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WHEN QUANTITY FOSTERS QUALITY: B-LEARNING AS A WAY TO ACHIEVE THE HIGHER EDUCATION PURPOSE

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Abstract

It is fundamental to create conditions in Higher Education (HE) to support all students in promoting autonomy and the power to act concerning their employability, as job transitions are becoming more frequent, impacting individual trajectories. As an answer to this context, the aim was to create a training programme that proved relevant and accessible to a large number of participants. Likewise, there was a focus on promoting a secure and challenging context to apply the programme's contents and the development of tools that would be useful both during and after its conclusion. A Curricular Unit (CU) was designed in a B-learning format targeting HE students. This CU combines a remote (asynchronous and synchronous) and presential format. The components are organized in steps, which allow students to reflect on their past, their future, and the labour market, and to have an autonomous role in the construction of their learning by selecting the activities they consider most relevant. A monitoring and impact evaluation model for this CU was also constructed. The development process of this CU started with the auscultation of students and companies, combined with a bibliographic review regarding employability. This led to the first design of the CU, which was applied to a pilot edition composed of 32 Bachelor and Master Engineering students, between February and July of 2021. Since then, this CU has been implemented for four semesters, involving over 1200 students. The results of the monitorization and impact evaluation showed that on a scale of 1 to 5, the students attributed an average of between 4.1 and 4.7 to the relevance of the CU's contents and tools. Regarding the future utility of these materials, the students attributed an average classification of between 4.1 and 4.7. The applicability of the CU's resources was also verified through an increase between 15.2% and 20.9% in the actions taken by the students regarding their employability in pre and post-test results. These results remained stable independently of the number of enrolled students. This study appears to show that the auscultation of relevant agents combined with a bibliographic review promotes high content relevance and future utility. Simultaneously, creating a safe context for experimentation during the CU facilitated the students' implementation of a set of actions. Lastly, this study demonstrates that it is possible to involve up to 500 students per semester in a CU without compromising the quality of their learning or their singularity.

Keywords: *B-learning, higher education, lifelong employability, training*.

1. Introduction

Faced with the challenge of an increase in professional transitions (Hareven & Masaoka, 1988; Bridgstock, 2009; Savickas, 2021), exacerbated by ongoing global transformations such as technological and demographic changes (Volkoff, 2011; Savickas, 2021), that impact each person's work and individual paths, there is an urgent need to support people to expand their choices, provide autonomy to manage change and promote the expansion of their power to act (Clot, 2008). The aforementioned changes imply a paradigm shift in vocational development, with the most recent paradigms (Nota & Rossier, 2015; Savickas, 2021) advocating for a lifelong approach, from childhood to retirement age, highlighting the importance of flexibility in career decision-making (Callanan, 2017), derived from the conceptualisation of careers as multidirectional paths, as an alternative to the previous linear paths (Baruch, 2004). In this context, it is essential to establish an effective lifelong learning ecosystem, which is a shared responsibility that requires the active involvement and support of governments, employers and workers, as well as education and training institutions (International Labour Organization, 2019).

Higher Education (HE) students are typically associated with a heightened experience of labour market integration and, as such, increasing attention has been paid to the role of Higher Education Institutions in promoting the students' employability (Bridgstock, 2009; Clarke, 2018). For this reason, it

is crucial to create conditions in HE that support all students in developing employability and career management skills, by promoting a higher level of self-exploration and other proactive career behaviours (Okay-Somerville and Scholarios 2015), integrating these themes into HE curricula (Bridgstock, 2009).

Despite the existence of several programmes aimed at addressing these challenges, empirical research has focused less on those in established adulthood than those in adolescence or early adulthood (Whiston, et al., 2017; Jiang, et al., 2019). The existing literature, says little about how interventions can be disseminated to an increasing number of adults, and according to Guichard (2016), the implementation of group-based interventions at the vocational and professional level deserves further development in terms of how to combine the advantages of this format with the difficulties that can arise in establishing a relationship of trust. At the same time, it is recognised that, considering that everyone can expect to make numerous transitions throughout their lives, it would be important for everyone to be able to learn a systematic method of making decisions in the face of the reconstruction of their career path (Whiston et al., 2017) in an autonomous way.

In this context, the demand to meet the growing needs of students and changes in the field have been challenging HE, which is largely based on an individual guidance model, to develop new models (Young, 2016), that are capable of involving a large number of students (Torii, 2018), expanding access to topics that they consider relevant to their future (Bridgstock, 2009), allowing them to consolidate their own developmental story (Vygotski, 1997), providing tools that they find useful and offering a challenging and safe context in which to apply them (Dacre Pool & Sewell, 2007). To meet this challenge, it is considered essential to use new researched learning models (European Council, 2017) and to ensure that the programme is co-constructed with the effective involvement of various agents, such as students, teachers, companies, and employability services, among others. At the same time, recognizing that scalability must be considered from the outset and at each stage (Gottfredson et al., 2015), the construction and implementation of a monitoring and impact assessment model is considered very important.

