

## ROLE-BASED LEARNING: THE DEVELOPMENT OF STUDENTS' DIGITAL LITERACY IN ESP COURSES

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### Abstract

*Due to the increasing number of higher education study programmes in English and the tendency to incorporate English for Specific Purposes (henceforth, ESP) training into the content courses, there is a need to diversify the learning outcomes of the ESP courses to shift the focus on developing more interdisciplinary competencies. Thus, securing the pertinence of ESP and EAP courses in higher education study programmes. The current study proposes using ESP courses as a platform for developing digital literacy and performs an empirical study to examine the efficiency of integrating a role-based approach to develop students' digital capabilities in the ESP courses. In addition, it tests the compliance of the Jisc digital capabilities framework with the Business students' academic and professional needs. Two groups of 32 first-year university students studying Business English were observed for one semester. The data was extracted from the pilot lesson observations, student self-assessment surveys and end-of-semester interviews. The findings show that the inclusion of digital capabilities training does not compromise the acquisition of language-oriented traditional ESP goals. The tasks derived from the digital capabilities framework that the majority of the students rated as meeting their academic and professional needs were the creation of data visualisations, references, surveys, digital textual content, basics of graphic design; the use of collaborative work tools, and the moderation of online accounts for business branding purposes. Finally, the introduction of roles in the project-based learning increased students' sense of accountability and reinforced the metacognition during the learning process; the role distinction also revealed that in group work students struggle the most with professional interpersonal communication tasks, such as providing feedback, forming structural criticism, moderating meetings and assigning tasks to peers.*

**Keywords:** *ESP, Digital literacy, Business English, Role-based learning, Project-based learning*

### 1. INTRODUCTION

There are numerous proposals on what the ESP courses should focus on besides language skill improvement and the field terminology. As language as such is not a phenomenon divorceable from communication, it is inevitable that by focusing on language goals only, students will not be prepared for actual work environment communication. However, ESP courses have the potential to serve as a suitable platform to provide the full range of training that would bridge the gap between academia and industry communication.

This is the author's attempt to portray the current situation of ESP course design and the current challenges ESP instructors working in higher education encounter. There are several factors why these courses play a significant role in students' academic experience. The following describes the customs of Latvian higher education. These courses are mandatory. They are frequently scheduled for the first two semesters of undergraduate programs. This implies that they serve as one of the first insights into the organisation of tertiary level studies, which requires some focus on the academic presentation in English, partly serving the function of English for Academic Purposes (henceforth, EAP) courses. In addition, ESP course curriculum attempts to cover the key terminology (often by resembling content courses), performing translations, and playing out speech situations of the corresponding field that first-year students are not familiar with yet, which means often the concepts are introduced first in English before they are presented in the main language of instruction. They would on average have a 2-6 CP value, which means it could be up to 72 contact hours.

To sum it up, there is a great responsibility put on the ESP teachers to design the courses in a way that they cater to both the academic and the industry needs while taking into consideration that the audience is as yet unfamiliar with the content and unsure of their needs, not even mentioning the differing language proficiency levels that first-year students tend to have, which often leads to unfulfilled expectations, hence, the exclusion from the study programme curriculum. To understand where ESP is going, it is important to look into its evaluation.

## 2. THE EVOLUTION OF ESP

As a subset of English as a foreign language, ESP originated with the idea of teaching university students or professionals already employed to use the language in a professional setting predetermined by their needs (Kenny&Escobar 2020). For several decades we have moved towards improving needs analysis and focusing on student-centred learning. However, as suggested in several studies, the inability to prioritise the topics, hence the terminology is still addressed as the main challenge at the syllabus design stage for ESP courses (Rasyimah&Dewi 2018). Even though there are fields where the terminology serves as the backbone of ESP courses, it is time to acknowledge that lexis in isolation will do very little to prepare students for the interactions in their work environment. The terminology acquisition can take place in an integrated manner, thus allowing more time to be spent on certain skill acquisition that requires more instruction, guidance, and supervision. For instance, a project-based approach would often lead to students themselves discovering what lexical building blocks necessary to perform the given communicative function are. This is especially useful in circumstances where the student group does not have homogeneous goals, duties, and career directions or they are yet unsure of their professional goals, which frequently is the case with undergraduate students with no employment experience. Stepping away from the terminology-centred course design would also decrease the reliance on textbooks that clearly fail to keep up with the rapidly changing communicative tendencies.

