

# Preparing Real-world Professionals: Integrating Translation, Sustainability, and Digital Media in English for Specific Purposes (ESP) Education

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## Abstract

Innovative pedagogical approaches are essential in fostering environmentally conscious professionals who can successfully deal with complex, real-world challenges. This paper investigates how integrating themes of sustainability into an English for Specific Purposes (ESP) course enhances students' four competencies (4Cs; critical thinking, creativity, collaboration, and communication) while strengthening linguistic and professional skills. First-year students pursuing a degree in marketing at Fan S. Noli University engaged in bilingual translation tasks and digital content creation, using *Instagram* to create, translate, and share sustainability messages and *MURAL* for collaborative problem-solving. A pre- and post-course survey assessed students' evolving perceptions of sustainability and skill development. Findings among others indicate that translation reinforced comprehension, social media fostered engagement, and interdisciplinary digital tools enhanced critical thinking and communication skills. These results highlight the pedagogical benefits of integrating translation and social media into ESP curricula to develop multilingual professionals with a strong awareness of sustainability.

**Keywords:** 4Cs, English for Specific Purposes, translation, digital tools, sustainability

## 1. Introduction

As the next generation of marketers prepares to operate in an increasingly eco-conscious marketplace, the ability to effectively communicate sustainability is not merely advantageous but crucial for success. English for Specific Purposes (ESP) courses play a pivotal role in equipping students with both language proficiency and essential 21st-century skills, specifically critical thinking, creativity, collaboration, and communication also known as the 4Cs (Chaovanapricha & Champakaew, 2024). These skills are necessary to adequately deal with these evolving challenges (González et al., 2020).

Despite growing recognition of sustainability's importance in higher education, there still remains room for examining how translation activities and digital tools can simultaneously enhance both sustainability literacy and professional competencies within ESP contexts. This study aims to bridge that gap by exploring how sustainability, digital marketing, and translation intersect in the classroom. By integrating these elements, the research examines how students can strengthen their language skills while also building the professional competencies they need for a rapidly evolving job market.

First-year students studying marketing were chosen as participants because they are at the formative stage of developing both their linguistic and professional identities. Early engagement with these pedagogical approaches can establish sustainable practices in their learning trajectory, potentially influencing their approach to future ESP courses and professional development. Through a mixed-methods approach combining quantitative surveys, content analysis of students' work, and performance assessments using predefined rubrics, this research investigates how ESP courses designed for marketing students can rely on translation as an instrumental tool in making sustainability messages accessible across various linguistic and cultural contexts.

By integrating themes on sustainability within the ESP curriculum, we aim to further examine how this approach not only enhances language proficiency but also cultivates the 4Cs. More specifically, the study investigates how the creation of bilingual sustainability-focused *Instagram* posts and use of collaborative digital tools like *MURAL* can enhance students' critical thinking, creativity, collaboration, and communication - competencies that are indispensable for 21st-century professionals. By examining these elements, the study aims to evaluate the role of digital media as an effective pedagogical tool for raising sustainability awareness within ESP education.

This study focuses on the following research questions:

1. How does engaging with sustainability-related translation impact students' development of the 4Cs?
2. How do Instagram and *MURAL* support students in applying translation and marketing strategies effectively?
3. What are students' perceptions of their skill development before and after the project?

The findings of this research have significant implications for ESP curriculum design, offering evidence-based strategies for integrating sustainability literacy with professional and linguistic competencies that prepare students for the demands of an increasingly sustainability-conscious global marketplace.

## 2. Literature Review

It is widely agreed by researchers that translation is an act of cultural adaptation that ensures messages meaningfully reach diverse audiences. Within the context of sustainability, effective translation is essential for accurate, engaging, and culturally appropriate communication (Munday et al., 2022). Misinterpretations can interfere with the intended meaning of environmental messages, and thus reduce their effectiveness and/or hinder public engagement with sustainability issues.

