



Integrating Discipline Literacies in ESP: Insights from the *SUCCESS* Project at UPCT

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ABSTRACT

In today's globalized job market, effective communication skills are essential for STEM professionals. This study explores the integration of discipline-specific literacies in English for Specific Purposes (ESP) instruction, focusing on the *SUCCESS* project's results in response to industry demands. This initiative aims to develop students' 21st-century skills by embedding specialized literacies into ESP curricula, enhancing both academic and professional communication. The project incorporates authentic materials, context-driven tasks, and digital tools to strengthen students' soft skills. By fostering a deeper connection between language, subject knowledge, and technology, the initiative enhances learning outcomes and professional readiness. This paper presents the theoretical framework, implementation strategies, and key findings from the project, demonstrating its impact on students' language acquisition and disciplinary engagement. The study concludes by suggesting that the *SUCCESS* project may serve as a model for enhancing communication training in Higher Education, preparing graduates for the evolving demands of the digital era..

KEYWORDS: Discipline Literacies; ESP; *SUCCESS* Project; 21st Century Skills; Engineering.

La integración de literacidades disciplinares en IFE: Resultados del proyecto *SUCCESS* en la UPCT

RESUMEN

En el mercado laboral globalizado actual, las habilidades comunicativas son esenciales para los profesionales en STEM. Este estudio explora la integración de las literacidades disciplinares (o competencias comunicativas específicas de disciplina) en la enseñanza del Inglés con Fines Específicos (IFE), centrándose en los resultados del proyecto *SUCCESS* en respuesta a las demandas industriales. Esta iniciativa pretende desarrollar las habilidades del siglo XXI en los estudiantes incorporando tales literacidades en los programas de IFE, mejorando tanto la comunicación académica como profesional. El proyecto integra materiales auténticos, tareas contextualizadas y herramientas digitales para fortalecer las habilidades blandas de los estudiantes. Al fomentar una conexión más profunda entre el lenguaje, el conocimiento de la materia y la tecnología, la iniciativa mejora los resultados de aprendizaje y la preparación profesional. Este estudio presenta el marco teórico que fundamenta el proyecto, las estrategias de implementación y los resultados derivados del mismo, demostrando su impacto en la formación de los estudiantes. El estudio concluye con la propuesta del proyecto *SUCCESS* como guía para mejorar la formación en comunicación en la educación superior, preparando a los graduados para las demandas cambiantes de la era digital..

PALABRAS CLAVE: Literacidades disciplinares; Inglés para Fines Específicos; Proyecto *SUCCESS*; Habilidades del Siglo XXI; Ingeniería

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1. INTRODUCTION

In the contemporary globalised and highly competitive employment market, the necessity of effective communication skills for employability has become increasingly evident, where technical expertise alone is no longer sufficient to achieve success (Heckman et al. 451; Zahn et al. 2). There is a growing emphasis on soft skills, particularly in STEM fields (Science, Technology, Engineering, and Mathematics), where employers across industries more and more seek professionals who can articulate complex ideas clearly, collaborate efficiently, and adapt to diverse communicative environments (Majid et al. 1036; Robles 554; Van Laar et al. 578). This shift underscores the need for English for Specific Purposes (ESP) programs at Higher Education that integrate discipline-specific literacy with broader communication training, preparing students for the demands of the contemporary workforce.

The *SUCCESS* project (Solutions for Unified Communication Competencies for Engineering Students and Specialists: 2021-1-LV01-KA220-HED-000031178), co-funded by the European Union under the Erasmus program, was launched as a collaborative initiative among European universities to enhance communication competencies in engineering education through targeted training in digital communication, technical English, professional interactions, and soft skills. Through a structured series of modules, *SUCCESS* aimed at equipping students with the necessary skills to engage in effective communication within their specialized fields, bridging the gap between academic learning and professional practice.

