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The importance of soft skills for employability and the role of Higher Education: undergraduates' perceptions

L'importanza delle soft skill per l'employability e il ruolo dell'Istruzione Superiore: percezioni di studenti/esse

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Abstract
Promoting students' employability requires not only guaranteeing the expected knowledge but also a set of soft skills that allows them to perform their professions well but also taking in account the flexi-bility and changes of organizational contexts. Higher education institutions (HEIs) should satisfy stu-dents' need for knowledge and soft skill development. Therefore, the aim of this empirical research is to investigate undergraduates' perceptions with respect to some soft skills prioritised in the current la-bour market context, the skills they believe they have, and the role of HEIs in providing activities to support their employability development. This study, as part of wider research, was carried out at uni-versity of Padova. The survey developed in English/Italian language involved 2,834 students belonging to three different areas of knowledge: Education, Engineering, and Agriculture and Veterinary Medi-cine. Findings show that students seem to have an awareness of the unbalanced development of their own soft skills compared those demanded by the labour. They recognize the relevance of the liaison between what they learn at university and the real world for their employability and soft skill develop-ment, outlining the responsibility of universities in supporting graduates' employability.

Keywords: Employability, Soft Skills, Labor Market, Undergraduates' Perception, Higher Education.

Riassunto
Promuovere l'employability degli studenti richiede non solo di garantire le conoscenze attese, ma anche un set di competenze trasversali che consentano loro di svolgere bene le loro professioni, tenendo an-che conto della flessibilità e dei cambiamenti dei contesti organizzativi. Gli istituti di istruzione superio-re (HEI) dovrebbero soddisfare il bisogno di conoscenze e di sviluppo delle competenze trasversali di studenti/esse. Pertanto, l'obiettivo di questa ricerca è quello di indagare le percezioni di studenti/esse universitari/e rispetto alla priorità di alcune competenze trasversali per l'attuale mercato del lavoro, alle competenze che ritengono di possedere e al ruolo dell'istruzione superiore nel fornire attività per lo svi-luppo della loro employability.
Questo studio, come parte di una ricerca più ampia, è stato condotto presso l'Università di Padova. L'indagine sviluppata in lingua inglese/italiana ha coinvolto 2.834 studenti appartenenti a tre diverse aree di conoscenza: Pedagogia, Ingegneria, Agraria e Medicina Veterinaria. I risultati mostrano che gli studenti sembrano avere la consapevolezza di uno sviluppo sbilanciato delle proprie competenze tra-sversali rispetto a quelle richieste dal lavoro. Riconoscono l'importanza del collegamento tra ciò che apprendono all'università e il mondo reale per lo sviluppo della loro employability e delle loro soft skill, delineando così la responsabilità delle università nel sostenere l'employability di studenti/esse.

Parole chiave: Employability, Soft Skill, Mercato Del Lavoro, Percezioni Di Studenti Universitari, Istruzione Superiore.

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1. Introduction

In the post-industrial world, the high level of competitiveness and the changes in professions require much more than technical knowledge, long considered as the only responsibility of HEIs. Considering the current complexity of changes that involve labour market contexts, students need to gain a set of soft skills that help them to experiment with both a soft university-work transition and a good preparation to face the challenges of the real labour market. Therefore, guaranteeing students positive experiences in their relationship with the world of work means not only providing updated technical knowledge about their domain of work, but also transferable skills which allow them to navigate boundaryless careers, showing readiness and resilience to face changes and work complexity (Akkermans, Akkermans, & Kubash, 2017; Froehlich, Beausaert, Segers, & Gerken, 2014; Tino, 2018a, b).

Besides the importance to promoting students' hard and soft skills it is also fundamental for enhancing students' awareness of labor market opportunities. It allows them to identify their level of self-confidence about their skills, their ability to compete for job positions, and their career control (Qenani, MacDougall, & Sexton, 2014; Tino, 2020; Tino & Fedeli, 2022; Tomlinson, 2012). It is a process that foresees students' engagement in their career development (Haenggli & Hirschi, 2020) and their attitude to gather labor market chances. In fact, knowing labour market demands helps them to develop personal and professional action plans and career planning aimed at building the distinctiveness and uniqueness of their own competitive job profile.

