

RESEARCH SKILLS OF UNIVERSITY STUDENTS IN PEDAGOGICAL AND EDUCATIONAL FIELDS FOR LIFELONG LEARNING

COMPETENZE DI RICERCA DEGLI STUDENTI UNIVERSITARI IN AMBITO PEDAGOGICO E EDUCATIVO PER IL LIFELONG LEARNING

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Abstract

Societies are currently going through many challenges including the persisting Covid-19 pandemic (OECD, 2021a), the increase of AI affecting our lives (OECD, 2021b) and a longer life expectancy. Developing Lifelong, Life-wide and Life-deep Learning as a lifestyle is crucial to make people resilient and to increase individual and social well-being (Aleandri, 2011), global development (Eurydice, 2021; UNESCO, 2021), the skills of learning to learn in a changing world (Delors, 1997; Morin, 2015). Educators and pedagogists are required both to learn pedagogical knowledge and to acquire required skills (Baldacci, 2010). Research skills maybe considered relevant socially (Margiotta, 2011). Exploratory quantitative/qualitative research was conducted to analyse students' awareness about their training in research skills during Bachelors' and Masters' courses for educators and pedagogist. The main results have led us to propose more opportunities to deeper value their university educational paths.

Le società stanno attualmente affrontando molte sfide, tra cui la pandemia da Covid-19 ancora in corso (OECD, 2021a), l'aumento dell'IA (OECD, 2021b) e un'aspettativa di vita più lunga. Lo sviluppo del *Lifelong, Life-wide e Life-deep Learning* come stile di vita è necessario per rendere le persone resilienti e per incrementare il benessere individuale e sociale (Aleandri, 2011), lo sviluppo globale (Eurydice, 2021; UNESCO, 2021), la capacità di imparare ad imparare in un mondo che cambia continuamente (Delors, 1997; Morin, 2015). Educatori e pedagogisti sono tenuti sia ad apprendere conoscenze pedagogiche sia ad acquisire le competenze richieste (Baldacci, 2010). Le competenze di ricerca sono considerate preziose dal punto di vista sociale (Margiotta, 2011). In questo articolo vengono presentati alcuni dei risultati ottenuti a seguito di un progetto di ricerca esplorativa quantitativa/qualitativa condotta allo scopo di analizzare il livello di consapevolezza degli studenti sulla loro formazione nelle competenze di ricerca durante i corsi di laurea triennale e magistrale per educatori e pedagogisti. I risultati principali fanno emergere la necessità di proporre maggiori opportunità per valorizzare più a fondo i percorsi formativi universitari.

¹ The whole research project and the article had designed and directed by G. Aleandri, who is the Author, specifically, of Introduction, 1, 2 and Conclusions and proposals paragraphs.

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Key-words

Research skills; Lifelong, Life-wide, Life-deep Learning, Exploratory research.
Competenze di ricerca, Lifelong, Life-wide, Life-deep Learning, ricerca esplorativa.

Introduction

Societies are currently facing many challenges: firstly the Covid-19 pandemic (OECD, 2021a) whose the resulting health emergency has briefly extended the consequences to the social political-economic and educational fields.

The university and the school had to adapt quickly to the changes imposed by the pandemic, first of all, the lockdown. The pedagogists have took an immediate action to rethink and redesign educational strategies, methods and tools to be used, primarily digital ones, and to develop new proposals to keep learning and educational relationships effective and meaningful even for distance learning.

In order to take a positive aspect that has arisen following the dramatic ongoing pandemic, it is appropriate to reflect about some issues: training, research, educational and interpersonal relationships had to be held in a distance learning.

All those changes have urged pedagogy to consider new aspects, methods and goals (Aleandri, 2020) never thought before. Furthermore, nowadays the massive presence of technologies, the increase of artificial intelligence and robotics (OECD, 2021b), a longer life expectancy (OECD, 2021c) and the increasingly changing and / or specialized demands in the workplace (OECD, 2021d) require the diffusion of the development of Lifelong, Life-wide and Life-deep Learning and Education as a lifestyle, as an effective strategy for the fulfilment of these objectives.

This new lifestyle is fundamental for making people resilient and for increasing individual and social well-being (Aleandri, 2011).

Even during the pandemic, the synergy among formal, non-formal and informal education stimulated an educational, social and professional growth. After the initial disorientation that affected everyone, people and institutions acted in a very short time to face a new, complex and uncertain situation. Pedagogy, therefore, designed proposals for educational and training redesign and related experiments.

