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New Research and Trends in Higher Education

Edited by

Maria José Sousa, Fátima Suleman, Pere Mercadé Melé and
Jesús Molina Gómez

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New Research and Trends in Higher Education

New Research and Trends in Higher Education

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Article

Transversal Competences in Engineering Degrees: Integrating Content and Foreign Language Teaching

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Abstract: There has been a constant advance of the labour markets and permanent reorientation towards digital Industry 4.0. Yet, the environments for learning remain unchallenged when it comes to the provision of new professionals across the globe. Therefore, this has created a gap in transversal competences, which has compelled students of higher learning institutions to pursue them. The majority of higher learning institutions have emphasised transversal skills among learners and developed curriculums to accomplish these demands. The primary focus of the study was to attain integration and fusion of transversal skills into the development of specialised curriculum training for foreign language proficiency. The study applied mixed methodology techniques, which combined qualitative and quantitative methods in the study. To guarantee cohesion of the study, four research and monitoring techniques such as course dossiers, needs analysis, task-based activities and adapted competences scales were used. The outcome of the research shows findings provided by the piloting stage of the teaching experience and emphasises the need for student-based skill training.

Keywords: transversal competences; engineering students; higher education

1. Introduction

The 21st-century working environment is changing in a fast way. As a result, employers expect students to come out of their universities as people who are well versed with the changing trends [1]. Learners of higher institutions require specific training that ensures they develop social, ethical and professional accountability skills.

The universities have been entrusted with giving specialised skills that can be moved to any subject matter. These abilities are at the focal point of the accomplishment of students along with specialised and logical aptitudes. This situation makes transversal competences, a key region in numerous advanced education Industry 4.0 organisations over the world. They are now and then alluded to as flat or general abilities. The presentation of these competences is one of the progressions presented by the human asset board in numerous working environments to guarantee that an ideal contender for the activity is picked. Beginning and ceaseless cross-sector abilities preparation is fundamental to guarantee associations are proficient.

Likewise, several official documents have been issued in different countries to identify essential competences for engineering graduates, thus it is crucial to point out some of the most relevant ones [2]:

- In the European Community, the generic employability skills are: critical thinking, mastery of one's native language, team spirit, decision making, learning techniques, initiative, professionalism, civic-mindedness and sense of responsibility;

- In the UK, these are the Engineering Occupational Standards: plan and manage engineering products, produce engineering products, maintain engineering products, install engineering products, improve the quality and safety of engineering products, develop engineering competence and develop engineering products;
- In the USA, ABET (Engineers' Council for Professional Development) Engineering Criteria are: ability to communicate effectively, ability to function on multidisciplinary teams, ability to identify, formulate and solve engineering problems and ability to use techniques, skills and modern engineering tools necessary for engineering practice.

Based on the above discussion of competences in engineering training, the students attain two types of skills: acquiring a higher level of proficiency in entrepreneurial skills and transversal competencies that are intangible personal qualities. These skills are required in the work centres to strengthen the activities and results of the companies [3]. The following research questions were formulated for this study:

- (i) What form of research methods and tools can address the enactment of transversal and linguistic competences in L2 training at the university level?
- (ii) Is it possible to evaluate training results?
- (iii) Is it feasible to personalise and account for the interests of students when developing a training course?

Thus, to address these research questions, comprehensive research on literature touching on transversal training was performed. The study applied scholarly articles, and a qualitative review and analysis were carried out to validate the stance on the significance of transversal skills in universities globally [4]. In this study, the notion of non-linguistic higher learning degrees enables deviation of technical to financial areas to extrapolate research findings. In addition, various geographical and political occurrences, as well as activities and social contexts across the globe, impact the issue.

Moreover, other critical elements to consider include the attitudes and expectations of students in the achievement of transversal competences, which should be developed by higher education schools [5]. Often the expectations of learners depend on what specific students desire to accomplish in the universities. Furthermore, it depends on the proposals that determine their training as well as their need to realize strong transversal competences. Moreover, some learners perceive the skills and competences development as a waste of time and immaterial in their areas of specialisation. Thus, the primary aim of the study was to change this perception through current research.

