao, L., & Zeng, J. (2023). An empirical study on the improvement of students' strategic competence through translation project teaching. *International Education Studies*, *16*(6), 123-132. https://doi.org/10.5539/ies.v16n6p123

Yang, Z. (2022). Exploring translators' perceptions of and editing actions on post-editing of machine translation. In *International Conference on Cloud Computing, Internet of Things, and Computer Applications (CICA 2022), 12303*, 454-457. SPIE. https://doi.org/10.1117/12.2642022.

Zhan, J. H., & Dong, Z. Y. (2010). The exploration and analysis on the reform of classroom teaching mode for translation subject. *Studies in Literature and Language*, *1*(5), 66-71. https://core.ac.uk/download/pdf/236304542.pdf

Zou, Y. (2015). The constitution of translation competence and its implications on translator education. In *1st International Conference on Arts, Design and Contemporary Education (ICADCE 2015)*, 786-793. Atlantis Press. https://doi.org/10.2991/ICADCE-15.2015.191

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