From a pedagogical and political point of view, both nationally and internationally, lifelong education is now recognised as crucial and essential for training an active, aware, supportive and sustainable citizenship and the current 2030 Agenda is the most eloquent and representative overview in line with the global development goal (UNESCO, 2021, 2022; Eurydice, 2021).

Learning to learn, in a changing world, turns out to be the best sustainable choice (Delors, 1997; Morin, 2015) and educators and pedagogists are required both to learn pedagogical knowledge from the university curriculum and to acquire the required skills (Baldacci, 2010) taking into account the space-time in which they will realise their profession. Working in the field, learning the theory, testing what has been learned and adapting it to the changes that have occurred in that frame requires flexibility, updating and research skills.

The acquisition of these skills is favoured by the continuous incentives to curiosity which also entail the consequent consolidation of the learning attitude, from an early age.

Practical experience represents one of the best pedagogical strategies to achieve these ends as it contextualizes the knowledge and information learned by stimulating the motivation to go further to learn. Furthermore, today the experience is the only tool to address the “uncertainty for future” according to the principles of “relevant knowledge” (Morin, 2020).

The individual initiative, an attitude of trust in personal action and the concept of self-perfection, which provides substantial motivations to acquire skills since childhood, are also important (Bruner, 1967).

Practical experience in the educational field, then, plays a fundamental role for the full development of each person.

1. Research skills in a learning society during the ongoing pandemic

The educational and pedagogical research is to be considered as a network of knowledge because today in the current society, also known as learning society, the research becomes a real social skill (Margiotta, 2011). In a democratic context it is essential to develop a critical spirit and to have doubts about alleged dogmas and certainties, therefore the research becomes a priority to probe, verify and rethink during and after its making process.

Research skills are also useful for promoting Lifelong, Life-wide and Life-deep Education, since every experience acts as a foundation and encourages each learning ever since childhood and throughout life by making this continuity progressively significant. According to Dewey (2014), experience is the testing ground of every pedagogical theory, and it is what allows to teach everyone to responsibility, participation, the solution of current problems in a society, today more than ever, which aims to the full inclusion and personal and social realization of each individual.

Indeed, «the theory-practice relationship represents one of the crucial points of pedagogical epistemology. It is undoubtedly a relationship to be conceived in terms of dialectical unity: theory, without practice, is empty; just as practice, without theory, is blind» (Baldacci, 2010 p. 65).

Even within all degrees and areas of educational and training processes, the need has been found to educate and train for research as a skill, also to solve the many daily problems of the educational relationship that do not find confirm in univocal theoretical models but that need to practice the research methods carried out through acting as knowledge in action and functional to the learning of professionals working in the educational fields (Knowles, 2008) and according to the perspective of Life-long and Life-wide Learning and Education (Aleandri, 2011).

Therefore, it is essential to acquire research skills from an early age and in every school level, but especially during bachelors' and masters' courses, and more than even for educators and pedagogists.

Pedagogy, in order to achieve the objectives defined by the EU and UN plans established in the light of the results obtained by the most important research centres and international organizations (OECD, UNESCO, EUROSTAT), is called to play a fundamental role in planning training curricula aimed at acquiring specific skills to be personalised according to specific need of each person and to the environmental, economic and social contexts, in which one person goes to act (Aleandri & Refrigeri, 2021). This has become even more evident with the persisting pandemic that has forced all people to reshape various aspects of their lives, underlining the need to promote greater awareness of their educational, work and life experiences by enhancing flexibility and personalization according to the viewpoint of Learning to learn from a Life-long, Life-wide and Life-deep Learning perspective (Aleandri, Llevot & Bernad, 2021).

The various dramatic effects resulting from the ongoing Covid-19 pandemic have also involved educational areas. This, in addition to the growth of the problems that it is entailing, has had, however, as a positive effect an increase in the re-evaluation of the role of educational

and training institutions and of the professional figures operating within them. This process, in Italy, had begun decades before the pandemic, was long and tortuous but has finally led to positive results. In 2017, indeed, within the Budget Law 205, and subsequently with the Law 145/2018, the socio-pedagogical professional educator and pedagogist were officially recognised. These professions, nevertheless, have acted since ancient times, because they play fundamental roles in society in an inclusive perspective.

They are requested capable of planning integrated educational-didactic interventions aimed at the full participation of everyone, all persons, in the democratic socio-cultural context (Ulivieri, Calaprice & Traverso, 2017).