1.1. Universities and Transversal Competences

There has been a noteworthy change in Europe in the course of recent years. Twenty-nine nations signed the 1999 Bologna Declaration in Europe which empowered them to set up a zone for the European Higher Education Area. This was to fortify the coordination of the university and professional training into one body. The Bologna setting has not been restricted to Europe as different provinces have done likewise as the European nations [1]. Without a doubt, there has been a requirement for higher education institutions to figure out how to implement the manner in which they guarantee their students have certain abilities required in the active job market of Industry 4.0.

OECD (Organisation for Economic Co-operation and Development) [6] divided competences into technical (specific or necessary to fulfil a particular job) and core (delivery-related for achieving results, interpersonal for building relationships and strategic for future planning) branches. Additionally, the OECD framework provides key behavioural indicators of five different levels of performance associated with the workplace. It is therefore essential to combine both cognitive and non-cognitive aspects of being able to accomplish a given task or job successfully.

Subsequently, both governments and universities have been giving a valiant effort to provide cooperation between engineering studies and competences needed by organisations. The competence idea has been first established as a skill that plays critical roles in ensuring people can perform their duties at full capacity. An individual should be able to do the task at hand [7]. Three concepts can be

used in determining competence. The behavioural approach is one of these concepts [8]. The method has been used in the United States for a long time because it emphasises professional behaviours. In this perspective, competence is achieved through training and development. This feature deals with the behaviour of observation, assessment and improvement of personal traits such as excellent interpersonal skills that allow a high-quality performance of professionals. The second approach is a generic one that tries to explain the difference in a variety of settings. Finally, the cognitive focus identifies standard abilities that define the variations in behaviour patterns among professionals. Competence is the ability to perform a job according to the expected standard [9]. This definition adds more to the importance of the inclusion of transversal competences in non-language degrees to ensure that graduates can deliver the expected outcomes in the job market.

The concept of transversal competence takes a holistic approach since there is a link between power and performance as long as power refers to the successful fulfilment of challenges and requirements; capability assumes a different brain ability and refers to the use of various skills in deciding the next step. The competences enable focus on the acquisition of capacities and not just the accumulation of knowledge. The acquisition of knowledge was the strategy used for the transmission prevalent in the educational centres [10]. This definition is one of the common ones used for the subject [11]. There are two types of competences from the definitions: general and specific competences. General competences can be applied to all kinds of jobs and are the basis of attaining all other skills while specific competences are only used in the environment in which they are developed.

Therefore, transversal competence is essential in institutions of higher learning for the benefit of the students. Its acquisition is influenced by different variables (e.g., number of students and activities, among others). These variables can accelerate knowledge acquisition in students, therefore their analysis is necessary [12]. General or oblique skills are acquired in the learning process as an educational aspect. The position is essential because it helps all the parties involved to benefit from the knowledge offered by a higher institution. One of the core roles of education is the instilling of transversal or general competence that enables future employees to relate well with each other in the workplace. This allows them to handle their future roles well. The use of different methodologies and multi-disciplinary approach is key in learning transversal competence, improving the educational process [13]. With the objective of a correct interpretation of the term “transversal competence”, we underscore that transversal competence is the ability of the student to communicate, manage, relate, create and recognize [14].

The chosen literature has played a vital role in its proposals on what transversal competences entail from hard (data and administrative skills) to soft skills (behavioural skills). The way people consider the importance of soft skills vary depending on whether a person has a job or not, enabling the inclusion of people in special situations in the labour market [15]. Employers and students that have a job are believed to be interested in giving soft competences priority while those that do not have a job put more emphasis on hard competences [16]. A student should have soft skills if they intend to achieve in their jobs. To generate organisational excellence, the students have to combine both hard and soft skills. There is also an existing gap in the education sector where students have a different expectation from what the employers are willing to accept. Higher learning education cannot fulfil the desired competence that students want sometimes. There is, however, a change in the education and industry system as both sides look for ways to address the challenge.