Research highlights the impact of bilingual communication in expanding audience reach and strengthening global influence (Poposka, 2024). Eco-translatology, a framework proposed by Gengshen Hu (2020), emphasizes that translation in environmental discourse must consider ecological, social, and linguistic factors to ensure sustainability-conscious communication. This approach is particularly relevant for ESP marketing students who are expected to deal with the complex relationship between commercial objectives and environmental responsibility, requiring them to adapt sustainability messaging across different cultural and linguistic contexts while maintaining both accuracy and persuasive impact.

Similarly, Schäffner and Bassnett (2010) argued that translation plays a key role in framing environmental narratives, making specialized terminology accessible to broader audiences. These perspectives are particularly relevant in ESP for marketing, where translation mediates between corporate sustainability initiatives and consumer perception. Recent work by Khan and Rodríguez (2023) further demonstrated that effective translation of sustainability terminology requires not just linguistic equivalence but cultural resonance that aligns with local environmental values and concerns.

Digital tools provide an innovative platform for developing the 4Cs in ESP. Social media platforms, particularly *Instagram*, have been shown to enhance real-world applications by allowing students to engage in multimodal communication (Maierová, 2024; Nasution, 2023; Wagner, 2021). Moreover, research indicates that interactive, image-driven platforms facilitate creative expression, hence enabling students to practice marketing-oriented translation and sustainability messaging in authentic digital spaces (Chen & Eriksson, 2019).

In addition to social media, collaborative platforms such as *MURAL* foster peer interaction and problem-solving (Bach & Thiel, 2024; Godwin-Jones, 2023). These digital tools replicate real-world marketing and translation tasks, equipping students with the skills needed for industry practices. Other studies by Mokwa (2020) and Alobidyen (2022) demonstrated that digital collaboration tools like *MURAL* significantly enhance students' ability to give and receive constructive feedback, a critical skill for professional development in marketing and translation contexts.

Aimé (2024) emphasized that technology-enhanced learning environments improve digital literacy and intercultural communication, making them highly valuable in ESP teaching and learning. Consistent with this logic, Bowker (2020) argued that the use of digital tools further supports students' engagement with multilingual content, improving their adaptability in professional communication. Additionally, Koleini et al. (2024) found that students using digital platforms for ESP learning demonstrated a 47% higher retention rate for specialized vocabulary compared to traditional learning methods.

In their study, Belz and Peattie (2012) stated that sustainability has become an integral theme in marketing and corporate communication, requiring ESP learners to develop specialized language skills for ethical branding and green consumer engagement. Similarly, Nurjaman (2024) advised incorporating sustainability-related topics into ESP instruction in order to foster students' critical thinking and social responsibility.

In the same context, other researchers (e.g., Acosta-Castellanos & Queiruga-Dios, 2022; Kazazoglu, 2025; Yekta, 2021; Yu et.al, 2024) argued that when students translate and create sustainability content for digital platforms, they apply language skills in meaningful, real-world contexts, reinforcing both linguistic competence and environmental awareness. Expanding on this logic, recent work by Jan and Kim (2025) specifically examined how sustainability-themed ESP courses prepare marketing students for the emerging "green economy," finding that graduates with these specialized skills achieve higher placement rates in forward-thinking companies.

Other studies also highlight themes relative to sustainability in ESP regarding their contributions to global citizenship education. For example, Dahlsrud (2008) and Seatter and Ceulemans, (2017) noted that corporate social responsibility discourse requires precise and transparent communication, making ESP translation essential for ethical marketing

practices. Hence, integrating sustainability into ESP curricula not only enhances students' employability in green industries but also aligns language education with the UN Sustainable Development Goals (UNESCO, 2020).

While existing research explores digital tools, translation, and sustainability in ESP, there is still room for understanding how bilingual digital content creation impacts student engagement with sustainability discourse. This study addresses these gaps by analyzing how translation facilitates sustainability communication in ESP marketing courses. Specifically, it investigates the role of *Instagram* and *MURAL* in enhancing the 4Cs and professional competencies while also examining pedagogical strategies for integrating sustainability narratives into ESP teaching. By bridging translation studies, digital pedagogy, and sustainability education, this research contributes to ESP curriculum innovation and prepares students for multilingual, sustainability-focused careers in an increasingly environmentally conscious marketplace.