«The approval of the laws can and must therefore allow a scientific rethinking of the concept of education, because the changes that characterise the postmodern era make educational action more and more complex and because suitable responses to the macro-sceneries of social changes taking place and adequate educational welfare policies must be offered on the basis of the rapid evolution of needs and demands» (Iori, 2018, p. 11).

Such laws are significant because they finally allowed to say that: «We cannot improvise as Educators» (Iori, 2018, p. 10). In addition to technical knowledge and skills, the educator and the pedagogist gained an expertise (Boffo, 2020), a talent, an intuition available through experience (Tramma, 2003; Cambi, 2012).

Regarding the professional skills experienced in the educational field, studies validate the effectiveness of a transdisciplinary educational research, whose multidisciplinary approach to scientific knowledge in Italy is linked to the bio-educational paradigm of educational research based on the recognition of the link among biology, pedagogy, didactics and on the central relationship among mind, body, environment, and knowledge processes (Cambi, 2011). Greater efficiency and effectiveness in learning outcomes have demonstrated, also underlining the role of field research for professionals in the educational area. The dynamics and educational relationships make sense if the educator and pedagogist are aware of the reading of contexts through a good reflective capacity that follows their being an active participant in the educational process that starts from evidence to guide skilled professional practices (Peluso Cassese & Torregiani, 2018).

2. The explorative research project

Following the background theoretical context illustrated above, an explorative research project has carried out with the aim of analysing students' awareness about their training in research skills acquired during the bachelors' degree and / or masters' degree program for educators and pedagogists.

The research, carried out in the first half of the A.Y. 2021-2022, allows not only a fact-finding survey, but also an opportunity for reflection and self-reflection for each participant so that their self-awareness on the research skills acquired, the development of self-orientation, thinking and language skills to be able to tell the implicit can be enhanced for university students.

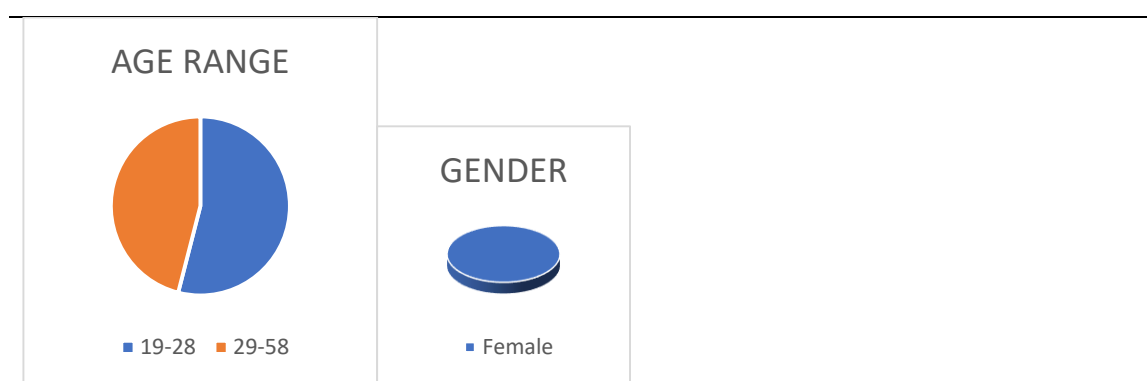
2.1. Objectives

In addition to the general objective presented above, that is analysing the level of research knowledge and skills and the level of awareness of the university students involved in the project regarding the "Research" area in the educational field, specific goals have been developed as following:

- to know the level of awareness of university students about the role of research in the educational field;
- to know the level of awareness of university students regarding the research opportunities / experiences tested;
- to know the level of awareness of university students about how research knowledge and skills are stimulated;
- to understand the eventual differences between bachelors' and masters' students about their level of awareness and understanding about Research.