1.2. The Relevance of Promoting and Teaching Transversal Competences in Higher Learning

The higher education and the way the message is delivered plays a key role in determining the importance of transversal competence and the students’ use in the new challenges of the labour market, which change rapidly [17]. New education strategies show the need to evolve the educational systems as well as the teaching styles in order to increase the level of the students’ skills [18]. Both national and international bodies that accredit institutions integrate with their assessment the competences learned by students in the course of their study in institutions as students and the future as professionals. The institution of higher education should also be accredited to ensure that students get the best from their

teachers. As a result, they will offer the best to the employers [11,19]. The students should play a key role in ensuring the relevant authority accredits their teachers and the institution that they attend. Failure to do the due diligence will lead to loss of time and money.

There are times that government agencies will not be able to regulate all institutions because of financial constraints. However, the support policies are essential in the evolution of institutions of higher learning from concentrating on the result of centres to competence-based teaching [20]. The value of this method is critical to education because it allows one to redefine the goals of education. It also helps in paying particular attention to the needs of the learning process. As a teacher, it is essential that one can introduce adaptive strategies in learning. It is also vital that there is a designed dynamic environment that would encourage interaction and corporation.

The basic user, independent user and proficient user are the three categories of reference that the European Council has identified as levels of language proficiency [21]. These broad categories can further be subdivided into the needs of the local context. It marks a turning point as the Common European Framework of Reference for Languages (CEFR) and CEFR Companion Volume can be adapted for various contexts and applied in multiple languages [22]. Self-learning is critical in the education system because of its freedom in choosing the time to study and which materials to use in the study process [8]. This is fostered among students in institutions of higher education. It creates the desire to add to one's level of knowledge to be able to predict a phenomenon as well as to describe a particular event. Teaching, therefore, has to be grounded on practical more than theory work that approaches the actual profession to give students real work experience. In some instances, actual practice is essential to install competence. Task- or work-based projects, project work, case studies and problem-based projects are some of the examples that can be used to show how the learning process can be achieved when there is a mixture of technical and soft skills [23]. The approach is critical in ensuring students can get real-life experiences. For this process to be successful, students must be actively involved in a self-regulated process. An excellent example is the adoption of the self (teacher or peer) assessment criteria scale chosen for this study as a part of the learning outcome measurement.

2. Material and Methods

Transversal competence deals with the ability of a student to communicate, manage, relate, create and recognise. In order to tackle the issue of its implementation in engineering-degree-specialised content and second language (L2) learning, the following methods and research tools were used in this study (Figure 1).

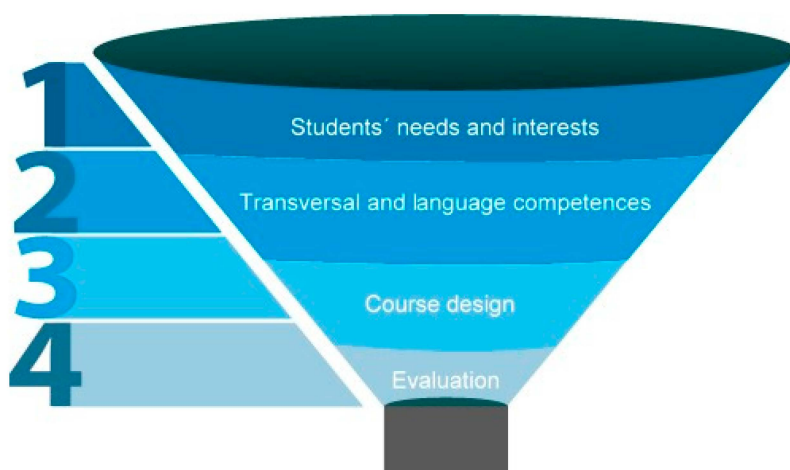


Figure 1. Experimental design structure.