### 3. Method

#### 3.1 Participant Selection

The study involved 18 first-year marketing students enrolled in an English for Specific Purposes (ESP) course at Fan S Noli University. Participation was mandatory as part of the course curriculum, ensuring that all students engaged with sustainability-focused content. While no additional inclusion or exclusion criteria were applied, students exhibited varying levels of proficiency in both English and translation. No formal pre-assessment of language proficiency was conducted; however, students' prior coursework in ESP for marketing provided a foundational understanding of industry-specific language. Initial informal assessment revealed that approximately 65% of participants had intermediate English proficiency, while 35% demonstrated advanced skills.

This study introduced participants to translation tasks and sustainability-related terminology, fostering both linguistic and subject-matter competencies. The decision not to conduct formal language assessment was a deliberate pedagogical choice to create an inclusive learning environment that focused on growth rather than initial ability levels.

#### 3.2 Translation Task Organization

Students translated sustainability-related messages between English and Albanian over a 15-week semester, with structured activities occurring weekly. Translation tasks focused on texts from short sustainability summary reports, marketing materials, and environmental awareness campaigns purposely selected to represent varying levels of complexity and specialized terminology.

The first translation task was provided, while the others were selected by students based on their interests. This approach allowed for personalization and engagement with sustainability topics relevant to their academic and professional aspirations. Students documented their basis for the source selection, providing insight into their engagement with sustainability themes.

Initially, students worked individually to assess their language accuracy and critical thinking skills. They then participated in collaborative peer-review sessions using *MURAL*, where they evaluated each other's work, discussed cultural and linguistic challenges, and proposed revisions. The translation assessment focused on accuracy, cultural adaptation, clarity, and effectiveness in sustainability communication. A structured rubric was used to evaluate translations, incorporating aspects such as fidelity to the original message, appropriateness of terminology, and fluency. While students were permitted to consult translation tools, emphasis was placed on manual translation strategies and critical evaluation of automated outputs. Moreover, students were required to annotate their translations, identifying challenges and explaining strategic choices, particularly for sustainability terminology (such as carbon footprint, greenwashing, etc.) that lacked direct equivalents in Albanian.

#### 3.3 Survey Details

The study employed pre- and post-surveys to measure students' development of 21st-century skills (4Cs) and their perceptions of sustainability-focused learning. The pre-survey, conducted during week one, established students' baseline familiarity with sustainability concepts, translation tasks, and digital engagement, while the post-survey completed in week 15, assessed shifts in confidence and competence.

The survey instruments included:

- One Likert-scale question (1-5 scale) assessing students' confidence in critical thinking, creativity, collaboration, communication, and translation skills.
- Three linear-scale questions (strongly agree-strongly disagree) and eight open-ended, qualitative questions regarding students' experiences with translation, sustainability, digital tools, and audience engagement.
- Three reflection-based questions in the post-survey examined students' perceptions of translation's role in promoting sustainability awareness.

To ensure validity, the survey instruments underwent expert review and were pilot-tested with a group of five senior students not participating in the study. Reliability analysis using SPSS yielded a Cronbach's alpha of 0.81 for the post-survey, indicating high internal consistency.

### 3.4 Use of MURAL

*MURAL*, a useful digital collaboration tool, was used for virtual brainstorming, peer feedback, and translation revision. Students received a training session on its functionality during week 2, followed by weekly structured collaborative activities. Each mural was organized into these sections: 1) Original text and translation drafts; 2) Terminology challenges and solutions; 3) Cultural adaptation considerations; and 4) Feedback and improvement suggestions.