There is an extensive list of skills and competencies that several researchers have proposed as necessary additions to the traditional ESP agenda. Here is a compiled list of some of them:

1. As previously mentioned ESP for undergraduate students will require some elements of EAP to ensure the academic communications needs are met before the professional ones present themselves.
2. Communication skills: genre awareness, writing strategies, and other relevant concepts enabling students to learn how to communicate effectively and meaningfully (Cheng 2007).
3. Intercultural competence, acquaintance with the cultural norms, has been identified as crucial and frequently absent in an international European educational setting (Aguilar Perez 2018).
4. Digital Literacy and Multimodality: The ability to use technology to obtain and evaluate information, interact with others, and create and share content. Generally speaking, the use of the internet and technological tools for professional and academic goals (Mantiri, Hibbert&Jacobs 2019). Multimodality here refers to students' ability to use various digital modes and channels of communication (Kohnke, Jarvis & Ting 2021).

Besides the suggestions to make changes by adding competencies that do not directly belong to language training, there are indications that ESP courses at the tertiary level should be eliminated. Laborda (2009) suggests that the number of ESP courses is and should be reduced in BA programmes and integrated into the English-medium content programmes.

Currently, most of the universities in Latvia have maintained ESP courses as a part of the first year's undergraduate curriculum. Even though the number of study programmes in English is also growing at Riga Stradiņš University, rather than opting to exclude ESP courses, they have merged ESP and EAP goals. However, the overall tendency shows that the credit point amount assigned to language courses has been reduced over the years and many have been moved to the B and C course category.

If ESP training is not integrated into the content courses, it is very important to maintain the synchrony and alignment needed to create interdisciplinary skill development throughout the courses. This can only be done in collaboration with the academic staff members delivering the content courses.

### 3. PROJECT-BASED LEARNING UNITING ESP AND DIGITAL LITERACY LEARNING GOALS

The previous paragraphs dealt with ESP being suggested as a suitable platform to expand the learning outcomes beyond language skill acquisition. This paragraph looks at the suitability of the project-based learning approach as an effective tool for executing this training.

Project-based learning (henceforth, PBL) is not a novelty instructional approach. It has been applied to various learning environments for over six decades. However, it is insufficiently utilised in ESP classrooms. Knoche Laverick (2018, pp. 3-4) defines PBL in ESP as an approach that enables students to improve their language skills by completing projects. It is highly student-centred and allows students to practice their language skills in authentic environments. PBL represents the constructivist views on learning. Splitter (2008) explains that students take the role of “active participants in the learning process, rather than passive recipients of knowledge accumulated by others and transmitted to them. It is, fundamentally, concerned with making sense of our experience”. The production of actual artefacts is the most tangible and measurable form of sense-making through an experience. Project-based learning has also been widely used in English as a foreign language (EFL) courses and Computer-assisted language learning (CALL) (Tseng and Yeh 2019).

#### 3.1 Digital Literacy in ESP

First, it is essential to clarify what is understood by ‘Digital literacy’ in terms of this research. Secker (2018) points out that misunderstandings related to digital and information literacy tend to arise even amongst educators, often leading to overlaps or gaps in training competencies related to digital literacy across various courses. In terms of this research, the author uses the framework proposed by Jisc. Even though the Jisc taxonomy distinguishes between “capabilities” and this is also the term used further in this paper, the author sees the capabilities as the building blocks of “Digital literacy”.

Certain adaptations have been made to the framework proposed by Jisc to meet the goals of the course, hence the students’ needs. Jisc lists seven types of capabilities; however, after evaluating the syllabus of the course under the study, considering ESP training needs and content needs, only the following five were integrated as the structural pillars of the digital literacy learning outcomes of the course:

- *Information, data and media literacies*
- *Digital creation, problem-solving and innovation*
- *Digital communication, collaboration and participation*
- *Digital learning and development*
- *Digital identity and wellbeing*

To be more precise these elements were further translated into specific tasks that were then assigned to the roles students’ were given for every project. The following chapter introduces the roles and the capabilities exercised in each.