2.1. Student Needs Survey

As demonstrated by the hard and soft transversal competences required in the university and work context, it is necessary to be a qualified specialist and to have a correct command of professional expertise

and ability to effectively communicate it to others. Additionally, for this challenge, university students have to acquire L2 (English language) skills. Thus, non-linguistic education requires a strong focus on communicative and transversal competences embedded in curricular programming and teaching materials of specialised language subjects. The tool selected for detecting students' points of view was a needs analysis that collected learners' background information on English training and special vocabulary preferences. In 2018, 76 engineering students of the Universitat Politècnica de València took part in this survey providing professors with their opinions and suggestions that will be described later in the Results section.

2.2. Teaching and Measuring Transversal and Language Competences

As mentioned before, one of the key priorities of higher education institutions is the type of training that helps achieve transversal competence. Conversely, professors cannot utilise them to handle specific language skills because of the missing linguistic parts and choose to use a B2-level scale. For the current study, the researchers needed to design a particular scale for estimating transversal competence accomplishment inside a specific ESL (English as a Second Language) preparation setting.

For this reason, professors proposed an adjusted scale dependent on the core abilities improvement provided by the Transversal Capabilities Project (Universitat Politècnica de València) and language skills characterized in the refreshed CERF (Common European Framework of Reference) [11]. Toward the finish of every unit, professors would ask their students to self-evaluate their development regarding both competences as indicated by a standard 5-point Likert rating scale.

On the one hand, to address transversal competences, professors apply the Transversal Competences Project developed by the Universitat Politècnica de València and containing the following transversal competences (TCs): TC-01 comprehension and integration, TC-02 application and practical thinking, TC-03 analysis and problem solving, TC-04 innovation, creativity and entrepreneurship, TC-05 design and projects, TC-06 team work and leadership, TC-07 ethical, environmental and professional responsibility, TC-08 effective communication, TC-09 critical thinking, TC-10 contemporary problems knowledge, TC-11 lifelong learning, TC-12 planning and time management and TC-13 specific instrument competence.

On the other hand, language components promoted by the updated Common European Framework of Reference for Language [22] will play an active role in emphasising the B2 level of English through seven language competences (LCs): LC-01 listening, LC-02 speaking, LC-03 reading, LC-04 writing, LC-05 mediation, LC-06 pluricultural and plurilingual competence and LC-07 online training competence.

2.3. Course Design

Professors should recognise that students' motivation is a basic connection in the learning cycle. Because of its customised approach, educators can structure a teaching/learning process planned for accomplishing curricular objectives. In particular, the international language goal centres around level B2 [22,23] and involves the right authority of the four abilities (speaking, listening, reading and writing).

Nevertheless, at the lexical level, the course design needs investigation, the results of which will give us strong support on the topical decision for the course dossier. The dossier takes a quick look at the undergraduates' vision with respect to subjects or topics utilised to strengthen competences. The dossier material will be incorporated from ten units dependent on a specialised technical segment confirmed by students, a wide scope of learning activities. Every unit will advance the application and improvement of transversal competences through a dynamic L2 situation just as it will empower reflection on the information and aptitudes gained.

This educational device is proposed in accordance with the learning cycle based on assignments and interactions aligned with the curricular systems by [24–28]. These directions will permit certain ideas to be taken into consideration at a more prominent level of variation applied to the learning goals and competences.

3. Results and Discussion

3.1. Needs Questionnaire

The research placed students at the core of the learning process based on the Bologna Process priorities. The study focused on both linguistic contextual and technical thematic student preferences. The used sample was a group of students who studied for a Bachelor's Degree in Industrial Engineering. These students were between 20 and 23 years old. The group consisted of 76 students from the academic year of 2017-2018. Therefore, all students developed the study this year and its preview studies were similar. They took part in a needs survey to provide precise data through the Google Drive format survey.