Promoting students' employability foresees supporting them in the reflection of the connection among their learning paths, labour market demands and their skills. The awareness of this triad relationship enhances their professional guidance and their decision-making process in terms of career planning and career development. Understanding undergraduates' perceptions of labour market soft skills demands and the role of universities in promoting their employability is one of the themes that deserves continuous empirical analysis. The centrality of this theme is due to its effect both on students' self-perceived employability and career control and planning, and the responsibility and initiatives of universities for promoting their employability development. However, it is important to consider that young adult unemployment is found to be connected to different factors. First, globalization and technological development have generated relevant socio-economic changes. They have affected the nature of work and professions, making a permanent job a rare professional condition, and giving rise to people's uncertain and boundaryless career (Lo Presti & Pluviano, 2016). Second, many past professions no longer exist and require new professionals with skills and competences different from those certainly required by the occupations of the past (Brunello & Wruuck, 2021). This creates continuous professional instability and uncertainty which has a significant impact, not only on people's career development, but also on their well-being (Gevaert, De Moortel, Wilkens & Vanroelen, 2018). Third, there is a misalignment between skills that young people have, and skills required by the labour market due to the lack of dialogue and collaboration between Higher Education Institutions (HEIs) and work organizations. It would be useful to promote mutual understanding of reciprocal needs, to support students' university-work transition, and to identify and realize career opportunities (Monteiro, Taveira, & Almeida, 2019; Rae, 2007). Fourth, the phenomenon of over-education highlighted consequently for young people to secure a job position where they are underpaid, and their skills and competences are also undervalued (Duncan & Hoffmann, 1981; Bol, Ciocca Eller, van de Werfhorst & Di Prete, 2019; Mateos-Romero and del Mar Salinas-Jiménez 2017). It is related to "the misalignment between the attained years of education of individuals and required years of education by their occupation" (Bahl & Sharma, 2021, p. 252). The issues mentioned are strictly connected to the necessity to create an effective partnership between HEIs and the world of work (Tino, 2018a; Tino, 2020) to create learning experiences and curriculum that can be much more aligned with students' personal and professional needs, social and economic demands.

2. HEIs role in promoting undergraduates' employability development

The term of employability has been the focus of the debate for a long time. Among the others, Hillage and Pollard (1998) defined employability as "[...] about having the capability to gain initial employment,

maintain employment and obtain new employment if required" (p. 1). Yorke (2004) summarized employability as "a set of achievements – skills, understandings and personal attributes – which makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" (p. 410). Sanders and De Grip (2004), define it as "the capacity and the willingness to be and to remain attractive in the labour market, by anticipating changes in tasks and work environment and reacting to these changes in a proactive way" (p. 76). Fugate, Kinicki, & Ashforth (2004) consider it " a form of work specific active adaptability that enables workers to identify and realize job opportunities" (p.16). All these characteristics explain an unpredictable labour market, where employability needs to have a multidimensional nature explained as a 'chameleon concept' (Krouwel, van Luijn, & Zweekhorst, 2020, p.117). More precisely, this feature corresponds to the employability as "the possibility of accessing a suitable job or to remain employed in a social, economic, cultural, and technological context" (Guilbert, Bernaud, Gouvernet, & Rossier, 2016, p. 79). In fact, the multifaceted concept of employability foresees well prepared individuals who are ready to interact with different contexts, and to play effectively hard and soft skills, and multiple attitudes as well.

Implementing actions for supporting undergraduates' employability does not correspond to just some focused hour long lessons or some isolated seminars and events, rather the employability needs to be considered the result of a slow process that requires being developed by teaching approaches which abandon the traditional instructional methods and design; by the construction of complex settings of learning, and systems that offer students the opportunity to develop evidence-based skills and knowledge useful for supporting their employability development. This aspect is aligned with the idea that a lot of learning is 'embedded in the day-to-day' (Coleman & Keep, 2001, p.16), because we learn while completing authentic tasks within a system of activity (Engeström & Kerosuo, 2007; Tino & Fedeli, 2015) collaborating with others in a community of practice (Fabbri, 2007; Wenger, 1998), where the social interaction and the sharing process stimulate new ways of thinking, doing, and learning together with the creation of new rules, artifacts, and problem solving activities and strategies. Promoting learning within these systems means that universities encourage not only students' employability motivation and self-efficacy, but they also contribute to developing valued social practices with an impact at individual and collective levels. These goals are also part of the third mission of HEIs, called generating effective impact and social engagement (Boffo, & Moscati, 2015; Susa, 2017). The primary aim of higher education teaching activities obviously extends beyond ensuring that graduates are employable. However, contributing to graduates' employability means producing positive social and economic effects. Sustaining graduates' professional readiness means contributing to developing not only skills useful for work and for life, but also their professional identity and their active citizenship.