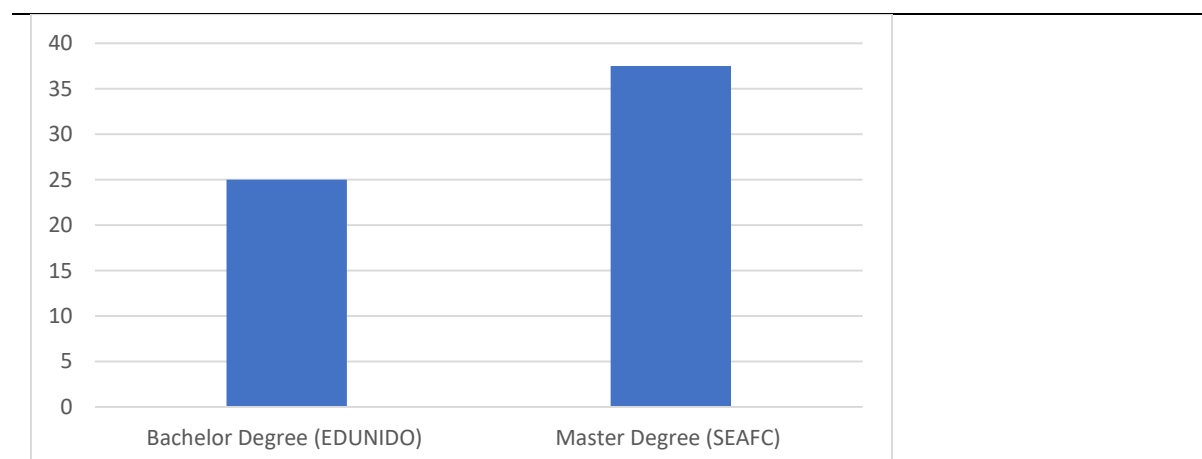
2.2. Participants

The participants were 64 university students of which 100% are women. Bachelors' students ages are ranged 19-28 and masters' students age 29-58 (Graph. 1):



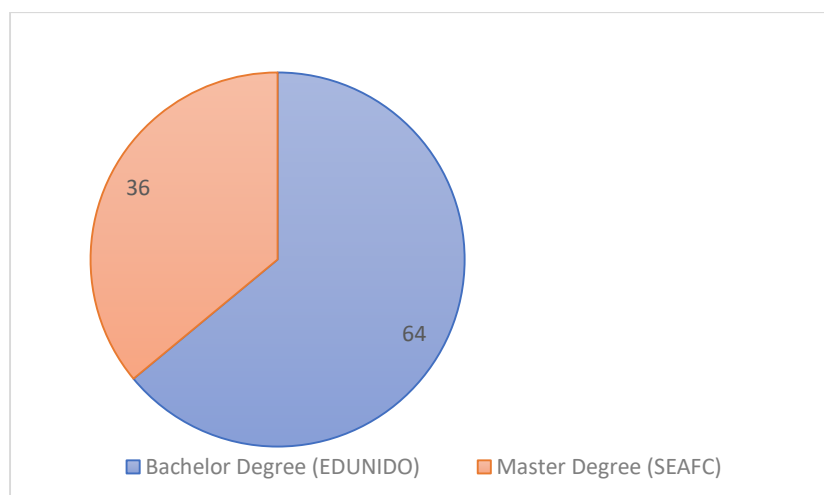
Graph. 1 Participants

The average age of the participants in each cohort is shown below (Graph. 2):



Graph. 2 Average age for each cohort

Most students are enrolled in the bachelors' degree course in Educational Sciences L-19; the other students are enrolled in the masters' degree course in Pedagogical Sciences and Sciences of Adult Education and Continuing Education (LM-85/57) at Roma Tre University (Graph. 3):



Graph. 3 Students enrolment

2.3. Methodology and tools

We chose to use a mixed methodology, quantitative / qualitative. As regards the qualitative one, an original model (Aleandri, 2012) had created based on the Grounded Theory (Glaser & Strauss, 2017), which is useful for analyse the data as they are configured and to go deep into the skills of the subjects involved. An online questionnaire had designed as tool for investigate the following areas: research, thesis, internship, writing and scientific writing.

In this article, we chose to analyse and discuss the items about “Research” issues.

3. Main Results

With regard of the space available in this article, the most significant results have showed in the following table (Table 1).

	% Bachelors' Degree	% Masters' Degree
1.What does training for research mean?		
To prepare the individual to acquire the skills to able to carry out research, and referring to knowledge, objectives, methods, tools	75	50
To educate a responsible and active citizen	25	
To acquire knowledge and skills to design and implement their knowledge		40
The theoretical study cannot ignore the important rule of research because it allows to find always new solutions		10
2. Do you consider it important in your degree course?		