In the needs questionnaire, the researchers explored future engineers' linguistic background, opinions and motivation relating to ten curricular topics. The goal was to understand students' concerns better and update the L2 training design to be applied in upcoming course editions. Due to the student-centred approach placed at the heart of our methodology, the objective of using a survey in this study was to investigate three specific domains: (1) language learning, (2) potential L2 use preferences and (3) recommendations of Spanish engineering undergraduates. Therefore, the questionnaire began with the outlook of the key foreign language background as an indicator of the students' preliminary preparation. Next, we inquired about the perspective use of English for professional purposes, and finally, the recommendations offered by our respondents completed the process.

The results of the study are indicated below:

(1) Language learning. Based on the responses obtained, 81.6 percent of the Engineering Degree began studying English in elementary school. In addition, 42.1 percent of study participants reported having acquired the official certificate of level A2 of English, while 7.9 percent possessed a formal degree of level B1. Moreover, 7.9 percent of the participants had level B2 degrees, and 42.1 percent lacked any form of official certification. When a question regarding their experience of learning English was addressed to participants, the outcomes obtained related to the almost equal spread of courses, with 22.4 percent agreeing to having experience with general English B1. Furthermore, 25 percent admitted to having experience with technical English B1, 28.9 percent with general English B2 and 23.7 percent reported a lack of previous experiences.

(2) Potential L2 use and preferences. The prospective use of English provides clear proof of the study participants acknowledging the significance of L2 to accomplish professional objectives. Of the study participants, 78.9 percent reported the application of English in their future areas of employment as the most probable scenario. At the same time, 13.2 percent of study participants indicated travel and free time as the likely reasons. In addition, 6.6 percent of study participants reported the university educational settings as the main reason, while 1.3 percent stated friends and family. From the survey, 32.9 percent of students desired to work within the field of process management and maintenance. Moreover, 28.9 percent preferred to work in research and development fields, 27.8 percent in project management and consulting, while 10.5 percent preferred to work in technical sales assistance and customer service.

Based on work expectations, 47.4 percent of university students with degrees reported future requirements of specific English vocabulary, 39.5 percent indicated general English vocabulary, 7.9 percent general English grammar, while 5.3 percent indicated specific grammar. The study participants suggested that the most critical linguistic competence required for their professional future was oral expression at L2 at 81.6 percent, 9.2 percent for verbal expression, 5.3 percent for written expression and 3.9 percent for reading comprehension. Therefore, the information collected from the study yielded very substantive findings.

(3) Proposals and recommendations. The needs analysis survey incorporates several open-ended questions, such as:

- (i) What is the best textbook for each study participant? Respondents provided the following answers: Gold First, Communicating Across Cultures, Face-To-Face, English Grammar In Use, Objective First, Cambridge English B2 Level, My Grammar Lab and speaking skills books.

- (ii) What other subjects can be included in the course design? Respondents provided the following answers: cinema and history, art, science, novel technologies, team work, marketing techniques, communication abilities, negotiation and business abilities. The findings obtained assisted in acquiring features of previous L2 understanding students, authenticating likely educational subjects and proposals concerning L2 training experience for students.

3.2. Transversal and Language Competences

As discussed earlier, the study incorporated an adapted evaluation scale that fortifies the process of knowledge acquisition and guarantees competence is established. Moreover, Tables 1 and 2 show the developed rubrics, which propose a user-friendly model of descriptors, competences and Likert scale marking for self-assessment used by educators and students.

Table 1. Transversal competences and proposed descriptors.