Building employability as a process with an impact on personal and professional individuals' development implies that HEIs must rethink their curriculum and develop a new culture of teaching, that can motivate teachers to use approaches to teach their subjects which are well aligned with learning, assessment and curricular intentions of the complex learning environment programme. This level of alignment, in addition to the components of teaching process and students' exposure to authenticity of tasks and systems, have the potential to develop a new culture of learning among students that allows them to be aware of 'what, how and why they are learning' for their employability (Knight & Yorke, 2003, p.14). Therefore, universities should embed in the curriculum the development of employability, considering, among the other activities, the implementation of work-based/related experiences that are recognized as the best strategies for the development of many employability skills and personal attributes (Tymon, 2013). They foresee building university-business dialogue to give students experiences of the working world, such as visits, internships and joined-programs that stimulate students' reflection on the importance of skills in their career and to motivate them in the active management of their career and the development of the necessary skills (Cimatti, 2016). These experiences give students the opportunity to create a connection between theory and practices, and to test their knowledge and skills as well (Tino & Fedeli, 2022). Authentic learning environments provide students with authentic tasks, contexts and access to expert performances and modelling of processes and professions, multiple roles and perspectives, and a social construction of knowledge (Herrington, Reeves, & Oliver, 2010). However, creating authentic learning experiences means also creating a learning environment where teachers act as coaches or models. They can provide resources, authentic problem-solving activities, offer reminders and tips, provide effective and

different kinds of feedback (Ornellas, Falkner, & Stålbrandt, 2019), with an impact on their professional guidance. They can support students in the definition of a personal development plan (PDP) which, through a reflection and a self-assessment process, students are motivated to identify the strengths and weaknesses of their skills, to establish learning goals, actions, time and activities that need to be respected in order to achieve personal and professional results (Beausaert, Segers, Fouarge, & Gijselaers, 2013; Bintani, 2020).

3. Soft skill development

Reflecting on the versatility of the concept of employability, the same skills that should make people 'employable' have different definitions in literature (Tino, 2018b). In fact, they are often defined as 'soft skills' or 'generic skills' (Bautista, 2016), 'transversal', 'interpersonal', 'essential skills', 'core skills', 'key competencies', 'employability skills', or 'transferable skills' (Caballero, Walker, Fuller Tyszkiewicz, 2011), or 'emotional quotient (EQ) skills' (Sigmar, Hynes, & Cooper, 2010). They also are termed as 'normative capabilities' (Lowther, McMillan, Venter, 2009), because they describe how individuals apply hard skills. The World Economic Forum (2016) names them as 'life skills' because they are considered as 'abilities for adaptive and positive behaviour', which enable individuals to deal effectively with the demands and challenges of everyday life (p.1). Chiosso, Poggi, & Vittadini state that "transversal qualities, [are] personality dispositions called character skills, such as open-mindedness, the ability to collaborate, confidence". Robles (2012) describes these skills as 'character traits, attitudes, and behaviors, [...] the intangible, nontechnical, personality specific skills that determine one's strengths as a leader, facilitator, mediator, and negotiator' (p.457). Yorke and Knight (2004) define soft skills 'a mix of understandings, attributes, and practices'. This is a dynamic combination of cognitive and meta-cognitive skills, along with interpersonal and intellectual abilities to positively support individuals in adapting and responding effectively to the challenges of their professional and daily life. Definitively, whether the definitions refer to the skills that allow people to express quality performances in different work contexts, or whether they named them as skills that are applicable and necessary in every life context, supporting every individual to face different challenges, these are skills that highlight the quality of doing and being in relation with different situation and contexts (Tino & Grion, 2018a, b; Tino & Grion, 2019). Therefore, as part of a broad set of competencies that are sought after by employers, alongside appropriate technical knowledge necessary to be employable, they can determine the success or failure of graduate employability. Graduates equipped with the required competencies have a competitive advantage in employability, particularly in today's oversaturated labour market. Those who demonstrate strong soft skills, in addition to traditional technical skills, gain a significant edge over those who do not (Jayasingam, Fujiwara, & Thurasamy 2016). In these terms, soft skills are considered intrinsic components of employability skills (Williams, 2015) and represent important predictors of employment outcomes (Finch, Hamilton, Baldwin, & Zehner, 2013). Soft skills do not maintain the same character, rather they evolve with time, feeling the effects of social, economic, technological and labour market requirements, assuming the function of survival skills in the knowledge-based society (Soulé & Warrick, 2015). The influence of changes on soft skill character implies that they are meant for lifelong learning (Succi & Canovi, 2019) and their development involves all life stages, requiring individuals' engagement beyond academic years. Therefore, the dynamic employability scenarios highlight the responsibility of both universities and individuals: (i) universities are called upon to embed a set of skills in the curriculum useful for social relationship in life and workplaces, preparing individuals to be flexible, adaptive and team-workers, to develop sustainable lifestyle and cultural awareness. They have the responsibility to close the skill gap between supply and demand that shows that HEIs are training graduates who do not fit with labour market requirements (Tomlinson, 2012); (ii) individuals must make the effort to maintain the lifelong learning attitude that will allow them to be always in relation with the real contexts that constantly require up-skilled competencies. This allows them to manage the roadmap of their career development.