This paper explores the theoretical foundations and practical implications of ESP evolution, with a particular focus on the *SUCCESS* project. It examines the ways in which discipline-specific literacy and communication training are integrated into engineering education through the *SUCCESS* project. As a matter of fact, the main goal of this study is to highlight the role of ESP courses in fostering well-rounded professionals capable of meeting contemporary labour market expectations, by focusing on the integration of the *SUCCESS* project's results into the degrees in Telecommunication Systems Engineering and Telematics Engineering at the Technical University of Cartagena (UPCT) as a case in point. A detailed analysis of the digital communication skill (and its distinct components in the exercise of the tasks transferred from the project to the ESP courses) is intended to demonstrate the adequacy of the project's modules for development of such skill.

After this introduction, the following section offers the theoretical framework where the present study is grounded and the evidence of the current demands for qualified graduates in soft skills, particularly communication skills understood as a part of the so-called 21st Century skills, that is, "the competences individuals need to actively and effectively

participate in the knowledge society” (Van Laar et al. 578), across the commercial and professional sectors in addition to engineering professional bodies. Next, the main results of the project are succinctly described to continue with a more detailed account of the integration of digital communication skills in technical English courses, as a concrete example of discipline literacy development. Finally, the last section concludes with some general remarks derived from the study.

2. PERMANENT AND LATEST FOCUSES IN ESP: ESTABLISHING THE GROUND FOR THE SUCCESS PROJECT

From the onset of the ESP approach in the 1960s to the present, it has focused on learners’ special language needs to communicate in specific communicative settings. Deriving from Applied Linguistics, ESP came to respond to the situation at the time where English was also emerging as the lingua franca for commercial transactions as well as in the science and technology domains, so there was a compelling need to be able to communicate internationally. Then ESP evolved as an area of knowledge within Foreign Language Teaching or Second Language Teaching and, nowadays, its relevance qualifies it to be considered as a discipline per se (Hyland 13) and, even Basturkmen (3) argues that “ESP is not just a practical teaching area that has evolved as an off-shoot or add-on of ELT but a distinctive field of teaching with a distinctive theoretical basis”. Hutchinson and Waters (19) characterized ESP as a learner-centred approach to language teaching “in which all decisions as to content and method are based on the learner’s reason for learning”. As opposed to general English, Dudley-Evans (in Orr 4) identified three main factors distinguishing ESP which became essential components of its conceptual tenets: “needs analysis, the analysis of genres and language related to these needs, and the use of the methodology of the disciplines or professions it is serving for at least some of the time in materials in the classroom”. Similarly, ESP is further defined in relation to the following absolute and variable characteristics by Dudley-Evans and St. John:

Absolute characteristics:

ESP is designed to meet specific needs of the learner.

ESP makes use of the underlying methodology and activities of the disciplines that it serves.

ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse and genre.

Variable characteristics:

ESP may be related to or designed for specific disciplines.

ESP may use, in specific teaching situations, a different methodology from that of General English. (4)

Over the years of its development, ESP has undergone five main stages and approaches to language such as Register Analysis, represented by Halliday, McIntochs and Strevens, Ewer and Latorre, and Swales among others; Discourse Analysis, represented by Allen and Widdowson; Target Situation Analysis, by Chambers; Skills and Strategies, and Learner-centred Approach, by Hutchinson and Waters. Even though such stages are clearly distinguishable and succeed one another chronologically, the approaches to language are observed to overlap as well and currently, teaching and research are carried out in relation to those mainstreams. Influential journals and publications in the area of ESP have echoed the main focus of activity and research in the field during the last decades. Authors like Hewings, Hyland et al., Zhang and Chang, and Ruiying et al. traced the evolution of the domain from 1980 to 2020 and identified the shifts in the topics explored. They pinpoint two main trends: first, an increase in the analyses of the target language; and second, a change from the early concern for teaching issues about what and how to teach in ESP in the 1980s, to the surge of the prominent topic of literacy since the 2000s. Zhang & Chang (133) alluded more specifically to discipline literacy, as a target skill that undergraduates need to develop during Higher Education programs in relation to discipline-specific speaking, listening, reading, writing, and viewing, with the aim to communicate effectively in the target language variety. In this vein, more recent definitions of ESP such as Hyland and Jiang's (2) describe it as "an approach to language education based on identifying the specific language features, discourse practices, and communicative skills of target groups while recognising the subject-matter needs and expertise of learners." Moreover, when examining the evolution of ESP over time, Basturkmen (10) encapsulates the main factors contributing to the increasing growth of the field, namely, the dominance of English as a lingua franca; individual and institutional views of ESP's pragmatic value; increased internationalization of commerce and trade; increased mobility of workforce and students; widespread adoption of English as a Medium of Instruction (EMI) across universities; and English as a Second Language teaching communities' ability to deliver specialized language instruction.