Structured prompts guided students in reflecting on translation challenges, annotating sustainability terms, and discussing linguistic and cultural nuances. *MURAL* interactions were assessed qualitatively through analysis of comment content, categorized as surface-level feedback, terminological suggestions, and deeper conceptual discussions. The discussion enhanced participant understanding of sustainability discourse and demonstrated the need for precise yet culturally relevant terminology.

### 3.5 Instagram Analysis

To disseminate their translations and analyze audience engagement, students created individual *Instagram* accounts where they posted their translated sustainability messages along with contextual explanations. They received guidelines and were encouraged to use hashtags, visuals, and marketing strategies to increase their posts' visibility.

While no formal statistical analysis was conducted on engagement metrics, students qualitatively reflected on audience interactions. Many observed an increase in likes, comments, and follower growth when posts included translated sustainability messages compared to monolingual content. These reflections provided insights into the role of translation in enhancing accessibility and engagement in sustainability communication.

### 3.6 Ethical Considerations

All students provided informed consent, and anonymity was maintained for *Instagram* accounts to protect their privacy. Data collection focused solely on learning outcomes and engagement metrics, with no personal identifiers recorded. Also, students were briefed on potential risks associated with social media engagement, including digital ethics and public reception, to ensure responsible online participation.

### 3.7 Data Analysis

The data analysis employed a mixed-methods approach, integrating descriptive and inferential statistical methods to examine quantitative survey responses, alongside thematic analysis of open-ended questions and student reflections to gain deeper insights into their 4Cs development.

#### 3.7.1 Descriptive Statistics

- *Reliability Analysis*: A Cronbach's Alpha value of  $>0.7$  confirmed high internal consistency and reliability of the survey instrument.
- *Frequency Analysis*: The frequency tables display the valid percent column, which represents the proportion of respondents selecting each response option.
- *Descriptive Statistics Summary*: Measures such as mean, median, and standard deviation were used to summarize responses across survey items.

#### 3.7.2 Inferential Statistics

- *Normality Testing*: A *Shapiro-Wilk test* was conducted to assess normality. Since  $\text{sig.} < 0.05$ , the data did not follow a normal distribution.
- *Wilcoxon Signed-Rank Test* was applied to assess pre- and post-course differences in students' confidence levels in the 4Cs.

### 3.8 Qualitative Analysis

- Open-ended responses were analyzed thematically to identify key student reflections on their 4Cs skill development.
- Common themes included increased awareness of sustainability, challenges in translating complex concepts, and enhanced digital literacy.

The combination of descriptive and inferential statistics alongside qualitative reflections provided a comprehensive analysis of how translation-integrated ESP courses influence sustainability communication skills.

## 4. Results

### 4.1 Pre-implementation Assessment

The pre-implementation survey established baseline measures of students' familiarity with sustainability concepts, social media usage, and perceptions about sustainability in marketing.

Table 1 presents students' familiarity with sustainability concepts. The responses were measured on a 1-5 Likert scale, with 1 indicating 'Not familiar at all' and 5 indicating 'Extremely familiar.'

Table 1. Students' familiarity with sustainability concepts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Slightly familiar	5	27.8	33.3	33.3
	Moderately familiar	7	38.9	46.7	80.0
	Very familiar	1	5.6	6.7	86.7
	Extremely familiar	2	11.1	13.3	100.0
	Total	15	83.3	100.0	
Missing	System	3	16.7		
Total		18	100.0		

The survey results revealed that a majority of students were only moderately or slightly familiar with sustainability concepts. Specifically, 46.7% (n = 7) reported being "Moderately familiar" with sustainability, while 33.3% (n = 5) were "Slightly familiar." Only a minority, 20% (n = 3), considered themselves "Very familiar" or "Extremely familiar" with sustainability concepts. This result indicates a significant opportunity to enhance students' understanding of sustainability. The mean score for familiarity was 3.00, suggesting an intermediate level of awareness. The difference in sample size (n = 15) and total respondents (n = 18) is due to missing data from three students who did not complete the pre-implementation survey.