In keeping with this line of reasoning, soft skills cannot be learned through traditional teaching approaches (Tino, 2018b;Tino, 2020; Tino & Grion, 2019), but they need to be both a critical part of instructional process and embedded into course content (Holmes, 2014), and to be learned and tested by

students within authentic learning experiences that reflect the way the knowledge will be used in real life (Rule, 2006). This conceptualization suggests guaranteeing 'the quality of learning experience aimed to allow students to discover and practice their skills' (du Mérac & De Santis, 2020, p.154), designing real-life tasks and creating environments which reflect the way by which the knowledge will be used in real-world contexts.

4. Materials and Methods

This research was carried out between March and May 2021, in parallel with another research program on undergraduates' perceptions on career planning and labour market contexts (Tino & Fedeli, 2022). Engaging the same sample of students and the same context involved in the previous study, data collection was carried out to explore students' perceptions according to the following research questions:

– What are the most important soft skills for the current labour market context, according to students' point of view?
– What are the soft skills that students think to have already developed?
– What activities should universities implement to support students' employability development?

To respond to the research questions, a survey in Italian and English languages was created. The survey devoted a specific section of items to answer the above research questions. It provided students with a list of skills and a list of activities that universities should implement to enhance their employability development. They were asked to indicate the skills useful for the world of work; those that they believe to have already developed, and the activities that universities should provide to promote their employability.

The soft skills section was created taking in account most of the skills in demand for the year 2025 and defined by the World Economic Forum (2020). They are reported in tables 2 and 3 and show the dynamic changes in the employment sector and the labour markets which demand individuals possess a complex set of skills. They involve different spheres which are strongly connected to each other: cognitive (analytical thinking and innovation; complex problem solving; critical thinking; reasoning and ideation); sociality, which involve the aspects that determine the quality of the relationships and work groups (persuasion and negotiation; emotional intelligence; leadership); proactivity, which is useful for finding out new, natural ways to face challenges and issues, but also to make use of new way of learning (creativity, originality and initiative; active learning and learning strategies); technological ability, considered not just as the technical use of devices, but as a responsible use of technology and as the ability to create through technology (use of technology; technology design and programming).

The activities reported in table 4 were identified according to the conceptualization of the authentic learning experience as presented in the literature paragraphs. Specifically, they can be identified in the relevance of the authentic practice for learning (the theory-practice combination; work-based experiences; experiences for testing transversal skills and the awareness of their skills); effectiveness of learning environments (the development of students' self-efficacy; supporting students' transversal skill development); guidance (students' exposure to roles and career models; service support for students' career; the development of students' skills for an active job search; students' personal and professional development planning): university-business partnership, which is in the background of all the items of his section (the dialogue with the world of work by informing the study programs).

The survey was administered to a sample of 11,000 students belonging to the university of Padova, and to three different fields of knowledge: Engineering, Agriculture and Veterinary Medicine, and Education. Considering that at the end of their learning path students can be more aware of their career interests, and of the challenges of university-work transition than the other students, for this research they were selected from the third-year student cohort of bachelor's courses, the two years of master's courses, and the last three years of the only cycle courses. Among the involved students only 2,834 completed the survey (Table 1): 2,744 were completed in the Italian language and 90 in the English language.

		Field of Study							
		Education		Engineering		Agricultural/Vet.		Total	
Variable	Sub-groups	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Gender	Male	25	9.4	1570	73.7	207	43.3	1802	63.4
	Female	242	90.6	559	26.3	231	52.7	1032	36.6
Residency	Domestic	267	100	2064	96.9	376	85.8	2707	95.5
	International	/	/	65	3.1	62	14.2	127	4.5
Stage of Study	Third year (bachelor's)	76	28.5	930	43.7	149	34.0	1157	40.8
	Third year (only cycle)	/	/	14	0.7	2	0.5	16	0.5
	Fourth year (master's)	93	34.8	497	23.3	90	20.5	679	24
	Fifth year (master's)	98	36.7	634	29.8	148	33.8	880	31
	Fourth year (only cycle)	/	/	10	0.5	12	2.7	24	0.8
	Fifth year (only cycle)	/	/	44	2.1	37	8.4	81	2.9

Table 1. Students' characteristics

The survey, comprised of the items addressed aimed at investigating undergraduates' perceptions on career planning, proactivity, self-employability, and labour market, the results of which are reported in a previous study (Tino & Fedeli, 2022), included a specific session focused on three dimensions; they are the focus of this paper: (i) the soft skills considered important for the labour market, according to students' point of view; (ii) the soft skills that students think they have already developed; (iii) the activities that universities should implement to support their employability development.