Precisely in Higher Education settings, there exists a generalized perception among not only language specialists but also subject-domain experts that communication skills should be fostered and incorporated into STEM university programs, since the current training in this kind of skills does not seem to be comprehensive enough to meet this need (Feliú-Mójer 1; Itani and Srour 1; Poe 147; Siddiq et al. 2). Communication skills are claimed to be part and parcel of the non-technical skills, the so-called soft skills that also include other abilities

such as problem-solving, self-motivation, decision-making, and time management skills, which STEM students must acquire for professional success in the 21st Century's digital environment (Van Laar et al. 584; Majid et al. 1036).

In addition to the observations shared by academia, employers at the labour market demand engineers capable of communicating effectively in the workplace. International professional networks on the internet offering career advice to job seekers and professionals for career promotion emphasize the paramount importance of soft skills, effective communication being the first one in the top 10 ranking of essential soft skills¹. Such skills are referred to on different portals like LinkedIn, Forbes, TopResume, to name but a few, as the decisive factor to tip the scales in favour of one between two equally qualified candidates; and this is remarkably crucial in engineering recruitment (RunTime Engineering Recruitment)².

Soft skills complement technical skills by enabling engineers to communicate effectively, work collaboratively, and adapt to different situations. In an industry where teamwork, problem-solving, and innovation are paramount, soft skills can make the difference between a good engineer and a great one. (1)

Academic and technical outlooks singularly converge in the testimony of an excellent and exemplary Spanish communicator: Manuel Campo Vidal. He is a journalist and television presenter, media manager, sociologist, and industrial engineer, who is currently managing the Business Communication Institute in Spain and the Next International Business School, where he coordinates the Master in Advance Communication and Digital Marketing. Campo Vidal participates in the project *Let's learn together 2030*³ led by the BBVA institution, whose purpose is to promote education through sustainability to help people build a greener and more inclusive future. The project brings speakers of the brightest minds who, through useful and inspiring messages, encourage us to fight for a more inclusive society that respects the planet. Campo Vidal's message claims that the key to success lies in effective communication:

In all areas, effective communication is absolutely essential. It's a paradox that communication is the skill that is trained the least. We must give communication the importance it deserves, and we must value words. A single word can change your

¹ (<https://www.linkedin.com/pulse/top-10-soft-skills-employers-prioritize-what-every-job-seeker-oclc/>)

² <https://www.linkedin.com/pulse/role-soft-skills-engineering-recruitment-runtime-recruitment/>

³ <https://aprendemosjuntos.bbva.com/acerca-de/>

life (...) If (people) mastered the art of communication and combined their words effectively with silence, they could greatly enhance the impact of their actions.⁴

Shifting to a wider international sphere, the Accreditation Board for Engineering and Technology (ABET)⁵, an engineering professional body dedicated to the education, accreditation, regulation and professional development of engineering professionals and students in the United States is a case in point: “Since 2000, ABET has required that engineering programs demonstrate that their graduates show proficiency in a number of soft skills, including: ... an ability to communicate effectively” (Poe et al. 2).

3. MEETING SPECIFIC NEEDS: THE *SUCCESS* PROJECT

The methodology applied in this study follows a mixed approach through a combination of pedagogical research, competency-based education, case study analysis, and experimental learning approaches. The study integrates theoretical research on communication skills and ESP with their practical application through training modules, simulations, and real-world problem-solving activities. In particular, the execution of the digital communication skill is subjected to a detailed analysis by splitting it into its constituting subskills in order to assess to what extent they are exercised in the activities developed, and thus, to measure the impact of the intervention.

In keeping with current formative and labour market demands, a collaborative initiative across multiple universities was conceived to deliver Solutions for Unified Communication Competencies for Engineering Students and Specialists. The *SUCCESS* project was envisioned to develop a student-focused curriculum that comprehensively addresses the communication skills required by the job market in technical communication, ensuring that engineering graduates and specialists contribute to the highly skilled workforce sought by employers.