Based on the above, our aim was to create a Curricular Unit that proved relevant and accessible to a large number of participants, without compromising the quality of their learning or their singularity, focusing on promoting a safe and challenging context for applying the programme's contents and the development of tools that would be useful both during and after its conclusion. By demonstrating it is possible, we will contribute to creating conditions in HE that support all students in promoting their power to act (Clot, 2008) in relation to their employability, as career transitions become more frequent.

2. Method

A blended learning based Curricular Unit (CU) was created to support the development of the knowledge and skills of Bachelor's and Master's students in order to foster their lifelong employability. The integration of this CU into the students' HE curriculum sought to enable students to work on their employability skills alongside their technical skills.

The development of this CU was composed of several elements, beginning with bibliographical research focused on employability related topics. Afterwards, an auscultation took place, involving 189 companies that were relevant and recurrent employers of Engineering students, and 219 Bachelor and Master's students in Engineering. This data collection process required the use of a survey and interviews for each group of participants. This auscultation sought to gather the companies' views on what they valued most in newly graduated students regarding their previous experience and skills, as well as candidate selection tools. Likewise, the auscultation aimed to gather students' perceptions of their preparation for employability and their knowledge of relevant recruitment and selection tools.

Following the analysis of the collected data and of the information obtained through bibliographic research, the CU's three-stage learning roadmap was developed. The first two stages are mandatory while the third is flexible by allowing each student to play an autonomous role in the construction of their learning, by selecting the activities they consider most relevant. The learning roadmap consists of a combination of presential and online lessons, as well as synchronous and asynchronous activities.

The first stage was designed to encourage students to reflect on their past experiences, their skills, their future goals and the actions they need to take to achieve them. Therefore, this stage consists of a presential workshop with the purpose of exploring current world trends that impact career paths, along with the individual completion of three work tools with the aid of micro-learnings in video format, to incentivise the students' reflection on their past, present and future.

"Employability toolkit", the second stage of the CU, consists of five modules based on content regarding different employability-related topics, namely: how to analyse the labour market; how to prepare a CV; how to write a cover letter; how to manage a digital footprint and network; and how to prepare for an interview. Throughout this stage, students have to complete several exercises and explore a series of resources related to each topic.

The third and final stage of the learning roadmap was designed to promote the students' participation in various initiatives, such as visits to real work contexts, events focused on professional paths and employability skills offered by the University, Student Associations, the City Council or companies, as well as listening to a podcast developed for this programme, based on short conversations with Alumni about their professional paths. Apart from pre-defined activities, in this stage, students can suggest additional initiatives that are subject to curation by the teaching team, encouraging their singularity and individual interests. These activities are then available for all the students.

Following the development of the CU's learning roadmap and contents, a monitoring and impact evaluation architecture was created. The monitoring portion consisted in applying a questionnaire after the completion of each stage of the learning roadmap. The impact evaluation process involved pre and post-test data collection based on the application of a questionnaire specifically developed for this purpose. The decision to develop this questionnaire was deliberate, due to the difficulty in identifying an adequate scale for this analysis, therefore confirming the differentiated scope of this study. The data collection for the impact evaluation took place each semester before the students entered the CU and after they completed it. Thereafter, an official description of the CU was created and approved by the HEI's Ethics Committee, allowing for the implementation of a pilot edition of the CU. This edition took place between February and July of 2021, involving 32 Bachelor and Master's students in Engineering.

Subsequently, the data collected through the auscultation of companies and students along with the results of the pilot edition were shared with the respective participants, through an infographic and a webinar. The data collected before, during and after the pilot edition showed positive results, which allowed for the implementation of this CU on a larger scale, specifically up to 500 hundred students per semester. Thus, between September of 2021 and July of 2023, more than 1200 students of various fields of Engineering and various years of study have participated in this CU, over the course of four editions, each lasting one semester.

The monitoring took place throughout the four editions, using a questionnaire for each stage of the learning roadmap, consisting of ten questions. Given the scope of this study, we focused on the first and second stages, since the third stage is dedicated to students' autonomous participation in various activities, which we chose to analyse through the impact evaluation. On average, in each edition of the CU, 148 responses were collected after the first stage and 104 after the second stage. For this study, we focused on two specific questions related to the relevance and future utility that students attributed to the content and tools of the first and second stages. As shown in Table 1, the question of relevance was assessed using a five-point Likert scale, where one meant "not relevant" and five meant "extremely relevant". The question of future utility was assessed using a five-point Likert scale, where one meant "not useful" and five meant "extremely useful".