Table 2 reflects students' experiences using Instagram to share or promote a product, a service, or a cause.

Table 2. Professional use of Instagram

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	38.9	41.2	41.2
	No	10	55.6	58.8	100.0
	Total	17	94.4	100.0	
Missing	System	1	5.6		
Total		18	100.0		

Regarding professional social media usage, 41.2% (n = 7) of students had previously used social media professionally. This percentage suggests that a significant portion sees *Instagram* as a tool beyond personal social networking. Meanwhile the valid percentage 58.8% (n = 10) suggests that more than half of the respondents has not yet integrated *Instagram* into their professional or academic activities. There is one missing response (5.6%), which might indicate uncertainty or reluctance to engage with the question.

Tables 3 and 4 show students' involvement and perceptions of sustainability-related topics in practice, which is important for the purpose of this study.

Table 3. Familiarity with sustainability concepts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rarely	1	5.6	5.9	5.9
	Sometimes	9	50.0	52.9	58.8
	Often	4	22.2	23.5	82.4
	Very often	3	16.7	17.6	100.0
	Total	17	94.4	100.0	
Missing	System	1	5.6		
Total		18	100.0		

Students' engagement with sustainability topics showed mixed results. While 52.9% (n = 9) reported engaging "Sometimes" with sustainability content, only 23.5% (n = 4) engaged "Often," and 17.6% (n = 3) engaged "Very often." A small proportion (5.9%, n = 1) reported rarely engaging with such content. The overall mean was 3.00, reflecting moderate involvement.

Table 4. Importance of sustainability in marketing practices

		Frequency	Percent		Valid Percent	Cumulative Percent
Valid	Slightly important	2	11.1		11.8	11.8
	Moderately important	2	11.1		11.8	23.5
	Very important	8	44.4		47.1	70.6
	Extremely important	5	27.8		29.4	100.0
	Total	17	94.4		100.0	
Missing	System	1	5.6			
Total		18	100.0			

Despite limited practical exposure, students showed familiarity with sustainability concepts (Mean = 3.00), illustrating strong initial recognition of sustainability's importance in marketing practices, with 76.5% (n = 13) rating it as "Very important" or "Extremely important." This high level of recognition underscores the relevance of sustainability in modern marketing practices. The mean score for perceived importance was approximately 3.94, suggesting strong consensus on its significance. However, there was a noticeable gap between the perceived importance and actual engagement with sustainability-related content. Among 17 valid responses, over half (52.9%, n = 9) of the students engaged with sustainability content selecting "Sometimes," with fewer selecting "Often" (23.5%, n = 4) or "Very often" (17.6%, n = 3). Only 5.9% (n = 1) reported rarely engaging.

#### 4.2 Post-Implementation Assessment: Development of 4Cs Skills

The post-implementation survey, analyzed using the Wilcoxon Signed Ranks Test, assessed the development of students' 4Cs skills: critical thinking, creativity, collaboration, and communication. The results, summarized in Table 5, indicate varying degrees of skill development.

Table 5. Predicting 4 Cs

	Critical thinking: analyzing various perspectives of complex issues (pre-survey)	Creativity: generating original ideas and designing engaging content.	Communication: conveying messages clearly and effectively to the target audience.	Collaboration: working effectively with others to improve a project, task, product, etc.
Z <sup>a</sup>	-2.33 <sup>b</sup>	-1.73 <sup>b</sup>	-2.81 <sup>b</sup>	-.73 <sup>b</sup>
Asymp. Sig. (2-tailed)	.02	.08	.01	.46

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks.

Effect sizes (r) were calculated to assess the practical significance of differences, with values indicating small, medium, or large effects. For critical thinking, the effect size was  $r = 0.45$  (medium), and for communication skills,  $r = 0.52$  (medium).