Four technical universities got involved in this transnational project: Technical University of Riga (Latvia), De Vinci Higher Education (France), Technical University of Dresden in

⁴ The translation into English is the author's:

<https://www.facebook.com/elpais/videos/239083176596770>

⁵ Originally founded in 1932 as an ‘engineering professional body dedicated to the education, accreditation, regulation and professional development of engineering professionals and students in the United States.’ ABET is nowadays a global ‘nonprofit, non-governmental organization’ that accredits ‘4,564 programs at 895 colleges and universities in 40 countries’. (‘History’. <https://www.abet.org/about-abet/history/>. ‘About ABET’. <https://www.abet.org/about-abet/>. Retrieved 7 February 2023).

collaboration with The Pyramid Group⁶ (Germany), a leading provider of ESP, and Technical University of Cartagena (Spain), constituting an International Program Committee. The project team was committed to designing, testing, simulating and implementing different training programs to enhance communication competences under a cross-disciplinary approach to engineering studies within the ESP framework.

The training activities were developed and implemented in the corresponding universities where students could hone communication skills conforming engineers' disciplinary literacy. Even though the project's primary focus is placed on communication, the training programs also brought together additional soft skills which supplement the skillset of the 21st Century skills, including critical thinking, problem solving, communication and collaboration. A different cohort of five participants from all university members attended each training activity which succeeded according to the following order and constituted the main project's results:

1. Digital Communication in the 21st Century, hosted by the Technical University of Cartagena: The initial training activity focused on enhancing digital communication skills, specifically, "the skills to use ICT to transmit information to others, ensuring that the meaning is expressed effectively" (Van Laar et al. 583). Its goal was to strengthen students' digital skills and etiquette, refine their digital communication and presentation abilities, with an emphasis on oral communication and, to a lesser extent, written communication.
2. English for Engineers, hosted by the Technical University of Dresden in collaboration with The Pyramid Group: The English for Engineers module introduced participants to the specialized language essential for their professional roles by playing practical meeting case study simulations, with a particular emphasis on equality, diversity, and inclusion (EDI) in the workplace.
3. Career Panel, hosted by the Technical University of Dresden in collaboration with The Pyramid Group: The training program offered valuable career guidance to students and graduates, offering direct interaction with employers. Industry representatives shared insights into realistic expectations for potential employees, discussed workplace challenges, and highlighted career opportunities. In addition, participants received training in oral negotiation and argumentation techniques, enhancing their analytical and strategic thinking, decision-making, stress management, adaptability, teamwork, and receptiveness to feedback.

⁶ The Pyramid Group is also a leading global provider of specialist English Training (ESP): <http://thepyramidgroup.biz/>

4. Communication Lab or virtual simulation environment, hosted by the Technical University of Riga: This activity provided an AI-powered platform for engineering students to test and refine their existing skills while developing soft skills in a virtual simulation setting. The program placed particular emphasis on fostering strong professional and social relationships by recognizing distinct profiles and adapting interactions accordingly to create more impactful and effective communication.

5. Communication Deployment Hackathon, hosted by De Vinci Higher Education: The final module facilitated the application and integration of the acquired knowledge into real-world scenarios. Engineering students and specialists participated in an international forum of innovative disciplines, collaborating and showcasing their skills while tackling communication challenges in an international communication hackathon.

The following section provides a description of how the SUCCESS project has served as a model to update a course of technical English at the UPCT, mirroring the section devoted to digital communication of the first training activity of the project. Furthermore, the development of such skill is analysed in depth with the aim to demonstrate how students developed competencies through structured activities.

4. INTEGRATING DISCIPLINE LITERACIES AT TELECOM PROGRAMS

The research carried out by the *SUCCESS* team in order to implement a comprehensive training program to cover 21st century skills for engineers is suggested as a reasonable benchmark for designing and updating ESP courses in Higher Education. The series of teaching modules were conspicuously designed to prepare students for competent performance in workplace and previous academic settings, enhancing graduates' career opportunities. Consequently, the *SUCCESS* project's outcomes have shed light on the updating of courses on technical English at the different institutions involved in the project. Next, the integration of discipline literacies in Telecommunication Engineering at the UPCT as informed by the *SUCCESS* project is described as a case in point.

