Promuovere il ruolo degli Alumni per lo sviluppo di programmi di formazione continua.

Enhancing the role of Alumni to develop continuing education programs.

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ABSTRACT ITALIANO

La complessità ha reso l'apprendimento una componente importante della vita professionale degli individui in ogni organizzazione, facendo emergere un forte interesse per lo sviluppo professionale continuo (CPD). Gli istituti di istruzione superiore (HEI) sono gli attori privilegiati per garantire la formazione delle competenze cognitive ed emotive delle persone, attraverso attività di CPD, che richiede un dialogo efficace tra università e aziende. Pertanto, l'obiettivo di questa ricerca è di valorizzare gli Alumni come collegamento permanente tra università e aziende. In considerazione di questo la ricerca ha voluto analizzare i bisogni formativi degli Alumni per raccogliere dati validi sulla base dei quali sviluppare dei programmi di educazione continua (CPD). Sono stati 767 gli Alumni che hanno compilato un questionario costruito ad hoc e finalizzato all'analisi dei loro bisogni formativi. I risultati evidenziano bisogni riferiti allo sviluppo competenze trasversali e specifiche relative alle diverse aree professionali, di cui i programmi di CPD efficaci dovrebbero tenere conto.

ENGLISH ABSTRACT

Complexity has made learning as an important component of individuals' professional life in every organization, bringing out a strong interest for Continuing Professional Development (CPD). Higher education institutions (HEIs) are the privileged actors for guaranteeing people's cognitive and emotional skills training, through CPD, which require an effective university-business dialogue. Therefore, the aim of this research is to enhance Alumni as a permanent university-business liaison. Considering this, this research wanted to analyze Alumni's training needs to collect valid data for the development of CPD programs. 767 Alumni completed an *ad hoc* questionnaire aimed at the analysis of their professional training needs. Findings highlight the relevance of soft skills and the need for some specific training in professional areas for Alumni that CPD should take in account.

Introduction

Changes to the overall socio-economic complex, combined with the fast technological progress, have influenced workplace environments making them increasingly dynamic and challenging systems. At the same time, work changes have required organizations to think of themselves as interdependent systems with each other, developing a new culture for a collaborative mentality in a connected society, where everyone and everything has relationships with each other.

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These characteristics have made learning an important component of the professional life for many people, bringing out a strong interest for Continuing Professional Development (CPD) in order to manage changes in every organization. In this sense CPD is both 'a personal and institutional fact' (Billet 2010, p.407) which includes processes of lifelong learning and education (LLL/E). In fact, it extends beyond the immediate sphere of education and foresees individual readings, reflection and social interaction on working experiences and individuals' professional area (Friedman & Afitska, 2023).

In a perspective of LLL, CPD becomes a training path aimed at building future scenarios in which individuals can plan their growth, collective well-being and their employability. Individuals' employability and continuing education have always been key points of the European Union's Commission (2009) and OECD's (Organization for Economic Cooperation and Development, 2012) policies, aimed at promoting strategies and economic reforms in order to have a highly qualified labour force and respond to sudden socio-economic changes. These changes have affected the nature of work and professions, giving rise to a boundaryless career considered as "sequences of job opportunities that go beyond the boundaries of single employment settings" (De Fillippi & Arthur, 1996, p.116). Changes and professional uncertainty (Gevaert, et al., 2018) involve Higher Education Institutions (HEIs) in the debate of students' and professionals' employability as a pedagogical category that requires them to become aware of their own transformation, due both to the relationships with new stakeholders, and their responsibility to have an impact on society and on the development of communities.