For the first dimension students were asked to make a ranking list on the basis of twelve soft skills provided; for the second dimension students were asked to select the soft skills they think they possess within the previous list of soft skills, and for the third dimension they were asked to select, from a list of eleven activities, the most important ones that universities should guarantee in order to promote their employability.

5. Results

The results are based on a descriptive and statistical analysis of the three analyzed dimensions. The first dimension related to the importance of soft skills for the labour market and students' employability gave back a balanced picture of soft skills (Table 2). With the top five ranked skills, students highlight both the value placed on the world of work on active learning and learning strategies, and high cognitive skills (analytical, critical thinking, complex problem solving) along with the creativity, originality and initiative ability. They emphasize a need for continuous learning and the ability to face challenges efficiently, showing the importance to be involved in a permanent process of innovation to face challenges in today's labour market.

Even so, all the other skills together with persuasion and negotiation, emotional intelligence, a which registered a lower position than the other skills, they indicate a balanced demand for a mixed ability of interpersonal, cognitive, technical, and adaptive skills in the world of work.

Position	**Soft skills for labour market**	**M**	**DS**
1	Analytical thinking and innovation	5.02	3.18
2	Active learning and learning strategies	5.22	3.27
3	Complex problem solving	5.63	3.27
4	Critical thinking	5.76	3.35

5	Creativity, originality and initiative	6.03	3.30
6	Leadership	6.09	3.34
7	Use of technology	6.39	3.37
8	Technology design and programming	6.59	3.30
9	Resilience, stress tolerance and flexibility	6.96	3.20
10	Reasoning and ideation	7.44	3.23
11	Emotional intelligence	7.93	3.23
12	Persuasion and negotiation	8.93	3.19

Table 2: Level of the importance of soft skills for labour market

When students reflect on the soft skills they think they already possess, the scenario is different (Table 3). In fact, while the levels of importance of soft skills for the world of work are fairly balanced, the skill levels perceived by students are unbalanced. Comparing the results reported in tables 1 and 2, among the top five soft skills only the 'active learning and learning strategies' skill appears in common and in the second position of the rank lists, but with a different level of recognition: the mean score of 5.22 of participants selected it for world of work as second priority, and 48.7% consider having that skill. The percentage of students who consider possessing the 'critical thinking' skills is on the top five of the list (58.3%) compared to those who consider these skills very important for the labour market (M=5.76).

The top five rank list in table 3 shows that most students seem to be strong in analyzing facts to form a judgment; in fact, 'critical thinking' is the most recognized skill among students (58.3%), while about half of the students (50.4%) can effectively manage stress and adapt to changes. Nearly half students (48.7%) consider themselves continuously engaged in acquiring and applying new knowledge and skills. A significant percentage of students (39.4%) are competent with technological tools, and able to generate ideas and innovate (38%).

Position	Students' soft skills	Frequency	Percentage
1	Critical thinking	1653	58.3%
2	Resilience, stress tolerance and flexibility	1427	50.4%
3	Active learning and learning strategies	1379	48.7%
4	Use of technology	1116	39.4%
5	Reasoning and ideation	1077	38%
6	Analytical thinking and innovation	984	34.7%
7	Complex problem solving	981	34.6%
8	Emotional intelligence	775	27.3%
9	Creativity, originality and initiative	742	26.2%
10	Technology design and programming	601	21.2%
11	Leadership	582	20.5%
12	Persuasion and negotiation	265	9.4%

Table 3: Level of development of students' soft skills

The third dimension focused on the activities that universities should implement to support students' employability development (Table 4).

Position	Activities universities should implement	M	DS
1	To guarantee learning experiences useful for combining theory and practice	3.13	2.94
2	To promote learning through work-based activities	4.58	3.08
3	To create dialogue with the world of work by informing the study programs	5.60	3.07
4	To support the development of students' self-efficacy	6.17	3.02

5	To support students in developing their transversal skills	6.34	3.03
6	To promote students' awareness of their skills	6.39	3.05
7	To promote the development of students' skills for an active job search	6.59	2.87
8	To provide students with experiences useful for testing their knowledge and skills	6.80	2.85
9	To provide students with the exposure to roles and career models to inspire them	6.79	2.79
10	To provide service support for students' career	6.72	2.88
11	To support students in developing a personal and professional development planning	6.88	2.90

Table 4: Activities for supporting graduates' employability

On average of 3.13 of the respondents recognize as a priority that universities should provide learning experiences which are able to combine theoretical knowledge with practical experience to support their employability development. This aspect is also emphasized with students' need of exposure to work-based activities (4.58), and the dialogue with labor market (5.60). It shows the importance to develop course programmes that really can facilitate their university-work transition. Further priorities are students' self-efficacy (on 4th position; M=6.17) and soft skills development (on the 5th position; M=6.34). Services for students' support career (10th position; M=6.72) and personal and professional development planning (11th position; M=6.88) are mentioned in the last two positions of the ranking list. Therefore, table 4 shows that students place the most value on dialogue with industry professionals, practical experiences, such as apprenticeships, project-based learning, and real-world problem-solving. They are useful for inspiring and guiding students and represent a strong demand for authentic experiential learning within authentic contexts and the need to have an effective dialogue with the world of work with an impact on the curriculum design. The opportunity to live realistic learning experiences also is a way to test their knowledge and skills (9th position; M=6.79), to develop their transversal skills (7th position; M= 6.59).