There is no doubt of the adequacy of the *SUCCESS* project to the curricular competences and learning outcomes established by the Spanish Ministry of Science and Innovation for graduates in Telecommunication Engineering. On the one hand, at a higher order, the corresponding general curricular competences related to the course of technical English demand the "ability to work in a multidisciplinary group and in a multilingual environment and to communicate, both orally and in writing, knowledge, procedures, results and ideas

related to telecommunications and electronics” (BOE-A-2009-2894)⁷. On the other hand, the UPCT, as the institution which determines its own academic and teaching model, defines the following learning outcomes for the technical English course. As stated in the description of the before-mentioned engineering program, after completion of the technical English course, students must be able to⁸:

1. Know the technical and academic vocabulary of the specific domain; and use the language functions associated with the specific (professional and academic) domain both orally and in writing.
2. Work both in a group and independently, assisted by self-learning tools.
3. Incorporate their own strategies through innovation and creativity to their own individual and group contributions.
4. Make correct use of new technologies when learning the language for specific purposes.

The course of technical English for Telematics Engineering and the course of technical English for Telecommunication Systems Engineering share the same structural characteristics and both of them have been updated according to SUCCESS’ results. Tuition is distributed during the semester in two sessions per week: a session of 2 hours for the whole group, plus one more hour in smaller groups for more practical tasks, specifically the use of technical vocabulary integrated in oral practice.

The courses are devoted to teaching, practicing and developing the discipline literacies organized in three main blocks: oral skills (speaking and use of English), Writing skills (writing and use of English), and Specific technical contents (listening and use of English). Despite the division, all skills are always integrated in all sessions as naturally needed. The main blocks are divided into units which, in turn, contain the specific tasks and exercises to develop the skills. The first block, oral skills, starts with a unit devoted to pronunciation and phonetics as a tool; the second block, writing skills, concentrates on writing of summaries of technical and scientific texts, and on summarizing and paraphrasing; the third block, specific technical contents, covers specific technical vocabulary in the main topics of the knowledge area of Telecommunication Engineering, such as technology trends, robotics, smart cities, the Internet of things and fiber optics. In this block, there is a special unit where a workshop on CV writing and job interviews has been integrated.

⁷ https://www.boe.es/diario_boe/txt.php?id=BOE-A-2009-2894

⁸ <https://teleco.upct.es/study-guide/505103005>

As oral communication skills are arguably key for transmitting ideas and sharing knowledge, the integration of online oral presentations in the technical English course is further described. According to Riemer:

Knowledge and technical know-how are clearly important, but these must be presented with an excellent standard of communication skills, particularly oral. Indeed, oral communication and presentation skills are considered one of the best career enhancers and to be the single biggest factor in determining a student's career success or failure. (1)

Instruction on how to prepare and deliver an effective oral presentation on line is assimilated following the same teaching units provided during the first module of the project concerning digital skills, covering the following matters: online versus face-to-face presentations, presentation structure (opening, body and closing), narrative, signposting language, body language on line, building rapport on line, questions and answers sessions, and multicultural presentations.

Students are asked to gather in groups of four members and choose a topic for their presentation. The instructor suggests some thought-provoking topics related to the field of specialization involving technical contents intended for the exercise of other core skills (Van Laar et al. 577) such as technical information management, collaboration, creativity, critical thinking and problem solving, and other contextual skills⁹ (Van Laar et al. 578) such as ethical awareness, cultural awareness, flexibility, and selfdirection, depending on the concerned tasks. Thus, the attempt to improve a specific skill involves practising others simultaneously, as they seem to be interconnected and do not function independently. This is notably happening during the time assigned for group work, when students manage information, collaborate with each other and prepare their presentation.