Employability is defined in different ways (Thijssen et al., 2008), but some common definitions refer to the "capacity to gain initial employment, maintain employment and obtain employment if required" (Hillage & Pollard, 1998, p. 2), that is the ability to find, maintain or change jobs if necessary (Yorke, 2010). The emphasis on people's ability to navigate the uncertainty of the labour market highlights the importance of developing people's "sustainable employability" (Alcover et al., 2021; Van der Klink et al., 2016; van der Heijde, 2014; Zheltukhova & Baczoe, 2016). It is a construct linked to; a) career adaptability as "individuals' ability to adapt to changes in career plans" (Rottinghaus, et al., 2005, p. 5); b) peoples' adaptive and proactive resources to enter the world of work (Montgomery & Côté, 2003). Therefore, employability has a dynamic nature which requires HEIs to train people's cognitive and emotional skills, through processes of continuing education (CE) and professional development (PD) (Albanese, 2021; Tino &Fedeli 2024) in order to effectively navigate complexity. This necessity requires the development of university-business dialogue from which students' can benefit, not only during their formal learning path, but also at the end of their university courses and during their professional life, through the effective CE paths that universities provide them. According to what has been said, in this study Alumni category has been considered as a bridge between university and business organizations, to better understand what the real needs of professionals in the current labour market are.

This contact gives the external world the possibility to better know the universities and ensure that universities in turn keep pace with changes within the labour market and technology by developing and improving CE programs for professionals. With the attempt

to develop effective CE paths at the university of Padova a research project has been carried out to explore Alumni's training needs.

Enhancing the role of Alumni.

Alumni Associations (AAs) represent a privileged interaction between HEIs and key stakeholders. Together they can define shared goals and experiences; they can strengthen connections between students and its alumni and contributing for the growth of the universities. Indeed, Alumni can perform the role of ambassadors of their alma mater by promoting activities to enhance universities' image and to provide opportunities for students. They can offer effective role models and guidance to students and enhance HEIs credibility; they can share academic personal experiences with students, generate inspirations and motivation, and transfer the University's cultural mindset. Alumni may also create internships or work experience for students (Obeng-Ofori & Kwarteng, 2021).

Alumni contribute not only to enhancing the innovation of academic programs through their expertise, but also to the learners' recruitment, encouraging students, their relatives and friends, to conceive their alma mater as a provider of high-quality education. They have the possibility to disseminate positive opinions, about their university by means of their professionalism, job satisfaction, income, occupational attainment, conferences, workshops, homecoming events and different stakeholder engagements. This means that Alumni enhance University reputation at national and international level.

As play a crucial role for engaging faculty with Alumni who can provide useful contributions to the revision of curriculum in order to create alignment between academic students' experience and business organization's needs, enhancing their competitiveness in the globalized labour market. In today's dynamic higher education and labour market landscape, institutions strive for innovative processes to realize their strategic goals (Gallo, 2021). Among these complex systems, Alumni who share and support the mission of their alma mater are essential to achieving institutional goals: enrollments of qualified students, guaranteeing high academic quality, ensuring graduates' success in obtaining appropriate professional positions after their degree, developing programs to improve the quality of students' life in order to retain them in the institution or to orient them to campus life, creating a liaison between academic environment and real social and economic life (Singer & Hughey, 2002). Considering that AAs can create the right network, from which academic institutions, their students and the world of work can benefit. In fact, if this connection is well planned and organized it can represent the most efficient path to university-business dialogue, of which Alumni can be the gatekeepers during the boundary crossing process. Playing this role implies that they have deep knowledge of the vision of the two systems (HE and business organizations) and to be prepared for communicating and negotiating the organizations' goals, culture and interests. They have the possibility to play a double identity and well understand what needs the two organizations really have. (Tino, 2018a; 2020; Tino & Fedeli,2022) For this reason, the University of Padova with the aim of developing continuing education programs aligned

with the real individuals' professional development and organizations' needs, wanted to enhance the role of Alumni. They were engaged in the professional need's analysis. These data offered useful information on the current labour market through the analysis of Alumni's professional development needs.

The importance of Continuing Professional Development.

CPD refers to the acquisitions of professional skills and knowledge beyond those required for initial qualification in formal programs of education. It is a process of learning which requires systematic development and continuing education, made of learning opportunities which help workers to acquire and adapt their skills and knowledge to the rapid changes of their professional environment (Rafiq et al., 2017). This means that individuals should take the responsibility of their continuing professional development and career planning and control.