For the statistical analysis two different regressions were carried out: a multiple linear regression to measure the effect of gender, stage of study, and area of study (compared to Human Science area) on the different skill for labor market and university activities (Table 5); a logistic regression to measure the probability that the students' soft skill perceived (dichotomic variables) can be estimated according to gender, area or stage of study. (Table 6).

Dependent variables: *Skill Labor market*	Parameters (*GenderM; AgricultureVET;Engineering;Stage of Study*)	Coefficient (Beta)	Sig.
Analytical thinking and innovation	Model: R^2=. 004; F (4, 2974) = .018		
	Agriculture_VET	-.062	.032
	Engineering	-.069	.025
	Stage of study	.041	.031
Active learning and learning strategies	Model: R^2=. 006; F (4; 4,479) = .001		
	Agriculture_VET	-.097	<.001
	Engineering	-.089	.003
Emotional intelligence	Model: R^2=. 004; F (4;3,195) = .013		
	Agriculture_VET	.081	.005
	Engineering	.096	.002
Persuasion and negotiation	Model: R^2=. 007; F (4; 4,837) = <.001		
	Agriculture_VET	.089	.002
	Engineering	.107	<.001

Dependent variables: *University Activities*			
To create dialogue with the world of work by informing the study programs	Model: R^2=. 004; F (2; 2,672) = .030		
	GenderM	-.058	.005
To provide students with experiences useful for testing their knowledge and skills	Model: R^2=. 005; F (4; 3,370) = .009		
	Stage of study	.038	.046
To provide service support for students' career	Model: R^2=. 003; F (4; 2,396) = .048		
	GenderM	.053	.011

Table 5: Results_multiple linear regression

Table 5 shows only the significant effect of independent variables on the skills or activities mentioned. Particularly, the negative coefficient show that the skills are more important for students who belong to the field of Agricultural or Engineering compared education field, or stage of study, or among males compared to females. When the coefficient is positive means that the skills are more important for students who belong to the filed of study mentioned compared to those who belong to Education field.

According to the logistic regression each predictor variable is associated with a coefficient ( ) which quantifies its impact on the log probabilities. A positive coefficient indicates that an increase in the predictor leads to increased probabilities of the event, while a negative coefficient implies the opposite. Table 6 shows only the significant values that are all positive.

Students'skills: dipendent variables	**Indipendent variables**	**Sig.**	**Exp(B)**
Analytical thinking and innovation Nagelkerke R Square=.015	*GenderM*	<.001	1,527
	Agriculture_VET	<.001	2,469
	Engineering	<.001	2,887
	Stage of study	.002	1,115
Active learning and learning strategies Nagelkerke R Square= .047	*GenderM*	<.001	.734
Complex problem solving Nagelkerke R Square=0.15	*GenderM*	.002	1,338
	Stage of study	.008	1,131
Critical Thinking Nagelkerke R Square=0.07	*GenderM*	.015	1,235
	Agriculture_VET	.033	1,407
Creativity,originality, initiative Nagelkerke R Square=0.62	*Agriculture_VET*	.022	.690
	Engineering	<.001	.294
Leadership Nagelkerke R Square=0.08	*Stage of study*	.014	1,142
Use of technology Nagelkerke R Square=0.04	*Stage of study*	.037	1,098
Technological design and program Nagelkerke R Square=0.53	*GenderM*	<.001	1,500
	Engineering	<.001	2,239
	Stage of study	.018	1,136
Resilience, stress tolerance Nagelkerke R Square=0.04	*Engineering*	.046	.752

Emotional intelligence Nagelkerke R Square=0.90	*GenderM*	<.001	.533
	Agriculture_VET	<.001	.512
	Engineering	<.001	.323
Persuasion and negotiation Nagelkerke R Square=0.16	*Engineering*	.018	.587

Table 6: Results_logistic regression

The correlation between perceived students' skills and university activities was explored, but only few and very weak correlations were identified between the activity 4 (*To support the development of students' self-efficacy*) and analytical thinking (r=-.06**) and critical thinking (r=-.04*); between activity 11(*To support students in developing a personal and professional development planning*) and critical thinking (r=.04*); between the activities 8 (*To provide students with experiences useful for testing their knowledge and skills*), 9 (*To provide students with the exposure to roles and career models to inspire them*) (r= -.05*); between the activity 8 and persuasion and negotiation (p=-.06**); between the activity1 (*To guarantee learning experiences useful for combining theory and practice*) and emotional intelligence and Persuasion and negotiation skill (r=.05**).