Yes, training for research is very important to upgrade, to learn knowledge in view of field experiences; on the workplace in the educational field, it is necessary because the educator is a reference point for parents, children, adults and because it allows an upgrade about education and information	100	100
3. Is research crucial for professional practice in education? Why?		
Yes, research is important for professional practice because it provides an important preparation in order to design educational activities, in step with the latest innovations.	100	10
Research is important in order to relive experiences, imprint them in student's memory and increase this knowledge even more.		20
Research is important because it allows to deepen the interest in the study.		20
Research is important because it helps to think critically about some topics as it is a scientific method		50
4. Have you had research opportunities and experiences in the various subject, during the bachelors' course?		
No experience	15	80
No direct experience but reading and analysis about research experiences in the other subject	85	
Only in some disciplines (General Psychology, Adult Education, Skills Balance Laboratory)		20
5. Have you had research opportunities and experiences in the various subject, during the masters' course?		
No experience		40
Only in some disciplines (Pedagogy of Human Resources and Organizations, Laboratory of professional training methodologies)		30
Through the Autobiographical Laboratory (Continuous learning and Adult Education) and through this research		30
6. What does "research skills" mean?		
Technical and practical skills understood as knowing-in-action.	90	50
Data collection through methods and tools in order to design and implement scientific research		50
Don't Know/No opinion	10	
7. Describe which research projects, objectives, methodologies and results you have participated during the bachelors' / masters' course		
None	100	100

Table 1 Questionnaire's items and answers

4. Discussion

The current level of awareness of the students of both degree courses emerged from the responses of the questionnaires designed for the research. Furthermore, through the open-ended

questionnaires items, each student was led to critical reflection and to the writing of perceptions and skills. The analysis of data in Table 1, indeed, showed that the writing experience itself was a first step towards greater awareness and communication skills which, as will be explained below, represent tacit skills which to be brought out.

The answers highlighted, on one hand, the high level of importance that all the students assign to research issues in the educational field, while, on the other hand, in both cohorts, very few students are aware of having realised research experiences. This means, therefore, that awareness and skills to process and communicate the multiple research experiences that the University offers to its students lack.

As regards the first item “What does training for research mean?” most of the bachelors’ students (75%) and 50% of the masters’ degree define it as an activity of preparing the individual to acquire the skills necessary to carry out research, and therefore knowledge, objectives, methods, tools. The remaining 25% of the bachelors’ degree course provides a more reflective definition, saying that training for research also means training a responsible and active citizen. 40% of the masters’ cohort defines it as an activity aimed at acquiring knowledge to implement the skills already gained. Lastly, the remaining 10% of the masters’ cohort declares that training for research is functional to theory because it always allows you to find new solutions.

To the next item “Do you think it is important in your course of study?” 100% of the students, from both cohorts, replied that they consider it important to keep up to date, functional for learning knowledge and gaining experience in the field.

This full consensus about importance of research is also proved through following item: “Is research crucial for professional practice in education? Why?”: 100% of the answers provided by the bachelors’ students described that the research is an important training for structuring educational paths and activities, in step with innovations, especially in the pedagogical field. The answers of the masters’ degree were also positive: 50% described research as a tool that helps to think critically like scientific method; according to 20% research is important because it allows to deepen the theory learned; the same percentage (20%) referred that the research is useful as memorisation in a more in-depth and lasting way; remaining 10% explained that research allows for theoretical and professional updating.

Regarding the question “Have you had research opportunities and experiences in the various subject, during the bachelors’ program?” 85% of the bachelors’ group wrote that they did not have practical experiences but rather readings and analysis of research practices while studying disciplines such as, for example, the E-Portfolio Laboratory, Experimental Pedagogy. However, they recognise at the same time they have carried out research experiences in Intercultural Pedagogy, Didactics of Play, during the Adult Education course and within it thanks to the Autobiographical Laboratory. The remaining 15% of the bachelors’ students, on the other hand, declared that they haven’t had any opportunity *tout-court*. To the same question, 80% of masters’ students said that they haven’t had any research occasion during the bachelors’ degree, while 20% reported that they have had research experience in subjects such as General Psychology, Adult Education, Laboratory of competence assessment.

To the item “Have you had research opportunities and experiences in the various subject, during the master course?” 40% masters’ students answered “none”, 30% “only in some subjects” (Pedagogy of Human Resources and Organizations, Laboratory of professional training methodologies) and the remaining 30% reported the experiences during Lifelong Learning and Adult Education course, also through the Autobiographical Laboratory and the research presented here.

In keeping with these reports, indeed, to the item “What does ‘research skills’ mean?” 90% bachelors’ students and 50% masters’ students described them as “technical skill” and

“practical”, as knowing-in-action. The other 50% masters’ students described them as the set of activities aimed at data collection through specific tools and methods for proper research. Only 10% bachelors’ students was no able to define it.

To the item “Describe which research projects, objectives, methodologies and results you have participated during the bachelors’/ masters’ course” 100% students of both cohorts surprisingly said that they have not participated in any research or experience project.