Friedman and Phillips (2004) describe CPD referring to different dimensions. Specifically, they consider CPD as:
  • lifelong learning for professionals;
  • a means of personal development;
  • a means for individual professionals to ensure a measure of control and security in the often precarious modern workplace;
  • a means of assuring a wary public that professionals are indeed up-to-date, given the rapid pace of technological advancement;
  • a means whereby professional associations can verify that the standards of their professionals are being upheld;
  • a means for employers to garner a competent, adaptable workforce (p.362).

This means that CPD programs offer a concrete reaction to personal, professional and socio-economic needs, and to professional associations' and employers' expectations of the globalized world. In this sense professionals should carry out CPD as part of their professionalism in order to improve professional practices.

Therefore, CPD act as the facilitator of many cycles of learning, connecting LLL with people's professional identity (Friedman, 2023).

Currently, many factors have generated the imperative need for professionals to participate in ongoing professional continuing education: information and technological development, work changes, increasing emphasis on reflective professional practice, competences demand and the need for a skilled professional workforce (Alic, 2018; Cervero, 1990; Crain, 2004; Hunt, Schon, 1987). For professionals to understand the importance of continuing integrated professional development, they need to develop while already holding this value during their educational learning path and "faculty members...must imbue their students with this belief and give students tools with which to become intelligent consumers of continuing professional education" (Smutz & Queeney, 1990, p. 185). This means that CPD must address the changing environment, and HEIs must take the responsibility of developing an understanding of the importance of

continuing education and the individuals' skills to manage their own professional development (Cervero, 1990; Puk, 1996).

CPD can be considered part of the third mission of HEIs. Through teaching, research, training, and their collaboration with different stakeholders for mutual benefits, they contribute to the advancement of people and society.

Investigating training needs.

For long time the literature on professional needs has been focused on the medical and nursing categories (cfr: Holloway et al., 2018) on teachers or educators (cfr: Czerniawski et al., 2018).

'Need' is the gap between current and desired (or required) results, or (stated another way) the gap in results between 'what is' and 'what should be' (Kaufman, 1994, p. 14). The author explains the 'need' concept as the deficiencies that determine an appropriate intervention. This definition shows the relationship between needs assessment and needs analysis.

Carrying out effective training needs assessment requires using appropriate methods of collecting information such as surveys, observations, interviews, etc. This process helps to design training interventions to solve the problems (Leatherman, 2007).

The evidence approach to training needs analysis (TNA) is highly recommended, but it is often a missing first phase in designing a CPD program for professionalism improvement (Watts et al., 2007).

To develop a relevant, purposeful CPD program which includes a wide range of potential activities for personal/professional development should be based on a well-structured training needs analysis (TNA). This diagnosis process can prevent unnecessary and inappropriate education or training choices and provide a proper focus on the real professionals' or organizations' goals. (Gupta et al., 2007; Holloway et al., 2018). Organisations and professionals avoid the waste of time, money and effort by training needs analysis and assessment (Elbadri, 2001).

Generally, TNA results lead decisions on training or non-training initiatives (Bozarth, 2008). Therefore, TNA is made of two steps: a diagnostic step which identifies the weak aspects of a performance and current competences, and then ranks them in order of severity; the curative step identifies the causes of the weakness, and the following decisions on the training, type of interventions, or non-training. (Zahid Iqbal & Khan, 2011).

TNA covers different aspects. It can be useful for employees' career development. The improvement of the employees' knowledge and skills are fruitful not only for the organisations but also for the development of the employees' career. (Bowman & Wilson, 2008; Cekada, 2010). It promotes the awareness of deficiencies in employees' knowledge, skills, attitude and learning motivation, providing information for the future use of TNA (Agnaia, 1996); it can be realized to increase the level of trainees' motivation to learn. (Sorenson, 2002). Therefore, TNA offers the possibility to know on what to intervene in order to obtain the desired performance or skills and knowledge; it is not possible to take decisions for improvement without such knowledge (Abdalla & Al-Homoud, 1995). It

corresponds to a rational approach in order to address training needs to results with acceptable costs. (Brown, 2002). This means that effective CPD programs need to be developed on training needs analysis and assessment to achieve good results with reduced costs.