6. Discussion

The results present a descriptive and a statistical analysis that offers relevant stimuli on the development of authentic learning environments to support graduates' employability and soft skill development.

The result on the importance soft skills in the labour market (Table 2) shows that students consider all the soft skills important for the labour market, although high order skills (*Analytical thinking and innovation, Complex problem solving, Critical thinking*) and strategic skills (*Active learning and learning strategies, Creativity, originality and initiative*) seem to be considered a paramount for interacting in the workplaces. These aspects emphasize the need for employees to be able to learn continuously and apply new knowledge to make proper analysis of different situations and problems, facing the fast-changing world of work.

Only three skills (*Reasoning and ideation, Emotional intelligence, Persuasion and negotiation*) are considered less important for labour market. Despite students recognizing some difference in the level of the importance of soft skills, results show that they are aware of the complexity of work, where a well-combined set of skills is required to allow employees to transform specialized knowledge into effective work behavior (Tore & Peretti, 2020). In a professional setting where everyone is academically qualified, soft skills can give graduates' professional profiles competitiveness and uniqueness, giving them positional advantages compared their peers (Tino & Fedeli 2022; Succi & Canovi, 2019). They predict success in life (Heckman, & Kautz, 2012).

Statistical analysis shows the significance of some results. Table 5 shows that *Analytical thinking and innovation, Active learning and learning strategies* skills are more important for students of Agriculture-VET and Engineering fields compared to students from Education field. This could be connected to nature of knowledge required in STEM or Science areas where students are much more actively involved in problem solving experience than students of Education. On the contrary e*motional intelligence, persuasion and negotiation* are more important for students of Education. This explains that professionals of this area are focused on the care of interpersonal tasks and challenges.

Among the university activities "*To create dialogue with the world of work by informing the study programs"* is more important for males than females, while *"To provide service support for students' career"* is more important among females. This may explain that males are much more focused on the knowledge and skills useful for their employability, while females require services that can support them in the career development and care. "*To provide students with experiences useful for testing their knowledge and skills"* is the activity that is more important for students belonging to the last year of study. This means that nearer students are at the end of their learning path more they are interested in testing if they really can face labor market challenges and real life. This is connected to the importance to guarantee them some work-based experience and creating learning environments that provide real-world problem-solving as self-assessment experiences

(Akkermans, et al., 2017). Therefore, activities for promoting students' employability need to be part of instructional process and course content (Holmes, 2014).

Interesting are the results from the logistic regression. They show always a positive coefficient (B) higher than 1. This means that there is always the high probability that males think to possess more some skills such as *Analytical thinking and innovation, Complex problem solving, Critical Thinking, Technological design and program* than females. On the contrary, females have more probability to choose the following skills: *Active learning and learning strategies; Creativity, originality, initiative; Emotional intelligence.* This picture highlights a sort of gender stereotype, in fact, dominant cognitive skills appear among male, while the skills that require emotional and personal commitment involve much more females. These results offer stimuli for reflection in terms of programmes that can include experiences and activities for female students' self-efficacy and skills development, and analysis of their own interests as well.

Some skills have the probability to be selected more among Agriculture-VET (*Analytical thinking and innovation, Critical Thinking*) or Engineering area (*Analytical thinking and innovation, Technological design and program)* than students from Education field. This aspect emphasizes the gender issue already mentioned, because who attend education course believe to have different skills that are more connected with relationships and care.

Students who are in the last year of study have more probability to choose among the skills: *Analytical thinking and innovation, Creativity, originality, Complex problem solving, Leadership, Technological design and program.* They are a well-balanced set of skills useful for students to face university-work transition in an effective way. Positively, this could mean that some students perceive to be skillful at the end of their learning path and ready to face real world challenges.

The survey also played the function of students' self-assessment soft skills. Results in Table 2, in fact, show the difference among the distribution of soft skills for the labour market and students' soft skills. These results with the highest score for five of them (critical thinking; resilience, stress tolerance and flexibility, active learning and learning strategies, the use of technology, reasoning and ideation) suggest three aspects on which HEIs would do well to reflect and act on: (i) first, lower-ranked soft skills could offer room for intervention for university programs according to authentic learning and teaching approaches (Ornellas et al., 2019); (ii) second, developing a dialogue with different external stakeholders could help students and universities to better understand the necessary alignment between students' skills and those required from the world of work; (iii) third, this approach can support students' personal and professional development action plans, where universities play an important role in terms of authentic learning opportunities and guidance. It guides students to learn how to gain self- responsibility for their own learning (Zareena, & Haider, 2013).