Competence	Markers/ Descriptors	Likert Scale (1-5)
TC-01 Comprehension and integration	I can demonstrate the understanding and integration of knowledge both of one’s own specialisation and in other broader contexts.	
TC-02 Application and practical thinking	Apply the theoretical knowledge and establish the process to follow to achieve certain objectives, carry out experiments and analyse and interpret data to draw conclusions.	
TC-03 Analysis and problem solving	Analyse and solve problems effectively, identifying and defining the significant elements that constitute them.	
TC-04 Innovation, creativity and entrepreneurship	Innovate to respond satisfactorily and in an original way to personal, organisational and social needs and demands with an entrepreneurial attitude.	
TC-05 Design and projects	Design, direct and evaluate an idea effectively until it is finalised in a project.	
TC-06 Team work and leadership	Work and lead teams effectively to achieve common goals, contributing to the personal and professional development of them.	
TC-07 Ethical, environmental and professional responsibility	Act with ethical, environmental and professional responsibility before oneself and others.	
TC-08 Effective communication	Communicate effectively, both orally and in writing, appropriately using the necessary resources and adapting to the characteristics of the situation and the audience.	
TC-09 Critical thinking	Develop critical thinking being interested in the foundations on which the ideas, actions and judgments, both one’s own and those of others, are based.	
TC-10 Contemporary problems knowledge	Identify and interpret contemporary problems in their field of specialisation, as well as in other fields of knowledge, paying special attention to aspects related to sustainability.	
TC-11 Lifelong learning	Use learning in a strategic, autonomous and flexible way, throughout life, according to the objective pursued.	
TC-12 Planning and time management	Properly plan the time available and schedule the activities necessary to achieve the objectives, both academic and professional.	
TC-13 Specific instrument competence	Use the techniques, skills and updated tools necessary for the practice of the profession.	

Transversal Competences, 65%

Table 2. Language competences and proposed descriptors.

Competence	Markers/Descriptors	Likert Scale (1-5)
LC-01 Listening, B2	Can understand the main ideas of propositionally and linguistically complex speech. Can follow extended speech and complex lines of argument.	
LC-02 Speaking, B2	Can give clear, systematically developed descriptions and presentations, with appropriate highlighting of significant points and relevant supporting detail. Can give clear, detailed descriptions and presentations on a wide range of subjects. Can communicate detailed information reliably. Can give a clear, detailed description of how to carry out a procedure. Can interact with a degree of fluency and spontaneity.	
LC-03 Reading, B2	Can read with a large degree of independence. Can scan quickly through long and complex texts, locating relevant details. Can quickly identify the content and relevance of news items, articles and reports on a wide range of professional topics, deciding whether closer study is worthwhile.	
LC-04 Writing	Can write clear, detailed texts on a variety of subjects related to his/her field of interest, synthesising and evaluating information and arguments from a number of sources.	
LC-05 Mediation, B2	Can convey detailed information and arguments reliably, e.g. the significant point(s) contained in complex but well-structured, texts within my fields of professional, academic and personal interest. Can encourage participation and pose questions that invite reactions from other group members' perspectives or ask people to expand on their thinking and clarify their opinions.	
LC-06 Pluricultural and plurilingual competence, B2	**Can describe and evaluate the viewpoints and practices of his/her own and other social groups, showing awareness of the implicit values on which judgments and prejudices are frequently based. Can alternate between languages in his/her plurilingual repertoire in order to communicate specialised information and issues on a subject in his field of interest to different interlocutors.	
LC-07 Online training competence, B2	Can participate actively in an online discussion. Can engage in online exchanges between several participants. Can recognise misunderstandings and disagreements that arise in an online interaction and can deal with them.	

Language/linguistic competences, 35%

3.3. Course Design

The course design addressed the primary areas of English grammar and emphasised various factors that students require to improve in reading, listening and writing competences so that they can confidently communicate. The created dossier comprises ten units that are founded on the most recent subject areas to engage students to learn the language based on the requirements of the B2 level, transversal competences and future professional needs (Table 3):

Table 3. Course topics and key contents based on [29].