Method

Collecting and Analyzing data on Alumni's Needs.

This quantitative study was carried out between April and October 2024 with the aim of responding to the following research questions:
What are Alumni's training professional needs?
What is their level of availability to attend training? And in which format?

The study involved the Alumni of the University of Padova by a survey administered through *Limesurvey* software.

For the study, an *ad hoc* questionnaire for different professional categories was developed, and it was created based on a 4 points Likert scale. The questionnaire was comprised of four common sections: a) biographical information; b) soft skills needs; c) digital skills needs; d) professional functions; and seven different sections: one for each of the seven professional categories considered:

- Legislators, Entrepreneurs, Manager
- Intellectual, scientific and highly specialized professions
- Technical professions
- Executive office work professions
- Qualified professions in commercial activities and services
- Craftsmen, skilled workers and farmers
- Mechanic system operators, fixed and mobile machines workers and vehicle drivers
- Military forces

INAPP (*National Institute for Public Policy*), a national observatory of job transformation and professional profiles, was the source for the development of the questionnaire from where was possible to select the seven professional categories and analyze their specific profiles. This analysis guided the definition of the items for the sections of different professional categories.

Data collection and participants. 12,300 Alumni were invited to participate to the study, but only 767 completed the questionnaire: 383 males, 362 females and only 12 preferred not to give any information about gender. Most participants are between 20 and 40 years old (53.3%); 18.1% are between 41 and 50; 16.3% are between 51 and 60; 12.3% are between 61 and over. The majority of Alumni work in Italy (90 %). They have different levels of education: 3.8% have a PhD or a Post-*lauream* diploma; 5.2% a master's degree and 1% a bachelor's degree. They encompass four fields of knowledge: STEM (44.5%) [males are overrepresented (70.9%)]; Medical science, Agriculture, Veterinary medicine (22%) [males

are overrepresented (62.7%); Economic field (18.5%); Art, Literature, Education (15%) [females are overrepresented in 67.7%].

Participants belong to different professional categories (Tab. 1)

TAB.1: DISTRIBUTION OF PROFESSIONAL CATEGORIES

Professional categories	N.
Legislators, Entrepreneurs, Managers **[LegEntM]**	43
Intellectual, scientific and highly specialized professions **[ISC]**	418
Technical professionals **[TP]**	144
Executive office work professions **[EOW]**	92
Qualified professions in commercial activities and services **[CmS]**	60
Craftsmen, skilled workers and farmers	6
Mechanical system operators, fixed and mobile machine workers and vehicle drivers	1
Military forces	3

Data collected were analyzed from a descriptive and statistical point of view through the software SPSS. The statistical analyses were carried out by using bivariate analyses: the analysis of variance (ANOVA) to compare the difference between the means of groups; correlation (Spearman test) to measure the strength of association between two variables; Chi-square test was applied to test the relationship between categorical variables. The last three categories have not been included in statical analysis process because they were not well represented.

Findings

For the majority of participants, the relevant functions connected to their professionalism are related to a) organizational management (47.1%); communication (37.9%); technical (36.6%); research (23.6%).

The common training needs investigated are soft skills and digital skills. Findings show that there is not a significant difference in participants' training needs among the three levels of the same category, while the soft skills mean value is higher (Tot SS=3.24) than the digital skills mean (Tot DS=2.61) (Tab.2).