Furthermore, digital communication competence can be categorized into different subskills or indicators, as outlined by Iordache et al. (17). The first indicator, 'construct and understand messages' (CUM), pertains to the fundamental ability to read and write, to encode and decode language, allowing users to 'exchange messages and share content' (EM/SC). To achieve this, "users are thought to require the knowledge and ability to comment on or respond to material created and shared by others online, and to share their own material" (Iordache et al. 18). The third subskill highlights involvement in digital

⁹ "The core skills are fundamental for performing tasks that are necessary in a broad range of occupations. Contextual skills are those skills that are required to take advantage of the core skills" (Van Laar et al. 582).

culture and a sense of belonging to online communities, since users must develop the ability to ‘interact and collaborate online’ (ICO). Given that all online communities have their own regulations, users are expected to adhere to the so-called ‘netiquette’ (N) (or digital etiquette), which is defined as “the existing rules on the appropriate and respectful way of communicating with others when using computer networks and the Internet” (Ibid 19). Similarly, the ability to ‘manage a Digital Identity’ (MDI) is considered a must-have, as it involves constructing a distinct digital persona that plays a specific role in online interactions, separate from one’s offline identity. Lastly, the indicator of ‘awareness of audience’ (AA) emphasizes the necessity for users to recognize varying levels of privacy and audience engagement in online communication.

This division into specific abilities, subskills, or operational components enables the alignment of the core content in the training program with the practical application of the skill. This relationship is illustrated in a matrix in Table 1, which presents the subskills practiced in each session based on the tasks and content provided:

<i>Main and specific contents</i>	<i>Indicators of digital communication skill</i>					
On-line oral presentations	CUM	EM/SC	ICO	N	MDI	AA
Online vs face-to-face presentations	X	X	X	X	X	X
Setting and slides	X		X			
Presentation structure	X	X				
Opening, body and closing	X	X				
Narrative	X	X				
Signposting language	X	X				
Body language on line	X		X	X		X
Building rapport on line	X		X	X		X
Q & A sessions	X	X	X	X	X	X
Multicultural presentations	X	X		X	X	X

Table 1. Subskills into play (Rea & Fonet, 2024)

The table shows the relationship between the content of online oral presentations and the specific indicators of digital communication skills that students are expected to practice during the course. First, when comparing online and face-to-face presentations, all six indicators of digital communication skill (CUM, EM/SC, ICO, N, MDI, AA) are involved. One

of the most salient aspects of the matrix is the consistent presence of constructing and understanding messages (CUM) subskill in every single task, followed by exchange of messages and sharing content (EM/SC) indicator, which is found in seven out of ten sections. These regular features disclose the fundamental role of literacy in effective digital communication.

As presenting online requires a different set of skills, particularly when it comes to non-verbal cues and the ability to engage an audience virtually, students are actively encouraged to practice constructing and understanding messages (CUM), exchanging messages (EM/SC), and collaborating (ICO) within digital environments, which are crucial when comparing the nuances of online and face-to-face presentations. Participants are thus enabled to engage in knowledge-sharing and discourse production. Additionally, they are developing their digital etiquette (N) while being aware of their online audience (AA). The former emerges as a key subskill connected to the latter since both draw attention to the ethical and respectful aspects of online discourse. Given the potential for miscommunication in digital settings, the emphasis on netiquette prepares students to navigate the complexities of online professional and academic exchanges effectively.

The second section devoted to setting and slides relates two determining subskills for creating and delivering visually appealing presentations (CUM and EM/SC), where students not only design slides but also need to ensure the messages are clear and effectively communicated through visual means. This also reflects the idea of managing a digital identity (MDI) because the design of the slides can influence how a presenter is perceived in the online space. Such appearance is particularly relevant in the engineering and IT fields, where online presence and networking play an increasingly significant role in career development.

The following four sections in the training module prove to strengthen CUM and EM/SC subskills. They both reflect the importance of structuring an oral presentation in a way that facilitates message comprehension and enables smooth communication. Crafting the opening, body, and closing of the presentation helps students organize their ideas clearly and coherently, a skill vital for career success as noted by Riemer (1). Then, students are encouraged to construct a compelling narrative that not only conveys technical content but also resonates with the audience. This underscores the significance of clear storytelling, which is key to keeping an audience engaged during online presentations. Next, effective use of signposting language is fundamental for helping the audience follow the flow of ideas and for signalling transitions between sections, which is particularly important in online presentations where non-verbal cues are limited.