#### 3.2 Role-based skill development in Project-based Learning

The course studied in the empirical part of this paper is built following a project-based study design and additionally encompasses the role division for the group work not only because it ensures that each student gets to exercise the full range of skillset needed to produce the artefacts (which is due to the system that the roles are switched for every upcoming project), but also increases the accountability. Even though the author of this paper is reluctant to call it a role-play due to the association with short-term classroom activities, the essence of the presumable benefits coincides with the explanation of Wills, et al. (2010, p.2) who describe role plays as “situations in which learners take on the role profiles of specific characters or representatives of organisations in a contrived setting. Role play is designed primarily to build first-person experience in a safe and supportive environment”.

The roles designed for the pilot lessons studied in the empirical part of this paper were formed with an idea to represent different facets of a digital communicator for the needs of the given study field, thus

combining ESP and Digital Literacy training. Also, the projects carried out in this course were related to the development of a product or service as each team operated as a student company. Some of the capabilities would be addressed in both Digital Literacy theory and ESP learning objectives, reinforcing the idea that combining the two in the same classroom is coherent. Table 1 below introduces the roles used in the Business English course studied in the empirical part of this research and demonstrates ESP and DL learning objectives in each role.

Role	Duties	Digital capabilities	ESP learning objectives
<i>Concept creator</i>	- the organisation and management of the project. - task division - development of the concept of the digital artefact created	<b>Digital collaboration.</b> The capacity to use digital technologies in developing new ideas, projects, and opportunities. Selecting and managing: <b>brainstorming, mind-mapping, collaborative work tools, and online calendars.</b>	Ability to engage in professional interpersonal communication in the neutral or formal register. Concisely and precisely formulate goals, and assign tasks. Lead group discussions and debates.
	- meeting organisation	<b>Digital communication.</b> An understanding of the features of different digital media for communication, and of the varieties of communication norms and needs; cultural and other norms for working together, and digital media and networks' influence on social behaviour.	Lead and moderate group meetings. Meeting note-taking.
	- conflict resolution	<b>Digital well-being:</b> to use digital tools in pursuit of personal goals and to participate in social and community activities; to act safely and responsibly in digital environments; to negotiate and resolve conflict; to manage digital workload, overload and distraction; to act with concern for the human and natural environment when using digital tools.	Mediate conflicts between members of the group. Express constructive feedback and make effective apologies.
	- submission and presentation of the final artefact	<b>Information literacy and Digital creation.</b> Create and present digital information in different settings. Select and use presentation tools. Design presentation slides.	Speech preparation. Writing text for slides. Understanding of the use of linguistic and paralinguistic elements in speech.
<i>Researcher</i>	-gather relevant academic sources for the project at hand (secondary research) - conduct field research focusing on other companies' experiences (primary research)	<b>Information literacy:</b> The capacity to interpret digital information for academic and professional/vocational purposes, and to review, analyse and re-present digital information in different settings. A critical approach to evaluating information in terms of its provenance, relevance, value and credibility. <b>Media literacy:</b> A critical approach to evaluating media messages in terms of their provenance and purpose.	Getting acquainted with the scientific discourse. Text organisation. Citing and paraphrasing.
<i>Copywriter</i>	-to prepare the textual part of every project in close corporation with the graphical designer -prepare company glossaries	<b>Digital creation:</b> Digital writing <b>Digital communication:</b> The capacity to communicate effectively in digital media and spaces	Copywriting. Understanding the use of terminology, registers, grammar rules and stylistic devices to achieve the communicative goal. Inclusive and ethical communication principles.
<i>Designer</i>	-to prepare the visual design of the project -prepare the guidelines for the company's visual brand identity	<b>Digital creation:</b> digital imaging; digital audio and video, digital code, apps and interfaces, web pages. An understanding of the digital production process, and basics of editing and coding. (familiarity with the databases of visual materials and visual material creation platforms and tools)	The understanding of semiotic symbols, signs and other ways of expressing meaning beyond the text.

**Table 1.** Roles and their corresponding learning outcomes

Source: Compiled from the Jisc (2017) 'Digital capabilities' framework and the course description design by the author of the paper

The group project setting chosen for the course studied in this paper reinforces the acquisition of digital capabilities. Killen (2018, p. 33) states that “there is a clear symbiotic relationship between collaborative or partnership approaches and the development of digital capabilities: engaging in discussion, exploration and project activity heightens awareness, increases and extends engagement and can offer a deeper, more meaningful and enriched experience for all parties.” The following chapter will introduce the findings gathered after approbating the proposed framework.