TAB.2: SOFT AND DIGITAL SKILLS' MEANS

Training needs	Mean	DS
SS_social	3.23	3.52
SS_cognitive	3.31	3.55
SS_personal	3.21	3.56
SS_strategic	3.18	3.53
Basic digital skills	2.74	3.56
Medium digital skills	2.45	3.58
High digital skills	2.60	3.55
Tot-Digital Skills (DS)	**2.61**	**3.54**
Tot-Soft Skill (SS)	**3.24**	**3.51**

Specifically, the different professional categories have different soft and digital skills training needs. Particularly, soft skills represent a relevant sphere of training for all professionals (Tab.3).

TAB.3: SOFT AND DIGITAL SKILLS FOR THE PROFESSIONALS

Training needs	Means				
	LegEntM	ISC	TP	EOW	CmS
SS_social	3.38	3.32	3.08	3.08	3.35
SS_cognitive	3.25	3.48	3.21	3.18	3.14
SS_personal	3.18	3.34	3.00	3.00	3.29
SS_strategic	3.12	3.28	3.09	2.87	3.23
Basic digital skills	2.42	2.82	2.57	2.82	2.78
Medium digital skills	2.35	2.60	2.19	2.20	2.46
High digital skills	2.44	2.71	2.57	2.40	2.41
Tot-Digital Skills (DS)	**2.41**	**2.72**	**2.47**	**2.82**	**2.54**
Tot-Soft Skill (SS)	**3.23**	**3.36**	**3.09**	**3.22**	**3.26**

Eight professional categories were considered in the survey but only five categories provided data useful for analyzing professionals specific training needs. Descriptive analysis focused on those training needs that participants indicated as the most relevant according to the Likert scale.

The most important specific training needs for Legislators, Entrepreneurs and Managers (LegEntM) are connected to human resource management such as strategies for managing personnel (2.7%), finance and material resources (2.3%); for coordinating people's work (5%), and defining objectives (2.7%) or identifying strategies to manage organizations' safety (0.9%). Above all, they show the need to be supported in the sphere of management, because they are focused on those factors which can help them in the functioning of their organizations.

Following the same criteria, Intellectual, scientific and highly specialized professions [ISC] identify as the most important training needs: methods and instruments for designing and evaluating (10.4%); collecting and testing data (12.9%); applying evidence-based procedures (10.2%); strategies for promoting organizational well-being (12.9%), for managing documentation (10.3%); managing and transferring knowledge (14.6%).

Technical professionals' priority training is related to strategies in order to draw up the technical documentation (4.7%); to collect and elaborate data (4.7%); to familiarise oneself with new programming languages (4.3%), methods for testing analysis results (3.9%), and strategies to identify the respondence between products and standard regulations (3.8%), the mistakes in the procedures or software (3.4%). This category shows the need to improve their technical knowledge.

The Executive office work professions [EOW] identify as priority training needs the strategies to better provide administrative practices (3%), to apply norms to administrative practices well (2.3%), procedures and technical languages (2.2%); to manage administrative transparency (2.2%) and clients (2.2%).

Training priorities for the Qualified professions in commercial activities and services [CmS] are clients' analysis and evaluation (3.5%); product presentation and selling methods (3%), strategies for managing human resources (3%), and providing services for clients (2.3%).
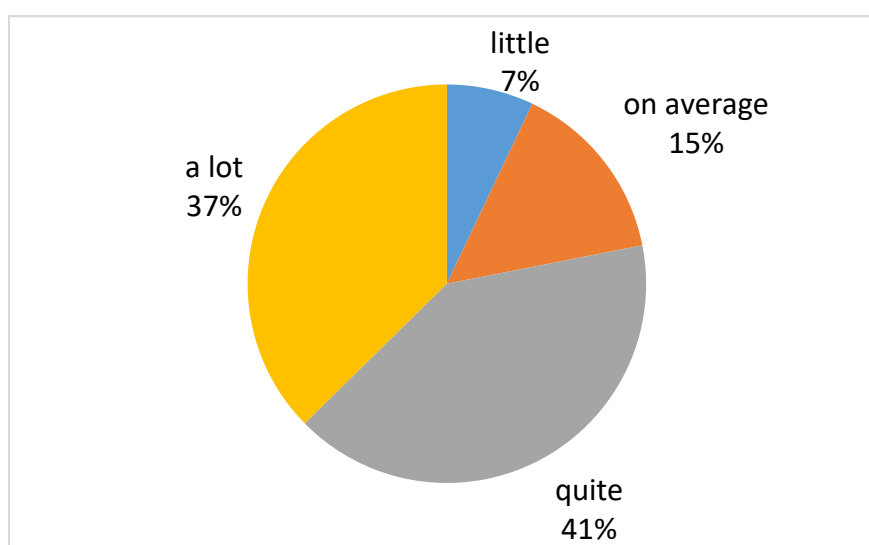