The use of body language and building rapport online share the same set of subskills: MDI, AA, ICO and N. The ability to manage a digital identity and be aware of the online audience's perceptions is essential for conveying the appropriate body language in a virtual setting. Even though online presentations limit physical cues, the awareness of how the presenter is perceived on camera, including gestures, posture, and facial expressions, is a significant part of digital communication skills. Building rapport on line, in turn, requires students to engage and collaborate with their audience virtually, often through the use of polite, respectful interaction (N). This emphasizes the need for digital etiquette and social interaction within the digital space, as well as the importance of creating a sense of connection despite the lack of physical proximity.

Regarding Q&A sessions, all subskills are practiced. Responding effectively to questions in an online setting requires clear communication (CUM and EM/SC), collaborating with the audience (ICO), adhering to netiquette (N), managing one's digital identity (MDI) and being totally aware of the audience. The ability to handle Q&A sessions efficiently is crucial for career success, as it demonstrates the ability to interact with others, adapt in responding to diverse interlocutors, and present technical knowledge in a responsive and professional manner.

Finally, multicultural presentations succeed in training CUM, EM/SC, N, MDI, and AA. The activity requires students to navigate diverse perspectives and engage with varied audiences, which aligns with the idea of multicultural awareness, being a prominent contextual skill in today's globalized workforce. It also highlights the importance of understanding different communication styles and adapting to various cultural norms, which is germane to effective online communication.

Digital communication competence is a multifaceted skill set composed of various subskills that collectively contribute to effective online interaction. The classification of these subskills—ranging from constructing and understanding messages to managing digital identity and adhering to netiquette—highlights the complexity of digital communication and its relevance in academic and professional contexts. The structured approach presented in the training program ensures that students develop these competencies through targeted activities, reinforcing their ability to navigate online environments with clarity, professionalism, and cultural awareness. As digital communication becomes increasingly integral to globalized education and workplaces, fostering these skills is imperative for students to engage meaningfully in online discourse, collaborate effectively, and adapt to the evolving digital landscape. Furthermore, the exercising of these different subskills

serves as qualitative indicators of quality, demonstrating the depth and effectiveness of the training.

5. FINAL REMARKS

The evolution of English for Specific Purposes has reflected the growing importance of tailored language instruction that addresses the unique needs of learners in specialized fields such as engineering, science, and technology. The development of ESP, from its initial focus on language for professional communication to its current status as a distinct academic discipline, highlights its adaptability and relevance in today's globalized world. As English has become the lingua franca in international commerce, academia, and technical fields, the need for specialized communication skills has only grown stronger. The expansion of ESP research, particularly the shifts toward literacy and discipline-specific competencies, reflects this changing landscape, underscoring the necessity of equipping learners with both technical and communicative skills.

In Higher Education, particularly within STEM programs, the integration of soft skills into curricula is decisive in preparing students to meet the demands of the modern workforce. The *SUCCESS* project has demonstrated the critical role of integrating discipline-specific literacies into ESP instruction for engineering students. By aligning language education with the communication demands of STEM fields, this initiative has reinforced the importance of embedding digital communication, technical writing, and professional interaction skills into academic curricula. Through innovative training programs, such as digital communication workshops, practice in a virtual simulation environment, industry panels and communication hackathon, students not only enhance their technical knowledge but also develop critical soft skills that are vital for career success. These programs reflect the broader goal of ESP in supporting students' ability to engage in professional environments, collaborate effectively, and contribute to global discourses in their respective fields. The incorporation of digital communication skills especially in the context of online presentations and collaboration is the activity which illustrates the modules derived from the project and enhances the aspect of preparing students for the increasingly digital and interconnected world.

By addressing the multifaceted nature of communication, the *SUCCESS* project contributes significantly to the refinement of ESP courses, ensuring that they remain relevant and effective in meeting both academic and industry expectations. Future research should explore longitudinal impacts on graduates' career trajectories and investigate scalable models for integrating similar initiatives across other STEM disciplines. Ultimately, this

research accentuates the transformative potential of discipline-focused ESP education in preparing students for the challenges of globalized, technology-driven professional environments.

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