##### 4.2.1 Critical Thinking

Analysis of pre- and post-implementation survey data revealed a statistically significant improvement in students' critical thinking abilities ( $Z = -2.33$ ,  $p = 0.02$ ). This finding corresponds to a small-to-medium effect size ( $r = 0.33$ ) (Metsämuuronen, 2024). This improvement suggests that the process of translating sustainability concepts between Albanian and English encouraged students to engage in deeper analysis of complex sustainability issues, considering both linguistic and cultural perspectives. Confidence intervals for pre- and post-survey means were 95% CI [2.75–3.05] and [3.10–3.30], respectively. *MURAL* played a crucial role in this development by serving as a visual and interactive space where students could map out translation challenges, annotate sustainability-related terminology, and propose solutions collaboratively.

##### 4.2.2 Creativity

While post-implementation data showed high levels of confidence in creative skills (93.3% of students rated their creativity confidence as high), statistical analysis did not indicate a significant change ( $p > 0.05$ ). The lack of statistical significance ( $Z = -1.73$ ,  $p = 0.08$ ) suggests that while students reported increased confidence, the improvement may not have been large enough to be statistically detectable. This finding supports Serafinelli and Tabellini (2022), who found that creativity training might require more time for observable changes. Some students experimented with multilingual translations, observing that posts in multiple languages attracted higher engagement than single-language posts.

##### 4.2.3 Collaboration

Following implementation, 73.3% of students rated their collaboration confidence as high, with 53.3% at the highest confidence level. Though statistical analysis did not show a significant increase from the pre-implementation assessment ( $Z = -0.73$ ,  $p = 0.46$ ), qualitative feedback indicated that students valued the collaborative aspect of the

project, particularly when dealing with challenges of cross-cultural communication. This finding aligns with the results of Bayraktar Özer and Hastürkoğlu (2020) who found that collaborative learning in translation courses fosters teamwork but may not always yield significant statistical changes in self-reported collaboration skills.

*MURAL* was instrumental in fostering this collaboration. Through peer review sessions, students provided feedback on each other's translations, discussing linguistic choices and sustainability perspectives. This form of interaction not only refined their translations but also encouraged peer learning and collective problem-solving (Alobidyeen, 2022), once again highlighting the benefits of digital collaborative tools in translation education.

#### 4.2.4 Communication

The most substantial improvement was observed in communication skills. Post-implementation, 86.6% of students rated their communication confidence as high, with 73.3% at the highest confidence level. This statistically significant increase ( $Z = -2.81$ ,  $p < 0.01$ ) reflects the impact of translating and disseminating sustainability messages to diverse audiences.

It is important to mention that five students secured social media management contracts with different companies, where they are currently overseeing *Instagram* pages. This outcome highlights the real-world applicability of the skills developed, demonstrating how integrating sustainability and translation in ESP courses can create career opportunities.

#### 4.3 The Role of Translation in Sustainability Communication

Students demonstrated high confidence in their ability to use translation to enhance access to sustainability-related content. As shown in Table 6, 86.6% ( $n = 13$ ) of participants agreed or strongly agreed that translation improves access to sustainability content for diverse audiences. This finding supports the notion that translation serves as a tool for increasing linguistic inclusivity in digital marketing spaces, which has been emphasized even in a study carried out in 2021 by Lynne Bowker. Table 6 reflects students' perceptions on the impact that translation has in improving access to sustainability-related content for diverse audiences.

Table 6. The impact of Translation on Sustainability Access

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	11.1	13.3	13.3
	Agree	11	61.1	73.3	86.7
	Yes, strongly agree	2	11.1	13.3	100.0
	Total	15	83.3	100.0	
Missing	System	3	16.7		
Total		18	100.0		

High confidence was operationalized by students rating their translation skills as '4' or '5' on a 5-point Likert scale, where 1 = 'Not confident' and 5 = 'Very confident.' More importantly, 86.6% ( $n = 13$ ) of the participants agreed or strongly agreed that translation improves access to sustainability content for diverse audiences, supporting the premise that translation serves as a tool for increasing linguistic inclusivity in digital marketing spaces. Table 7 focuses on the benefits that students' had by translating sustainability-related content.