Conclusions and proposals

The concept of experience, in the pedagogical field, considered fundamental thanks also to the reflective thinking theory developed by Dewey (1910) in the first half of the last century, contributes to enhance considering the student at the centre of the educational processes with the aim, among the others, to rework the knowledge and educational activities carried out by which s/he learns.

The components of critical thinking, through reflection, are: knowledge of methods of investigation and logical reasoning, a certain skill in the application of such methods and, above all, an attitude of readiness for thinking and investigation (Glaser, 1941).

Furthermore, critical thinking stimulates further forms of thought that are essential in education and for life, including creative and metacognitive thinking. «It is not just about acquired logical reasoning skills, but a real personal attitude of openness to research and this type of reasoning» (Coin, 2016, p. 228).

Morin (2015), in accordance with critical thinking, argued that education is not about giving the student ever-increasing skills, but building a deep inner state within him that guides him throughout his life.

Crucial tools are heuristics, the daily exercise of questions to develop curiosity in the search for new solutions, which should be trained from childhood, to deal with the uncertainties of the world. Indeed, Morin suggests a reform of thought with the aim of a “well-made head” useful to tackle doubts, bring out a new humanistic culture and face facts through a thought that interconnects, based on lifelong learning that is appropriate for the current global and ever-changing society (Morin, 2000).

In Italy, the TECO-D / Pedagogy project was the answer to the institutional need to monitor the progress of bachelors’ courses of Educational Science trying to build indicators about the skills acquired by the students (ANVUR, 2017).

Among the four areas of study, the one relating to the development of empirical research stands out.

Recently, a research work (Federighi, 2018) aimed at recognizing the main contents useful for establishing the learning outcomes of university courses in Educational Sciences has also identified six areas of competence for future educator; the fifth area “methods and techniques for the development and facilitation of learning processes” provides that the professional is able to design and evaluate paths related to learning. Therefore, this figure must be able to develop motivating learning situations that can allow the acquisition of skills in the school or professional place, adapting them to the peculiarities of the contexts, of the learning objects, of the different ages, and specific resources and difficulties.

Current neuroscientific findings proved to be useful to re-orient within the specific pedagogical (Cambi, 2011). For instance, neuroscience showed that learning, through the involvement of the whole body, makes it even more necessary to experimentation in the field. This contributes, indeed, to making the skills deeper and more lasting (Aleandri & Girotti, 2010) because person learns through the whole body pursuant of the deep biological rootedness of learning (Rivoltella, 2012).

A critical reflection on the data that emerged from this first exploration leads to highlight, on the one hand, the significance that Research assumes for updating and planning new methods of intervention. On the other hand, however, there is a lack of awareness about research in the educational field and the opportunities that are in any case offered to students during study courses emerge. Furthermore, students find it hard to imagine the ways in which it could be carried out.

The results showed that even about the internship, it is carried out because it is curricular, but there is no awareness of its functions as training for research as skills in action.

The Research data support those considerations and internship proved to be a useful tool to pursue such goals, also, which have become even more urgent with the pandemic, the flexibility and continuous redesign of present and future, but with awareness and taking into account the past.

Research-based practice provides valuable support for training in the educational field because education and training are embedded in an ever-changing spacetime.

According to the results of the research carried out, if on the one hand there is high consideration about the Research and its functions, on the other one, the “slip-knot problem” emerged, that Bruner (2012) had already realised decades ago: students experience various research training activities during their studies, but they are not aware of it, they are unable to translate these training activities into words or to classify them through language.

The “slip knot problem” has to be tackled by supporting and guiding students, from the first year of university, to train reflective and communicative skills capable of expressing, through language, the educational activities carried out.

Adults at university live multiple learning opportunities, including implicit ones, but the inability to translate them through language leads to a lack of awareness that which could make you think as lack of opportunities.

Moving from the main results emerged from the research, we therefore propose to increase, during the training in the bachelors’ and masters’ courses, opportunities for reflection to increase the levels of awareness by students regarding the many chances for research training already offered during the period of university studies to benefit from it in a more incisive and useful way. We also propose a greater orientation to research skills so that they effectively become profound skills and do not remain superficial and not lasting, but significant and deep experiences. Developing research skills and awareness of the opportunities that are offered to students during the bachelors’ degree courses and, even more so, masters’ degree courses, is fundamental, as they contribute significantly to promoting, not only Lifelong and Life-wide Learning, but also Life-deep Learning.

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