Unit 1. The world around us	Review on different kinds of energy (100 words). Learner notes, self-assessment
Unit 2. Health technology	Informal email about healthy lifestyle tips (100 words). Learner notes, self-assessment
Unit 3. On a business trip	Travelling as a student/ professional (100 words). Learner notes, self-assessment
Unit 4. Academic issues	Academic CV (100-150 words). Learner notes, self-assessment
Unit 5. Buildings and facilities	Formal e-mail writing, facility description (100-150 words). Learner notes, self-assessment
Unit 6. Workplace	Job interview questions and answers (100-150 words). Learner notes, self-assessment
Unit 7. Communication	Customer service e-mails (150-200 words). Learner notes, self-assessment
Unit 8. Projects, creativity and innovations	Innovation report or description (150-200 words). Learner notes, self-assessment
Unit 9. Business and industry	Career goal statement (150-200 words). Learner notes, self-assessment
Unit 10. Rules and regulations	Special rules and regulations overview (150-200 words). Learner notes, self-assessment

When associating the teaching of L2 communicative skills with the transverse abilities, the pot of origin in the ten educational units was designed to suit the educational requirements of future professionals. Similarly, every unit suggests coherent communicative-linguistic methods of level B2 and links contents to the list of transversal competences selected for the existing project. Through this, the study accounts for the dossier created so that all L2 English professors can have various pre-developed thematic activities tightly-linked with skills development. In addition, the format of the record will enable the inclusion of academic tasks founded on the cross-curricular projects and pursue new ventures of collaboration with educator-professionals in specialised topics.

3.4. Evaluation and Discussion

Competences refer to applying knowledge and skills that make people do their work fruitfully while applying the required capabilities and roles [30]. Competence in education is determined by the way an education system inflicts both social and professional values. This paper evaluates a unit piloting of a textbook and its relation to the promotion of competences by analysing two groups of students.

Before launching the course as a printed and edited proposal, professors piloted it with a group of Scandinavian students first. Given the confidentiality restrictions, the exact name of the higher education institution cannot be mentioned here. Thus, the non-linguistic university students were provided with the unit 3 part of the course “On a business trip”. The main purpose of the experiment was to check whether the tasks designed were useful in terms of communicative and transversal competences. As professors included an innovative topic selection, the academic staff were also interested in the motivational aspects of the piloting. The upcoming part offers a brief overview of the opinions and suggestions collected during the process by one of the study authors.

The Scandinavian country was first piloted with the unit 3 part of the English course “On a business trip”. The country rolled out the English language course and registered some marked progress in communication grammar and language skills. The country has quite a different profile when it comes to English language learning. The study of the country’s education system enabled the professors to identify some marked differences in communication and language skills between the

Scandinavian and Spanish countries. Students in the Scandinavian country had adopted the course B1 course on communication skills and therefore had a much higher level of English [30]. Spanish education system lacks a course in grammar; therefore, choosing the country as a study country enabled the professors to identify the expected outcomes in pursuit of the program's communication skill adoption. It also enabled the professors to identify the traits separating English language incorporation in learning and vice versa. Both the Scandinavian and Spanish countries are in Europe, where the Common European Framework for languages regulates the language level in the entire territory of Europe. However, the Scandinavian students were from an applied sciences university, while the Spanish ones were from a polytechnic university [31].

In the focus group phase of the study (13 Scandinavian students) we had a unique opportunity of using course materials in a different cultural environment. Therefore, the invited lecturer focused the lesson on communicative tasks and grammar-based activities. The students worked in small groups of 3-4 persons each to practise such transversal competences as TC-03 analysis and problem solving, TC-06 team work and leadership, TC-08 effective communication and TC-09 critical thinking. The upcoming part offers a brief overview of the opinions and suggestions collected during the process by one of the study authors.

Communication in grammar always focuses on accuracy; proficiency is more important during the training period. Training in communication is important as it allows trainees to practise the target grammar under real-life conditions to solve both professional and social issues [31]. The training majorly focuses on verbal activities, but the writing process is also essential and reasonable in communication via grammar.