## 4. RESEARCH METHODS AND PARTICIPANTS

### 4.1 Research participants

This case study focused on investigating the learning experience of two Business English groups that consisted of 32 first-year university students. The author of the paper is also the instructor that carried out the one-semester pilot classes and made observations regarding the teaching implications and the scaffolding processes necessary once introducing the role-based learning to the previously implemented project-based approach.

### 4.2 Research Objectives

The main objectives of this study were to:

1. To evaluate if the introduction of digital capabilities training in the Business English course is compatible with ESP training needs
2. To identify which skill sets students recognise as professionally useful and applicable to tailor the future content
3. To analyse the benefits of the role-based project approach in ESP classroom

### 4.3 Methodology

The data obtained was extracted from the (1) observations made by the instructor during the teaching and evaluation process; (2) self-reflection surveys were completed after finishing each project round in a different role (four times) and once at the end of the semester. The self-reflection included the following sections: report on the duties performed in the role, self-evaluation on their performance (verbal description and points (0-4)), and peer evaluation. Finally, at the end of the semester as a part of the oral examination, students had to attend individual (3) interviews during which they had to present their input, progress, and self-evaluation grade (1-10), ten being the top grade. The interview recordings were also used to extract information to reach the research objectives stated above.

## 5. RESULTS AND DISCUSSION

This chapter presents and describes the data obtained from 32 self-assessment forms filled out by Business English students studying in the previously described role-based group work setting for one entire semester. The self-evaluation was completed after all four projects, each student taking a different role each round. Students had to provide the following information: completed tasks, evaluation of their performance, challenges encountered, and they had to assign themselves points. At the end of the semester, they had to indicate which skills they identified as useful in their academic and/or professional life. The following table groups the digital capabilities students identified as compliant with their academic and/or professional needs. The capabilities are grouped based on their belonging to the Jisc taxonomy, which was used as the basis for the digital capabilities training performed in the observed classes (see Table 2).

Digital capabilities	Tasks	% of students
Information, data and media literacies	To conduct market research	19%
	To create infographics and data visualisations	56%
	To perform social media analysis	13%
	To conduct academic research	37%
	To generate references, avoid plagiarism	53%
	To design surveys	53%
Digital creation, problem-solving and innovation	To produce textual content appropriate for the intended media channel	53%
	To use graphic design and presentation platforms	75%
	To publish social media posts for business purposes	44%
Digital communication, collaboration and participation	To use collaborative work tools	75%
	To employ digital brainstorming tools	6%
	To use video conferencing tools	6%
Digital learning and development	To navigate the e-study platform and manage the submission process	6%
Digital identity and wellbeing	To develop personal and company brand identity online	78%

**Table 2.** Digital capabilities exercised by students in their academic and professional life

Source: Compiled from the Jisc (2017) ‘Digital capabilities’ framework and the course description design by the author of the paper

Table 2 shows that each digital capabilities group has activities rated as professionally useful for the students, however, not all the tasks to the same degree. The majority of the research participants believe that creating data visualisations, references, surveys, textual content, visual design, using collaborative work tools, and moderating online accounts for branding purposes are the most necessary skills for their academic and professional needs. This could be explained by the interdisciplinary nature of these capabilities that students are already required to apply in various other courses and business activities from year one of their academic journey.

Besides the skills that would correspond to the digital competencies framework, students indicated improvement in their problem resolution, feedbacking, leadership, time management skills, and certain content knowledge, e.g. recruitment procedure, job interviews, and PR policies.

### 5.1 Self-evaluation scores

After each project round, students had to list the tasks that they had performed, describe their performance and based on the performance description assign themselves 0-4 points (4 points were given if students believed that they had successfully coped with all of their duties). The average score was calculated for each role (see Table 3).

The scores indicate that students on average rated their concept creator skills 16.3% lower than their research skills, 16.5% lower than copywriting skills, and 18,7% lower than research skills. It is important to note that even though Concept Creator skills seem to be the most challenging the average ratings for all roles are still comparatively high at 77%, 92%, 92,3 %, and 95% respectively.