In terms of the impact evaluation, 173 complete responses (pre and post-test responses from the same student) were obtained over the course of three editions. Regarding the impact evaluation questionnaire, we focused specifically on a question about the actions the students completed regarding their employability, composed of a total of fifteen items (e.g., "I created a Curriculum Vitae"; "I went to a job fair or took part in some other employability event"). These items were assessed with the use of "yes" or "no" answers.

3. Results

As shown on Table 1, the analysis of the monitoring results regarding the relevance students attributed to the CU's contents and tools, revealed that, over the course of four editions, students considered the CU's contents and tools to be very relevant, attributing them an average classification of between 4.1 and 4.7. Regarding the future utility of the CU's contents and tools, the students attributed an average classification of between 4.1 and 4.7, revealing a significant recognition of the future utility of these resources.

As presented on Table 2, pre and post-test results obtained through the impact evaluation allowed for the verification of the applicability of the CU's resources, by showing an average increase of between 15.2% and 20.9% in the employability-related actions undertaken by the students, before and after their participation in the CU.

Regarding the possibility students had to suggest additional initiatives that were subject to curation by the teaching team, during the third stage of the learning roadmap, up to sixty initiatives were validated each semester.

Table 1. Results from the applied monitoring questionnaires: relevance and utility of the CU's contents and tools.

	Edition No.1		Edition No.2		Edition No.3		Edition No.4	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
How do you rate the relevance of…								
1st stage: "Be Aware" Workshop	4.41	0.68	4.32	0.68	4.32	0.73	4.29	0.75
1st stage: "Be Prepared" tool	4.42	0.69	4.53	0.63	4.25	0.78	4.24	0.79
1st stage: "Be Yourself" tool	4.52	0.61	4.4	0.64	4.36	0.71	4.3	0.78
1st stage: "Be Wise" tool	4.64	0.58	4.46	0.67	4.53	0.64	4.43	0.77
2nd stage: "Labour Market"	4.27	0.75	4.46	0.61	4.35	0.75	4.27	0.78
2nd stage: "CV"	4.59	0.64	4.69	0.54	4.64	0.68	4.53	0.72
2nd stage: "Cover Letter"	4.30	0.81	4.37	0.68	4.37	0.80	4.29	0.95
2nd stage: "Digital Footprint"	4.30	0.78	4.13	0.78	4.33	0.81	4.13	0.94
2nd stage: "Selection Interview"	4.61	0.67	4.63	0.56	4.55	0.68	4.55	0.70
To what extent do you think the contents/tools shared with you in this stage will be useful to you in the future?								
1st stage	4.33	0.7	4.18	0.8	4.19	0.81	4.12	0.86
2nd stage	4.67	0.6	4.59	0.57	4.48	0.73	4.49	0.69

Table 2. Results from the applied impact evaluation questionnaire: pre-test and post-test.

	Edition No.1			Edition No.2			Edition No.3		
	% Pre-test	% Post-test	% Increase	% Pre-test	% Post-test	% Increase	% Pre-test	% Post-test	% Increase
Actions completed by the students	41.6	62.5	20.9	46.9	66.9	20.0	49.3	64.5	15.2

4. Discussion

This study highlighted the importance of creating appropriate conditions in HE to make the development of lifelong employability skills accessible to a large number of students, promoting their autonomy and expanding their power to act (Clot, 2008) regarding the challenge of an increase in professional transitions (Hareven & Masaoka, 1988; Bridgstock, 2009; Savickas, 2021).

At the end of the various steps that make up the learning roadmap of the CU, the students recognised the relevance and future utility of the shared content and tools, highlighting the importance of establishing an effective involvement of different agents since the design stage, allowing for the development of resources that are truly relevant and useful to students both during and after their participation in the CU. Additionally, after each edition of the CU, the number of employability-related actions taken by the students, partly during the third stage of the learning roadmap, had increased significantly, proving that a safe context for experimentation and application of the acquired knowledge is an important element of the learning process regarding employability-related topics.

As a final contribution of this study, the consistency of the results obtained over four different editions of the CU proved its scalability, demonstrating that it is possible to use a B-learning format, where students are given the flexibility to set their own learning pace and choose and suggest the activities they consider most relevant to their singular paths. This approach allows simultaneous access to a CU for up to 500 students while guaranteeing the quality of their learning.

Nevertheless, the use of longitudinal cohort tracking may be useful to investigate the true impact benefits of this CU on the development of graduate attributes relevant to employability and short-term graduate employment outcomes.

5. Conclusions

In conclusion, combining the active involvement of various agents, the equilibrium between access to theory and space for practical experimentation, as well as new learning models, it is possible to ensure the simultaneous participation of a high number of students in a CU, while fostering the quality of their learning and the respect for their idiocrasies. Therefore, there is no doubt that Higher Education Institutions have an important role to play in creating the necessary conditions for the implementation of new learning models, which democratise access to the development of relevant skills, achieving the Higher Education purpose.

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