The importance of interacting with the real world is another important aspect that students emphasized, recognizing the relevance of the partnership between HEI and external organizations. They strongly need to experiment with learning experiences which help them to understand the meaning of their learning, knowledge and skills. The engagement in authentic tasks and contexts allows students to combine theory and practice, and to self-assess their knowledge and skills (Tino & Grion, 2018a,b; Tino & Grion, 2019); to learn what they need to focus their efforts on. Results show that universities should invest in the development of an authentic curriculum made of more authentic content and teaching practices to better respond to students' learning needs. They ask for a combination of teaching strategies and practices that can support their employability development and soft skills that only practical experience can really develop instead of traditional teaching (Tino, 2020; Tino, 2018b). The collaboration between universities and companies enables students to undergo internships with coaching and mentoring which could enhance soft skill development and provide them with the support they need to transition into the working world (Tang, 2019).

Having adequate soft skills when starting jobs can make employment and faster career progression easier. However, due to the fast-changing of world of work and the increasing of techno-socio-economic complexity, it is important to highlight that graduates must actively participate in personal development to develop soft skills as lifelong learning.

7. Conclusions

This paper sought to contribute to the research on the authentic learning approaches as a catalyst for developing employability and soft skills of new HE graduates. HEIs are called on to reflect on the current issues that individuals, society, and organizations must face. Globalization, the further technological development connected to the Artificial Intelligence (AI), the consequent fast transformation of work and professions, the increasing of distance/virtual jobs represent big challenges, both for graduates who risk facing the saturation of the labour market at the end of their learning path, and for universities whose success and third mission role are measured in relation to the impact on the society. This dynamic state of the labour market generates a high level of competitiveness; the digital disruption, and the organizational and productive changes prevail over any stability (Kaneklin & Gilardi, 2007), and people, independent of the education attained, must be ready to move from one position and activity to another, and to abandon the traditional long-term employment idea. Consequently, the current world of work and society scenario reminds us of the relevance of developing an effective and aligned triad relationship among students' learning paths, students' skills and the real labour market and societal demands. It should be built on a powerful and successful partnership between HEIs and the world of work. It can be created as a third space where partners, maintaining their identity, start a transformative process of mutual growth based on shared expertise and knowledge, on the building of new cultural artifacts and rules, but with the same objectives: guaranteeing the young generations' employability and active citizenship, in addition to the sustainability of both HEIs and work organizations (Tino & Fedeli, 2015; Tino & Fedeli, 2022). Therefore, supporting students in their employability knowledge and skills implies for HEIs not only responding to the market imperatives, because this would mean converting employability into employment, but rather to play an important role for the future sustainability of society and organizations through the preparation of graduates who actively have to be ready to combine the multi-disciplinary knowledge and skills acquired during their studies into practice to solve complex real-world problems. In these scenarios, the dynamics and the authenticity of professional settings do not become the result but the means to achieve the main goals.

Guaranteeing a curriculum made of experiential learning, authentic challenges, holistic learning and soft skill development is essential for producing graduates equipped with psychic, emotional, spiritual and intellectual abilities (Selamat, Ismail, Ahmad, Hussin, & Seliman, 2013).Thus, the social responsibility calls HEIs to reflect deeply on the disparity between students' acquired skills and real skills that the world of work demands, on the ways they cater to the social issues (Noah & Aziz, 2020), and consequently on the development of their programs and curriculum. This can generate the necessity to create effective partnerships with business organizations and those stakeholders who can offer students challenging learning experiences, useful for combining theory and practices and to self-assess their skills and knowledge, to collect mutual constructive feedback, based on which organizations, students and HEIs can develop their own development action plans to achieve common goals.

The study results highlight the gender issue concerning both the difference of skills that students think to possess (males for cognitive skills and female for emotional and active learning and learning strategies), the activities that university should promote for their employability (females chose more than males: *To create dialogue with the world of work by informing the study programs* or *To provide service support for students' career)*. The dialogue calls for relationships, and career services for taking care of career process development. They are dimensions connected to the importance to build relationships and to take care of personal development process that usually are more connected to women. These results can be used to create reflective sessions where students can be engaged actively in discovering of themselves and reflecting on their beliefs and assumptions.

Limitations

The study presents some limitations because of three knowledge areas of a single university were involved. In addition, the use of a self-reported questionnaire could have generated some response bias, therefore some other research with different methods and in diverse contexts should be carried out before generalizing results.

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