The outcome of adopting the B1-B2 programme on the students' communication skills in Spain is encouraging since it evoked communication competencies (Bostrom, 1984). It is therefore advisable to develop grammar skills for the nourishment of grammar skills among students. Rapid internationalization of adoption of Learning of Communication Skills is healthy in enacting mutual knowledge, diverse communication and boosting communication in workplaces. Furthermore, racial, linguistic and cultural diversity will increase, and as a result, there will be a greater need for cultural tolerance [31]. Consequently, the students also said that success in future employment requires deep knowledge about working with people of different cultures because the future requires qualification and future activities vary.

In conclusion, the discussions showed that internationalization should be part of the business of the future. It requires the ability and willingness to think and act globally. In addition to this knowledge, transversal competencies, skills of different market regions and their knowledge of international trade, culture and languages are required. It is also suitable for prospective staff to be comfortable and easily trained for multi-structured, new jobs. According to the research they made, it is easily visible that the demand for these specifications has increased remarkably as an outcome of current corporate scandals. For the preparation of students for the future, education requires developing problem-solving skills and creativity in a work-life scenario based on real-life opportunities. At work, problems are often controversial without an adequate resolution and require skills and know-how from many areas, proper grammar not excluded.

The picture that emerges from the study above is one of new university teaching and learning practices being reshaped as competent background implies the constant nexus to contemporary workplace demands. Higher education institutions attach great importance to the outreach activities of transversal competences and insist on knowledge acceleration by using the type of training as shown by [10,32,33].

Nevertheless, this progress is not fully related to the integration of content and foreign language teaching where many researchers support English-medium policies [34], content-based L2 teaching for developing thinking skills [35] or multilingual/plurilingual university strategies [36]. Additionally, the study performed by [37] stands apart in this list whilst it reaffirms the role of content language

integrated learning as a driver for improved graduate employability; the position is close to our views in this respect.

4. Conclusions

The study on the significance of transversal and language competences in universities shows the type of capacities that institutions of higher learning need to pursue. Regarding limitation, the research focuses on critical evaluation of the appropriateness of transverse abilities in non-language degrees to promote the employability status of students and the provision of the desired outcomes. The study hopes that individuals who will use the research will be able to acquire an insight into the significance of English subjects both within and outside classroom environments.

The outcomes of this research demonstrate that it placed significance on the establishment of a dependable method of study. In addition, several tools of research for tackling thematic interests for technical students and linking the students to their curricular objectives were addressed. This assists in adopting innovative competence-based initiatives. Therefore, student participants were able to answer the research questions (RQs) in the following format:

RQ (i) The combined method that made it possible to ensure the cohesion of the study based on quantitative and qualitative techniques was showcased by the survey requirements, course design, evaluation scale and piloting.

RQ (ii) Adapted skill scales combining transversal and language competences can be employed to evaluate learning outcomes.

RQ (iii) The needs of students were identified by the needs analysis, which forms part of the core elements of motivation towards capacity training. Piloting findings showed promising results, although slight adjustments had to be carried out.

The primary finding of the study is a course design proposal that makes it possible to integrate the needed factors to complete the learning process via the pursuit of transversal capacities. The most outstanding practical influence of this research is that the suggested design enables for a structural and coherent establishment of transversal and language competences and their measurements via a rubric. Therefore, the study assists students in acquiring a vigorous vision of their learning activities. Specifically, transversal capacities implementation is often presented in the framework of a subject, yet there are no precise academic resources that gradually embody the competences and systematically via cross-curricular skills. This study cannot be extended in this course due to the pandemic situation (COVID-19), but the researches will try to increase the number of students next year.

Although L2 transversal learning can be problematic, it can also be exciting if it is positively carried out. English language transversal learning incorporates the engagement of various individuals such as educators, graduates and employers to ensure the learners can prosper in their academic ventures.

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