Concept Creator		Researcher		Copy Writer		Designer	
3.08	=77%	3.68	=92%	3.69	=92.3%	3.79	=95%

**Table 3.** Average points assigned for each role

Source: The numbers were extracted from students’ self-evaluation forms by the author of the paper

The following table contains the most frequently listed tasks that students mentioned as the most challenging in each role that decreased their self-evaluation score (see Table 4).

As the table shows, the Concept Creator’s role has the largest number of tasks that students found challenging, hence, the lowest self-evaluation score. This feedback is a useful source for what professional communication topics must be emphasised when designing an ESP course for Business students’ needs. Students encountered fewer challenges related to Digital capabilities or the language-oriented tasks that typically ESP courses focus on. That supports the author’s proposition of successfully including Digital literacy training in ESP courses and brings to light the necessity of professional interpersonal communication training within teams, which could be especially topical after the remote learning taking place for over 3 semesters.

The role	The challenging tasks
Concept Creator	Providing feedback to peers Conflict resolution between group members Meeting moderation Clear goal formulation to the team
Researcher	Presentation of research data in an easily comprehensible manner to the third party
Copywriter	Composing grammatically accurate text Complying with the register norms
Designer	Customization of visual materials for the company’s branding needs

**Table 4.** The most challenging tasks for students in each role

Source: The information was extracted from students’ self-evaluation forms by the author of the paper

## 6. CONCLUSIONS

As suggested by several studies conducted in the field of ESP at a tertiary level over the last decade, the function of ESP study courses is being progressively integrated into content courses, thus, leading to the exclusion of such courses in many study programmes. In addition, the number of study programs delivered in English is increasing to attract international students. Finally, the disbelief in ESP courses meeting the professional needs of the field students are being prepared for also has its impact. With the inevitable increase of digital communication promoted by remote learning and working since the Covid-19 pandemic, professional communication requires advancing students’ digital capabilities. As the language and the means of communicating cannot be divorced, digital capabilities training is a suitable addition to the traditional ESP training.

In terms of this research, the author delivered one-semester Business English lessons (as a part of a pilot study) that were modified by adding digital capabilities training based on JISC taxonomy. In addition to the previously practised project-based learning, team roles were introduced to ensure measurable individual progress in all the skill-set groups identified in the learning outcomes section of the course.

The data was obtained by repeated surveys throughout the semester, instructor's observations, and end-of-semester interviews. The findings show that role-based learning increases students' awareness and accountability of the learning process and their individual progress. The tasks derived from the digital capabilities that students rated as professionally applicable and helpful were the creation of data visualisations, references, surveys, digital textual content, visual design, the use of collaborative work tools, and the moderation of online accounts for business branding purposes. These were recognised by students as immediately applicable in their academic and professional routines. Self-evaluations performed on the distinct roles revealed that the acquisition of the digital capabilities and the language-oriented tasks were less challenging than the professional interpersonal communication tasks, such as meeting moderation, task assignment, feedbacking, and constructive criticism, which is also a valuable implication for future ESP syllabus design. The observations show that for Business English needs, a project-based, role-oriented learning process organisation serves as a suitable platform for digital capabilities development that does not compromise the traditional ESP training goals. That, in turn, could serve as value increasing factor that justifies the necessity of retention of ESP courses in higher education programmes. Furthermore, it increases students' individual metacognition of their learning process and enables instructors to design activities closely resembling the actual future work environment of the particular field, thus, meeting the market needs and reducing the gap between the academic and professional experience.

Observations on necessary improvements are mainly concerned with the necessity to improve the scaffolding of project-based learning. Considering the time-consuming nature of developing the necessary additional scaffolding: agreements, feedback forms, collaborative work platforms, peer-evaluation forms, etc., it is important to evaluate if the instructor has the time and the means to optimise the evaluation and moderation of these processes and if the contact hours are sufficient for the artefact demonstrations. It is also important to collaborate closely with the content course creators to reinforce interweaving of the same skill development and avoid unnecessary overlapping.

As this was a case study the findings cannot be generalised; however, they could serve as a pragmatic example for educators designing new or updating existing ESP courses. To advance this research beyond the level of needs, wants and demands of the students, summative assessment results could be added to see if a role-based approach yields higher scores when teaching digital literacy.

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