FIG.1: LEVEL OF WILLINGNESS FOR TRAINING

All categories show to be focused on the improvement of both technical and soft skills, because they connect their professional practices to the clients or human resources management.

Participants demonstrate a significant level of willingness to attending training sessions which are useful and respond to their professional needs. Specifically, this aspect was investigated according to a 4 points Likert scale (1: little; 2: on average; 3: quite; 4: a lot). (Fig.1).

Particularly, most would prefer two training models: blended (43%) or asynchronous (38%) (Fig.2). This means that most people need to have the opportunity to learn according to a customised time frame.
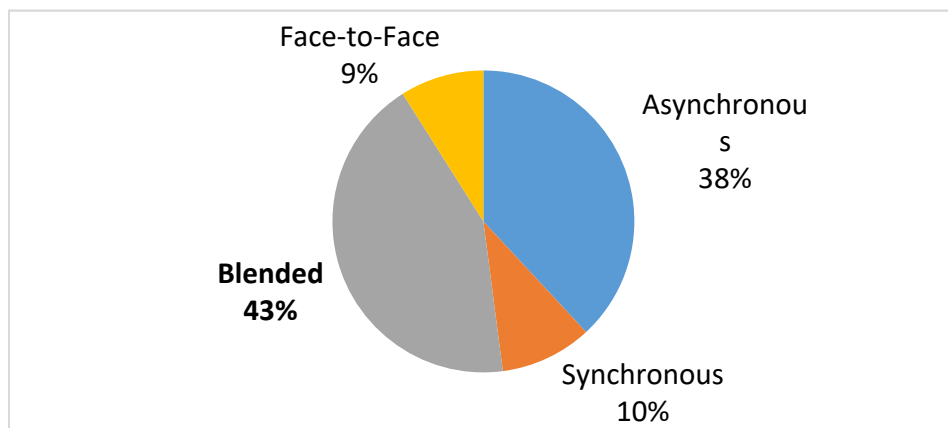

FIG.2: MODELS FOR TRAINING

According to the inferential analysis carried out (ANOVA) has registered the effect of participants' level of qualification on their high-level digital training needs (e.g.: database/ Big Data/AI management; statistical analysis, networking, cybersecurity, programming). In fact, there is a significative difference between groups ($F_{2,763}=3031$; $p<0.05$). It is referred to participants who gained PhD or post-lauream qualification (3.29) or a master's degree (2.46). Regarding the variables of age and professional category, no effect on the training needs of participants was recorded.

Bivariate analysis results showed that positive correlations (Spearman coefficient: r_s) exist between different dimensions (Tab. 4)

TAB. 4: CORRELATIONS

Training needs	Age	Level of qualification	Level of availability to training
Soft skill	rs=.102; p=.005	rs= .074; p= .040	rs=.191; p=<.001
Digital skill (average level)	rs= .118; p= .001	//	rs= .105; p=. 006
Specific training needs_ LegEntM	rs= .334; p= .031	//	//

Specific training needs_ CmS	*rs= .470; p=003*	//	//
Specific training needs_ ISC	//	//	*rs=.075; p=.049*

The application of Chi-square test (**c²**) allowed the analysis of the association among categorial variables. Specifically, the association has been identified between gender and area of knowledge; gender and professional categories; age and level of qualification. (Tab. 5)

TAB.5: ASSOCIATIONS AMONG CATEGORIAL VARIABLES

	Area of knowledge	**Professional category**	**Qualification**
Gender	$c^2_{=(3)}$ 69.24; p = < .001 *males:* STEM *females:* Medical science, Agriculture, Veterinary medicine. Art, Literature, Education	$c^2_{=(4)}$ 39.06; p = < .001 *males: LegEntM; TP* *females: EOW*	/ /
Age	/ /	/ /	$c^2_{=(8)}$ 90.58; p = < .001 Master's degree (for all ages)

Discussion and Conclusions.