Table 7. Benefits of Translating Sustainability-Related Content

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Neutral	2	11.1	13.3	13.3
	Yes, somewhat	3	16.7	20.0	33.3
	Yes, significantly	10	55.6	66.7	100.0
	Total	15	83.3	100.0	
Missing	System	3	16.7		
Total		18	100.0		

A particularly significant finding was that 66.7% of the students reported that translation "significantly" helped them understand sustainability concepts, and an additional 20% reported that it "somewhat" helped. This outcome suggests that translating sustainability content between Albanian and English facilitated deeper conceptual understanding, as students had to critically engage with terminology, cultural nuances, and framing strategies.

#### 4.4 Instagram as an Educational Platform for ESP

Another point to consider is the efficiency of *Instagram* as a tool for teaching and learning ESP. Students rated this social media platform highly as a tool for discussing and translating sustainability topics, as shown in Table 8. A combined 93.4% of students considered it either effective or very effective, with 66.7% rating it as "Very effective." The platform allowed students to experiment with different content formats, receive immediate feedback, and develop strategic thinking in digital marketing. Table 8 reveals students' attitudes towards the incorporation of this digital tool as part of the lesson and its utilization for discussing and translating sustainability topics.

Table 8. Effectiveness of Instagram in Discussing and Translating Sustainability

		Frequency	Percent Valid	Percent Cumulative
Valid	Neutral	1	5.6	6.7
	Effective	4	22.2	26.7
	Very effective	10	55.6	66.7
	Total	15	83.3	100.0
Missing	System	3	16.7	
Total		18	100.0	

The effectiveness of *Instagram* as a learning tool was highly rated, with 93.4% of students finding it effective or very effective for discussing and translating sustainability topics (66.7% rated it as “Very effective”).

Rather than conducting a formal statistical analysis of engagement metrics, students reflected on the differences in likes, comments, and shares between posts and engaged in discussions about why some content performed better than others. This reflective process helped participants develop strategic thinking in content creation and digital marketing. The platform enabled students to experiment with different content formats, engage with real audiences, and receive immediate feedback on their bilingual sustainability messaging. The professional social media experience gained through this project was particularly valuable for the 58.8% of students who had no prior professional experience with social media marketing.

## 5. Discussion

The findings offer several crucial insights that have significant implications for ESP pedagogy, sustainability education, and translation studies. As evidenced by the survey statistics, the instrument demonstrated high internal consistency (Cronbach's Alpha = 0.81 for 15 items), which underscores the reliability of the measures used to assess students' perceptions and skills. Also, the difference in sample size is due to missing data in certain responses (three students did not complete the pre-implementation survey).

First, the statistically significant improvements in critical thinking and communication skills indicate that integrating translation tasks with sustainability content creates a cognitively demanding yet rewarding learning environment. Students were required not only to understand sustainability concepts but also to negotiate how these concepts translate across linguistic and cultural contexts, thereby deepening their analytical abilities and refining their communication strategies.

Second, while the Wilcoxon Signed Ranks test did not reveal significant improvements in collaboration and creativity, qualitative reflections from students indicate that these skills were still perceived to be enhanced through the translation tasks. Many students felt that engaging in translation allowed them to develop new ways of thinking creatively and collaborating with peers. This observation highlights the potential for more focused instructional strategies to explicitly target and further develop creative and collaborative skills within translation-based ESP activities.

Third, the strong student agreement regarding the role of translation in improving access to sustainability content emphasizes that translation is not merely a linguistic exercise but a powerful tool for promoting inclusivity. By bridging language gaps, translation facilitates the dissemination of sustainability messages to diverse audiences, thereby supporting a more inclusive global sustainability discourse. This finding reinforces the argument that ESP courses for marketing should incorporate translation skills to prepare students for multilingual and multicultural business environments.

Fourth, the effectiveness of digital platforms such as *MURAL* and *Instagram* further draw light on the value of authentic, real-world learning contexts in ESP. While *MURAL* facilitated collaboration and feedback, *Instagram* provided immediate audience engagement. These patterns suggest that *Instagram* has unique benefits for digital marketing education in ESP. These platforms not only enhanced students' technical and digital literacies but also fostered the development of strategic thinking in content creation.

Finally, the pre-implementation survey revealed a notable gap between students' recognition of the importance of sustainability in marketing and their actual engagement with sustainability-related content. The results suggest that the integration of translation tasks within the ESP curricula for marketing (especially when carried out through practical platforms like *Instagram*) can significantly advance critical competencies. In particular, the statistically robust improvements in critical thinking and communication are essential for effectively transmitting sustainability messages in a globalized digital era.

## 6. Limitations and Future Research

While this study offers valuable insights into the integration of translation, digital tools, and themes of sustainability in ESP education, certain limitations must be acknowledged. First, the reliance on self-reported data introduces the



possibility of response bias, as students may have over- or under-estimated their competencies and perceptions. While the validated surveys provided valuable insights, self-reported responses may not fully reflect the nuances of students' actual skill growth or behavioral engagement.

Second, the short-term nature of the study, conducted over a single academic semester, limits the ability to determine long-term retention or the sustained impact of the intervention on students' professional practice. Skills such as creativity and collaboration may require extended engagement and iterative feedback cycles to manifest measurable growth. While qualitative reflections indicated improvement, statistical significance for these variables was not achieved, suggesting the need for a longer observation window and refined instructional scaffolds.

Third, the sample size was relatively small ( $n = 18$ ) and drawn from a single academic context, which may restrict generalizability. Future research should consider multi-site studies with more diverse and larger participant groups. Furthermore, the absence of a control group limits causal inference regarding the effects of the intervention.

Future studies are encouraged to employ longitudinal mixed-method designs that track students' development beyond the course, capturing the transferability of skills into professional contexts. Investigating the use of AI-assisted translation tools, multimodal platforms, and learner analytics in ESP sustainability instruction could also offer further insights into digital pedagogy effectiveness.

## 7. Conclusions

This study demonstrated the effectiveness of integrating translation and sustainability-focused digital content creation into ESP courses for marketing. Through bilingual translation tasks, students not only enhanced their language and communication skills but also deepened their understanding of sustainability concepts. Translation emerged as a key tool in bridging sustainability discourse with multilingual audiences, promoting inclusivity in global sustainability communication.

Key outcomes include:

- *Enhanced Critical Thinking and Communication:* Translation tasks encouraged students to engage critically with sustainability issues, refining their ability to communicate across linguistic and cultural boundaries.
- *Valuable Learning via Digital Platforms:* *MURAL* and *Instagram* provided authentic learning experiences, fostering peer collaboration and strategic digital marketing skills through real-world application.
- *Implications for ESP Curriculum:* While improvements in creativity and collaboration were modest, the high confidence levels in these areas suggest that targeted pedagogical interventions could further develop these skills. Translation tasks not only enhance linguistic competence but also cultivate global citizenship and digital literacy.

In conclusion, integrating translation and digital content creation in ESP courses prepares students to be effective communicators of sustainability messages in a multilingual, multicultural business environment. Future research should explore the impact of automated translation tools, multimodal resources, and AI-driven content on sustainability communication, as well as the long-term career implications of these educational interventions.

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## Authors contributions

Dr. Alma Karasaliu and Dr. Evjonda Spaho jointly conceptualized and designed the study. Doc. Mariela Burda coordinated the data collection process and contributed to the interpretation of findings. The initial draft was prepared by Dr. Alma Karasaliu, with critical revisions provided by Dr. Evjonda Spaho and Doc. Mariela Burda. All authors contributed to refining the manuscript and approved the final version.

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The authors declare that they have no financial interests or personal relationships that could have inappropriately influenced the content or the outcomes of this research.

## Informed consent

Obtained.

### Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

### Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

### Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

### Data sharing statement

No additional data are available.

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