Due to the transformation of the world of work and the globalized sense of uncertainty, each year individuals from diverse backgrounds and professions need to go back to university to take part in continuing education programs. They want to enhance both their career opportunities and develop work-related skills. Therefore, in the recent decades universities have wanted to provide CPD programs aligned to professionals' needs.

Therefore, this research on Alumni's training needs is aimed at collecting valid information in order to develop Continuing Professional Development (CPD) programs that can really support individuals' motivation and professionalism. The purpose is to provide CPD programs which can be coherent with the professionals' and the labour market's needs which continuously change. In this sense, this work wants to contribute to the development of CPD programs as part of a lifelong learning process aimed at providing a connection between individuals' professional training and the real world; to promote skills development that can support professionals in the solutions of real issues.

Considering these high expectations Alumni's training needs analysis is a good starting point to develop effective CPD programs that can motivate people to be engaged in ongoing learning as a professional development process and an ethical act as well. In this

sense, Alumni Associations represent important liaisons between universities and real social and economic life (Singer & Hughey, 2002). They represent privileged partners to better know the labour markets and professionals' needs. In fact, in this study, findings provide valid information on soft skills (3.31) as relevant training needs for all professional categories involved, and more than merely digital skills development (2.74). This shows that the continuing transformation of work and organizational environments require professionals to have transversal skills for managing changes and complexity (Barzizza et al., 2024; Tino, 2018b; Tino & Fedeli 2024).

In fact, the positive correlations between soft skills and professionals' age, qualification and willingness to train explains that the nature of today's work requires professionals, independently from their age, to have transversal skills which help them to face changes and unexpected problems. These correlations show that the need for soft skills training increases parallelly with a higher qualification level and with a higher level of willingness to undertake further training. Therefore, knowing individuals' profile and functions help to foresee the willingness to undertake further training which is a further proof of individuals' necessity to improve their professional profiles, and to develop skills useful to face the complexity. All these factors together with the participants' choice of asynchronous and blended training model provide further specific details for designing personalized training experiences in which professionals can find up-date resources for their professional performance improvement (Cervero, 1990; Friedman & Phillips, 2004).

The relationship between soft, digital training needs skills, specific categories training needs and professionals of any ages explains that CPD must be included in a process of lifelong learning (Friedman & Afitska, 2023), which guarantees individuals' employability (OECD, 2012). Developing CPD as part of LLL implies recognizing the important role of universities, not only for promoting business-university dialogue and better know the real needs of the labour world, but also to design and deliver CPD programs well-aligned to professionals' needs, and as continuing education which support people in the management process of their own professional development (Puk, 1996).

In fact, in this dialogue AAs are the qualified boundary crossers between the two worlds (university-business); they can be considered the gatekeepers but also the facilitators of the university-business partnership, because they represent the culture and the needs of the two actors of the partnership (Tino, 2018a).

This study shows some limitations due to the lack of the involvement of some professionals' categories; the engagement of the Alumni Association of a single university; the necessity to involve a larger number of participants. However, it represents an evidence-based approach to training needs analysis (TNA) as an important staring phase to design CPD programs for professionalism improvement (Watt et al, 2007).

Authors' notes

The authors have co-designed the paper. Concetta Tino developed the questionnaire and wrote the *Introduction* and the paragraphs: 1; 2; 4; 5. Monica Fedeli wrote the paragraphs 3. **Both** the authors wrote paragraph 6: *Discussion and conclusion*

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